

DEPARTMENT OF THE NAVY
FISCAL YEAR (FY) 2009
BUDGET ESTIMATES



JUSTIFICATION OF ESTIMATES
FEBRUARY 2008

RESEARCH, DEVELOPMENT, TEST &
EVALUATION, NAVY
BUDGET ACTIVITY 7

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Department of Defense Appropriations Act, 2009

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, \$19,337,238,000, to remain available for obligation until September 30, 2010: *Provided*, That funds appropriated in this paragraph which are available for the V-22 may be used to meet unique operational requirements of the Special Operations Forces: *Provided further*, That funds appropriated in this paragraph shall be available for the Cobra Judy program.

"In accordance with the President's Management Agenda, Budget and Performance Integration initiative, this program has been assessed using the Program Assessment Rating Tool (PART). Remarks regarding program performance and plans for performance improvement can be located at the Expectmore.gov website."

UNCLASSIFIED
DEPARTMENT OF DEFENSE
FY 2009 RDT&E PROGRAM

22 JAN 2008

SUMMARY
(\$ IN THOUSANDS)

APPROPRIATION -----	FY 2007 -----	FY 2008 -----	FY 2009 -----
Research, Development, Test & Eval, Navy	4,124,786	3,674,574	4,419,817
Total Research, Development, Test & Evaluation	4,124,786	3,674,574	4,419,817

UNCLASSIFIED
 DEPARTMENT OF DEFENSE
 FY 2009 RDT&E PROGRAM

22 JAN 2008

SUMMARY
 (\$ IN THOUSANDS)

Summary Recap of Budget Activities -----	FY 2007 -----	FY 2008 -----	FY 2009 -----
Operational Systems Development	4,124,786	3,674,574	4,419,817
Total Research, Development, Test & Evaluation	4,124,786	3,674,574	4,419,817
Summary Recap of FYDP Programs -----			
Strategic Forces	204,012	140,042	169,130
General Purpose Forces	1,089,434	871,741	995,326
Intelligence and Communications	1,414,781	1,377,066	1,688,977
Research and Development	1,329,981	1,193,913	1,486,696
Central Supply and Maintenance	86,578	91,812	79,688
Total Research, Development, Test & Evaluation	4,124,786	3,674,574	4,419,817

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FY 2009 RDT&E PROGRAM

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DEPARTMENT OF THE NAVY
FY 2009 RDT&E PROGRAM

EXHIBIT R-1

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

Date: 22 JAN 2008

Line No --	Program Element Number -----	Item ----	Act ---	Thousands of Dollars			S E C -
				FY 2007 -----	FY 2008 -----	FY 2009 -----	
156	0603660N	Advanced Development Projects	07				
157	0604227N	HARPOON Modifications	07	22,191	42,547	68,214	U
158	0604402N	Unmanned Combat Air Vehicle (UCAV) Advanced Component and Prototype Development	07	97,113	158,212	275,823	U
159	0101221N	Strategic Sub & Weapons System Support	07	123,854	67,758	80,120	U
160	0101224N	SSBN Security Technology Program	07	41,697	32,445	34,131	U
161	0101226N	Submarine Acoustic Warfare Development	07	2,066	4,062	7,384	U
162	0101402N	Navy Strategic Communications	07	36,395	35,777	47,495	U
163	0203761N	Rapid Technology Transition (RTT)	07	38,370	39,778	34,469	U
164	0204136N	F/A-18 Squadrons	07	38,944	49,580	71,232	U
165	0204152N	E-2 Squadrons	07	9,601	22,483	54,096	U
166	0204163N	Fleet Telecommunications (Tactical)	07	27,508	23,582	26,696	U
167	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	22,384	15,687	14,212	U
168	0204311N	Integrated Surveillance System	07	40,429	32,308	20,565	U
169	0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	1,758	1,805	2,325	U
170	0204571N	Consolidated Training Systems Development	07	20,296	9,620	28,017	U
171	0204574N	Cryptologic Direct Support	07	1,420	1,434	1,441	U
172	0204575N	Electronic Warfare (EW) Readiness Support	07	26,441	33,779	24,276	U
173	0205601N	HARM Improvement	07	97,825	43,565	31,427	U
174	0205604N	Tactical Data Links	07	32,158	5,408	4,247	U

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FY 2009 RDT&E PROGRAM

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Date: 22 JAN 2008

Line No --	Program Element Number -----	Item -----	Act ---	Thousands of Dollars			S E C -
				FY 2007 -----	FY 2008 -----	FY 2009 -----	
175	0205620N	Surface ASW Combat System Integration	07	16,221	18,117	21,720	U
176	0205632N	MK-48 ADCAP	07	24,214	19,952	15,879	U
177	0205633N	Aviation Improvements	07	97,012	117,805	122,906	U
178	0205658N	Navy Science Assistance Program	07	5,433	3,451	3,625	U
179	0205675N	Operational Nuclear Power Systems	07	69,088	71,264	71,576	U
180	0206313M	Marine Corps Communications Systems	07	277,553	260,719	273,696	U
181	0206623M	Marine Corps Ground Combat/ Supporting Arms Systems	07	65,571	63,277	136,080	U
182	0206624M	Marine Corps Combat Services Support	07	149,573	12,750	9,646	U
183	0207161N	Tactical AIM Missiles	07	7,777	4,350	6,679	U
184	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	6,131	2,497	8,556	U
185	0208058N	Joint High Speed Vessel (JHSV)	07	13,727	18,530	11,960	U
186	0301303N	Maritime Intelligence	07				
187	0301323N	Collection Management	07				
188	0301327N	Technical Reconnaissance and Surveillance	07				
189	0301372N	Cyber Security Initiative - GDIP	07				
191	0303109N	Satellite Communications (SPACE)	07	728,480	724,771	652,463	U
192	0303140N	Information Systems Security Program	07	30,133	34,337	27,037	U
193	0303158M	Joint Command and Control Program (JC2)	07	972	986	2,000	U
194	0303158N	Joint Command and Control Program (JC2)	07	4,927	4,797	4,148	U

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DEPARTMENT OF THE NAVY
FY 2009 RDT&E PROGRAM

EXHIBIT R-1

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

Date: 22 JAN 2008

Line No --	Program Element Number -----	Item -----	Act ---	Thousands of Dollars			S E C -
				FY 2007 -----	FY 2008 -----	FY 2009 -----	
195	0305149N	COBRA JUDY	07	134,815	131,836	101,114	U
196	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07	8,169	4,782	8,208	U
197	0305192N	Military Intelligence Program (MIP) Activities	07	11,136		4,614	
198	0305204N	Tactical Unmanned Aerial Vehicles	07	120,293	56,787	45,717	U
199	0305205N	Endurance Unmanned Aerial Vehicles	07	26,238	121,315	480,098	U
200	0305206N	Airborne Reconnaissance Systems	07	43,191	59,337	55,719	U
201	0305207N	Manned Reconnaissance Systems	07	101,811	25,137	13,982	U
202	0305208N	Distributed Common Ground/Surface Systems	07	17,801	21,141	44,540	U
203	0307207N	Aerial Common Sensor (ACS)	07	13,717	6,564	74,604	U
204	0308601N	Modeling and Simulation Support	07	7,287	7,665	8,007	U
205	0702207N	Depot Maintenance (Non-IF)	07	5,878	18,988	21,130	U
206	0702239N	Avionics Component Improvement Program	07	1,336	1,600	1,877	U
207	0708011N	Industrial Preparedness	07	59,450	57,313	56,681	U
208	0708730N	Maritime Technology (MARITECH)	07	19,914	13,911		U
		Operational Systems Development		4,124,786	3,674,574	4,419,817	
		Total Research, Development, Test & Eval, Navy		4,124,786	3,674,574	4,419,817	

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					0604227N, HARPOON MODIFICATIONS			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	22.191	42.547	68.214	33.317	5.868	0	0	
1843 HARPOON Block III	22.191	42.547	68.214	33.317	5.868	0	0	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Harpoon Block III Weapons System is intended to upgrade and expand the capabilities of the Navy's only anti-ship, all weather missile to improve its precision in a congested, littoral environment. Modification of the RGM-84D and AGM-84D Harpoon 1C baseline missile will provide for Global Positioning System (GPS) accuracy, target selectivity in a littoral environment, and in-flight target position update solutions as well as positive terminal control. It will possess total organic capability (i.e. Autonomous Surface Action Group capability). Specific improvements provide for significant target discrimination as well as minimized target-to-shore separation capability, Battle Hit Indications (BHI), connectivity with future network architecture, and Land Blanking capability. Harpoon Block III will provide for a concept of operations which will support existing ISR Platform target detection and target/weapon position update (i.e. UAV, Helo, Fixed wing).

This development effort will lead to a procurement of 400 Surface Block III upgrade kits and 400 Air Harpoon Block III upgrade kits, beginning in FY 2010 for Surface and in FY 2011 for Air, that will retrofit existing Harpoon 1C, USN missile inventory.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	27.894	43.470	72.868
Current President's Budget:	22.191	42.547	68.214
Total Adjustments	-5.703	-0.923	-4.654

Summary of Adjustments

Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.398	-0.276	
Congressional Increases			
Economic Assumptions			-0.007
Miscellaneous Adjustments	-5.305	-0.647	-4.647
Subtotal	-5.703	-0.923	-4.654

Schedule: Changes reflect: Milestone B was completed 1st quarter FY08. The remainder of the schedule was subsequently adjusted.

Technical: Not Applicable

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0604227N, HARPOON MODIFICATIONS	PROJECT NUMBER AND NAME 1843, HARPOON Block III						
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1843 HARPOON Block III		22.191	42.547	68.214	33.317	5.868	0	0
RDT&E Articles Qty			4	3				

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This development effort will lead to a procurement of 400 Surface Block III upgrade kits and 400 Air Harpoon Block III upgrade kits, beginning in FY 2010 for Surface and in FY 2011 for Air, that will retrofit existing Harpoon 1C, USN missile inventory.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Surface Harpoon Block III Design/Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	16.986	29.977	24.650
RDT&E Articles Qty		4	

Surface Harpoon - Funding is for Block III missile and ship kit design, prototype development and fabrication, Missile Guidance Control Unit Design and integration, data link and GPS integration and Missile Operational Flight Program (OFP) Software design and development.

Air Harpoon Block III Design/Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		2.852	30.957
RDT&E Articles Qty			3

Air Harpoon - Funding is for Block III missile kit design and development, prototype development and fabrication, Guidance Control Unit Design and integration, data link and GPS integration, aircraft OFP software development and integration, and (OFP) design and development.

Launch Control System Interface Design	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	5.205	9.718	12.607
RDT&E Articles Qty			

Harpoon Shipboard Command Launch Control Set (HSCLCS) interface design. Harpoon Embedded Trainer (HET), Harpoon Operational Tactical Training System (HOTTs), and Harpoon Guided Missile Simulator (HGMS) upgrade development.

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0604227N, HARPOON MODIFICATIONS					PROJECT NUMBER AND NAME 1843, HARPOON Block III				
C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost	
USN OP,N BLI 522700 Harpoon Support Equipment	0.100	0.000	0.000	8.058	5.155	4.667	7.373	14.307	39.660	
USN WP,N BLI 232600 Harpoon Mods	0.000	0.000	0.000	9.646	42.420	43.825	42.082	20.088	158.061	

D. ACQUISITION STRATEGY:

HARPOON Block III will provide a capability upgrade consisting of a "kit" which will be installed on existing Harpoon Block 1C, RGM-84D and Harpoon AGM-84D missiles. Program insertion will be at the System Development and Demonstration phase, followed by a production and installment effort funded via Weapons Procurement, Navy. Required shipboard upgrades and support equipment will be procured using Other Procurement, Navy.

The Acquisition Program will be executed using a Government and industry IPT concept. The primary Harpoon Block III upgrade, to include all system integration efforts, is intended to be accomplished through a Sole Source, Cost-Plus, Incentive Fee contract with McDonnell Douglas (Subsidiary of Boeing), the Original Equipment Manufacturer for Harpoon.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0604227N, HARPOON MODIFICATIONS				1843, HARPOON Block III						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Aircraft Integration	WX	NAWCWD, CHINA LAKE CA				.903	Dec 2007	5.601	Nov 2008	9.000	15.503	
Aircraft Integration	SS-CPIF	Boeing/St. Louis F/A-18				7.055	Jan 2008	8.434	Nov 2008	4.521	20.010	20.010
Aircraft Integration	SS-CPIF	MCDONNELL DOUGLAS CORP, SAINT LOUIS						7.974	Nov 2008	3.713	11.687	11.687
Ancillary Hdw Development	SS-CPFF	BSC SYSTEMS INC, RESTON, VA		.405	Mar 2007	.263	Jan 2008	.400	Nov 2008	0.687	1.755	1.755
Ancillary Hdw Development	WX	NAWCWD, CHINA LAKE CA		2.382	Oct 2006	1.824	Dec 2007	1.672	Nov 2008	1.378	7.256	
Primary Hdw Development	SS-CPFF	Raytheon		7.320	Feb 2008			1.000	Nov 2008		8.320	8.320
Primary Hdw Development	SS-CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS		2.517	Nov 2006						2.517	2.517
Primary Hdw Development	SS-CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS		1.334	Jul 2007						1.334	1.334
Primary Hdw Development	SS-CPIF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO		3.027	Jan 2008	6.790	Jan 2008	9.402	Nov 2008	1.541	20.761	20.761
Ship Integration	WX	NSWC PHD PORT HUENEME CA		.303	Nov 2006	.977	Nov 2007	1.083	Nov 2008	0.721	3.084	
Ship Integration	WX	SPAWARSSYSCEN SAN DIEGO CA		.080	Nov 2006	.820	Nov 2007	.525	Nov 2008	0.405	1.830	
Systems Engineering	WX	NAWCAD, PATUXENT RIVER MD		.330	Nov 2006			.250	Nov 2008	0.250	0.830	
SUBTOTAL PRODUCT DEVELOPMENT				17.698		18.632		36.341		22.215	94.887	

Remarks: Target Value of Contracts represents the Program Manager's latest estimates. The \$2.5M Primary Hardware Development contract in FY07 is for Pre-SDD Risk Reduction. Numbers might not add due to rounding.

SUPPORT												
Development Support	SS-CPFF	NSWC DAHLGREN, DAHLGREN, VA		.366	Mar 2007	.259	Nov 2007	.350	Nov 2008	0.250	1.225	
Integrated Logistic Support	WX	NAWCWD, CHINA LAKE CA		.223	Nov 2006	1.818	Dec 2007	1.667	Nov 2008	1.378	5.086	
Engineering & Technical Services	WX	A&AS, DCS, & Prometheus				.505	Nov 2007	.530	Dec 2008	0.807	1.842	
Software Development	SS-CPFF	DELEX SYSTEMS INC, VIENNA,VA						1.000	Nov 2008	1.400	2.400	2.400
Software Development	SS-CPIF	MCDONNELL DOUGLAS CORP, ST LOUIS, MO		2.018	Jan 2008	13.580	Jan 2008	12.244	Nov 2008	2.132	29.974	29.974
Software Development	WX	NSWC INDIAN HEAD DIV, INDIAN HD MD		.100	Nov 2007	.339	Nov 2007	.367	Nov 2008	0.329	1.135	
SUBTOTAL SUPPORT				2.707		16.502		16.159		6.296	41.663	

Remarks: Target Value of Contracts represents the Program Manager's latest estimates. Totals might not add due to rounding.

TEST & EVALUATION												
Developmental Test & Evaluation	SS-CPIF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO				2.263	Jan 2008	9.402	Nov 2008	3.853	15.518	15.518
Developmental Test & Evaluation	WX	NAWCWD, CHINA LAKE CA		.372	Mar 2007	1.818	Dec 2007	1.667	Nov 2008	1.378	5.235	
Developmental Test & Evaluation	WX	PEO IWS						.292	Nov 2008	0.000	0.292	
Developmental Test & Evaluation	WX	NSWC Dahlgren								0.366	0.366	
Developmental Test & Evaluation	WX	NSWC PHD PORT HUENEME CA				.800	Feb 2008	.705	Nov 2008	0.188	1.694	
Developmental Test & Evaluation	VARIOUS	VARIOUS		.594	Mar 2007	.885	Nov 2007	1.507	Nov 2008	0.200	3.186	
Operational Test & Evaluation	SS-CPFF	DELEX SYSTEMS INC, VIENNA,VA								0.300	0.300	.300
Operational Test & Evaluation	VARIOUS	VARIOUS		.497	Aug 2007	.591	Nov 2007	.787	Nov 2008	0.162	2.037	
Operational Test & Evaluation	WX	OPER T & E FOR CD 30, NORFOLK VA		.174	Feb 2008	.321	Dec 2007	.595	Nov 2008	2.405	3.495	
SUBTOTAL TEST & EVALUATION				1.637		6.678		14.956		8.852	32.124	

Remarks: Target Value of Contracts represents the Program Manager's latest estimates. Totals might not add due to rounding.

MANAGEMENT												
Government Engineering Support	WX	NAWCAD, PATUXENT RIVER MD				.585	Nov 2007	.608	Nov 2008	0.686	1.879	
Travel	TO	NAVAIR, Patuxent River, MD		.149	Oct 2006	.150	Nov 2007	.150	Nov 2008	0.150	0.599	
SUBTOTAL MANAGEMENT				.149		.735		.758		0.836	2.478	

Remarks:

Total Cost				22.191		42.547		68.213		38.199	171.151	
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Remarks:

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2008								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7												PROGRAM ELEMENT NUMBER AND NAME 0604227N Harpoon Modifications								PROJECT NUMBER AND NAME 1843 Harpoon Block III												
Fiscal Year	2007				2008				2009				2010				2011				2012				2013							
	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				
SURFACE & AIR - LAUNCHED Milestone DECISIONS				△ MS B											△ MS C					△ FRP												
SYSTEM DESIGN AND DEMONSTRATION MILESTONES	▲ Pre-SDD Contract				△ SRR				△ PDR				△ CDR								★ IOC											
					△ Award SDD Contract										Test Ship Mod																	
															Missile & Surf Integrated T&E																	
															△ OA																	
															OTRR																	
															F/A-18 E/F H7E Integrated T&E																	
Production Milestone																																
								</																								

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
APPROPRIATION/BUDGET ACTIVITY							February 2008	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7							R-1 ITEM NOMENCLATURE	
							0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV)	
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	97.113	158.212	275.823	315.805	271.902	222.082	170.435	
3178 UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)	97.113	158.212	268.542	269.531	205.139	133.493	85.549	
3191 UCAS TECHNOLOGY MATURATION			7.281	46.274	66.763	88.589	84.886	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) CV-DEMO: The 2005 Quadrennial Defense Review (QDR), published February 2006, the FY07 President's Budget and USD (AT&L), supported direction to restructure the J-UCAS program and fund a new Navy UCAS program in its place. The Navy was directed to demonstrate carrier operations of a Low Observable (LO) Unmanned Combat Air System. This direction forms the foundation of the Navy's UCAS demonstration (Navy UCAS-D) program.

The purpose of the Navy UCAS-D program is to conduct carrier demonstrations of an unmanned combat air system with Low Observable (LO) planform(s). The UCAS-D will be structured to match program resources to United States Navy (USN) objectives/constraints with the goals of identifying and maturing critical technologies and reducing the risk of carrier integration of a UCAS. The data developed will support a follow-on acquisition milestone decision.

The Navy UCAS-D is comprised of a LO planform Air Vehicle Segment and a Mission Control Segment (MCS). The Navy UCAS will be designed for autonomous launch and recovery as well as operations in the Carrier Control Area (CCA). The scope of the Navy UCAS-D effort includes design, development, integration, and validation of an unmanned, LO planform Air Vehicle Segment and MCS in the landscaped and shipboard environments. Additional evaluations will be conducted to investigate MCS interfaces with shipboard systems such as primary flight control (PRI-FLY) displays, Landing Safety Officer (LSO) displays, and Carrier Air Traffic Control Center (CATCC) stations. System Development and Demonstration (SDD) funding is not covered, nor described in this exhibit.

(U) UCAS TECHNOLOGY MATURATION: The Navy Unmanned Combat Air System (N-UCAS) program is an Advanced Development effort. Part of the effort is the UCAS-D endeavor that is designed to conduct CV shipboard demonstration and risk reduction of CV based critical technologies. The Navy UCAS-D system includes an unmanned Low Observable (LO) planform Air Vehicle Segment and Mission Control Segment (MCS). The system will be designed for autonomous launch and recovery as well as operations in the Carrier Control Area. The scope of the technology maturation efforts for N-UCAS includes modeling, simulation, and analysis and development of technologies to evolve required technologies to a Technology Readiness Level (TRL)-6. Technology areas include transformational communications, integrated propulsion, CV suitable material, LO sensor 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.

APPROPRIATION/BUDGET ACTIVITY
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7

R-1 ITEM NOMENCLATURE
0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV)

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	99.622	161.665	273.617
Current President's Budget:	97.113	158.212	275.823
Total Adjustments	-2.509	-3.453	2.206

Summary of Adjustments

Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-2.509	-1.028	
Congressional Increases			
Economic Assumptions			-0.264
Miscellaneous Adjustments		-2.425	2.470
Subtotal	-2.509	-3.453	2.206

Schedule: The PB08 schedule profile for Project Unit 3178 was a Program Office Estimate developed at the time of RFP release. The PB09 schedule profile for Project Unit 3178 has been updated based on the awarded contract. Specifically, the aircraft development & integration has been adjusted based on the contracted effort. Land-based testing has been split into airworthiness testing and land based catapult & arresting testing as per the awarded contract. Likewise sea trial have been adjusted as per the contract. Additional detail has been added to the ship integration tasks. Specifically, shipboard display development & integration, along with air traffic control console integration tasks have been added to the schedule.

The schedule profile and detail were added for Project Unit 3191, UCAS Technology Maturation. The schedule has been adjusted based on funding profile changes starting in FY09 and continuing through FY13.

Technical:Not Applicable

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/P	PROJECT NUMBER AND NAME 3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)					
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3178 UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)	97.113	158.212	268.542	269.531	205.139	133.493	85.549
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Navy UCAS-D program is an Advanced Development effort, designed to conduct shipboard demonstration and risk reduction. The Navy UCAS-D system includes an unmanned LO planform Air Vehicle Segment and Mission Control Segment (MCS). The Navy UCAS-D system will be designed for autonomous launch and recovery as well as operations in the Carrier Control Area. The scope of the Navy UCAS-D effort includes design, development, integration and validation of an unmanned, LO planform Air Vehicle Segment and MCS in the landbased and shipboard environments. Additional evaluations will be conducted to investigate MCS interfaces with shipboard systems such as primary flight control (PRI-FLY) displays, Landing Safety Officer (LSO) displays and Carrier Air Traffic Control Center (CATCC) stations. As a research and development demonstration effort, SDD funding is not covered or described in this exhibit.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Product Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	89.927	149.527	257.597
RDT&E Articles Qty			

The primary effort in the Navy UCAS-D program is design, development, integration and validation of hardware/software leading to a Carrier Demonstration of an unmanned, LO planform UCAS system no later than FY13. Effort includes: design, development, integration, and validation of the Navy UCAS-D system, integration of Government Furnished Equipment (GFE), and development of internal/external interface documents. In addition, design and development of hardware/software to support Automated Air Refueling (AAR) will be conducted. Shipboard evaluation of the Navy UCAS-D system includes integration of the UCAS-D system with shipboard systems such as PRI-FLY displays, LSO displays and CATCC stations. Shipboard research and development efforts include establishment and evaluation of launch/recovery envelopes.

Management	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	6.938	6.045	7.875
RDT&E Articles Qty			

Government engineering support, program office travel, government program management support, and contract support services.

Test and Evaluation Support	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.248	2.640	3.070
RDT&E Articles Qty			

Perform test and evaluation of Navy UCAS-D system. Efforts include detailed test and evaluation plan development, test site facility preparation, system integration, ground and flight test execution and reporting, and carrier at sea test planning.

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-7	0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/P	3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Not Applicable									

D. ACQUISITION STRATEGY:

In December 2005, the Department directed funding of the Navy Unmanned Combat Air System (Navy UCAS) Program. The primary goal is risk reduction for carrier integration and maturation of critical technologies, while developing the critical data necessary to support a potential follow on acquisition milestone decision. The Navy UCAS program will transition JUCAS technologies and designs developed under DARPA/USAF Other Transaction Agreements, toward the demonstration of a carrier based unmanned combat air system. The UCAS-D effort will focus on designing, developing, and evaluating the core capabilities which safely demonstrate carrier interoperability. Primary hardware development for the UCAS-D effort will be performed under a FAR-based, cost plus incentive fee-type contract competitively awarded to a single contractor.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO DEV				3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Air Ship Integration	C/CPFF	Rockwell/APRL		3.590	Jan 2007	1.010	Dec 2007	3.200	Dec 2008	2.000	9.800	9.800
Air Ship Integration	C/CPFF	ARINC ENGIN. SERV. LLC, ANNAPOLIS, MD		1.504	Nov 2006	1.600	Nov 2007	1.650	Nov 2008	4.928	9.682	9.682
Air Ship Integration	C/CPFF	Honeywell International Inc.		.684	Jan 2007	1.130	Jan 2008	.650	Dec 2008	3.540	6.004	6.004
Air Ship Integration	C/FFP	L-3 Communications Titan Corp		1.408	Mar 2007	3.626	Dec 2007	3.293	Dec 2008	1.232	9.559	9.559
Air Ship Integration	WX	NAWCAD, PATUXENT RIVER MD		3.892	Nov 2006	4.440	Jan 2008	4.465	Nov 2008	Continuing	Continuing	
Air Ship Integration	WX	SPAWARSYSCOM CHARLESTON SC		.513	Nov 2006	.623	Jan 2008	.555	Nov 2008	Continuing	Continuing	
Air Ship Integration	VARIOUS	VARIOUS		1.958	Jul 2007	2.921	Dec 2007	2.387	Dec 2008	7.366	14.632	14.632
Automated Aerial Refueling	MIPR	Air Force Research Lab, Dayton, OH		2.500	Oct 2006						2.500	2.500
Primary Hdw Development	OTA	MCDONNELL DOUGLAS, SAINT LOUIS, MO		20.711	Oct 2006						20.711	20.711
Primary Hdw Development	OTA	NORTHROP GRUMMAN CORP, SAN DIEGO, CA		29.763	Oct 2006						29.763	29.763
Primary Hdw Development	C/CPIF	NORTHROP GRUMMAN CORP, SAN DIEGO, CA		19.589	Aug 2007	129.012	Nov 2007	234.952	Nov 2008	729.679	1,114.070	1,114.070
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD		2.428	Nov 2006	3.000	Dec 2007	3.500	Nov 2008	Continuing	Continuing	
Systems Eng	WX	NAWCWD, CHINA LAKE CA		1.102	Nov 2006	.900	Jan 2008	.617	Nov 2008	Continuing	Continuing	
Systems Eng	WX	SPAWARSYSCEN SAN DIEGO CA		.241	Dec 2006	.265	Dec 2007	.328	Dec 2008	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT				89.883		148.527		255.597		Continuing	Continuing	

Remarks:

SUPPORT												
Integrated Logistics Sup	WX	NAWCAD, PATUXENT RIVER MD		.044	Nov 2006	1.000	Dec 2007	2.000	Nov 2008	Continuing	Continuing	
SUBTOTAL SUPPORT				.044		1.000		2.000		Continuing	Continuing	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD		.248	Nov 2006	2.640	Jan 2008	3.070	Nov 2008	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION				.248		2.640		3.070		Continuing	Continuing	

Remarks:

MANAGEMENT												
Contractor Eng Sup	C-CPIF	ARINC ENGI SER, LLC, ANNAPOLIS, MD		.050	Nov 2006						.050	.050
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD		3.000	Dec 2006	1.500	Nov 2007	2.650	Nov 2008	Continuing	Continuing	
Government Eng Sup	WX	NAWCWD, CHINA LAKE CA		.245	Dec 2006	.116	Nov 2007	.300	Nov 2008	Continuing	Continuing	
Program Mgmt Support	WX	NAWCAD, PATUXENT RIVER MD		1.563	Dec 2006	1.719	Nov 2007	2.100	Nov 2008	Continuing	Continuing	
Program Mgmt Support	WX	NAWCWD, CHINA LAKE CA		.245	Dec 2006	.269	Nov 2007	.272	Nov 2008	Continuing	Continuing	
Program Mgmt Sup - Contractor	C-CPIF	Bowhead Information Tech Services		1.835	Jul 2007	2.441	Dec 2007	2.553	Dec 2008		6.829	6.829
SUBTOTAL MANAGEMENT				6.938		6.045		7.875		Continuing	Continuing	

Remarks:

Total Cost				97.113		158.212		268.542		Continuing	Continuing	
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EXHIBIT R4, Schedule Profile																							DATE:							
APPROPRIATION/BUDGET ACTIVITY																							PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E,N / BA-7																							0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO				3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)			
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013					
	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		
CV Demo Program	NGC-JUCAS OTA	Boeing-JUCAS OTA	RFP	CA																										
	CV Demo Contract																													
Air Vehicle																														
MCS Integration																														
Ship Integration																														

EXHIBIT R-2a, RDT&E Project Justification

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/P	PROJECT NUMBER AND NAME 3191, UCAS TECHNOLOGY MATURATION					
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3191 UCAS TECHNOLOGY MATURATION			7.281	46.274	66.763	88.589	84.886
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Navy Unmanned Combat Air System (N-UCAS) program is an Advanced Development effort. Part of that effort is the UCAS-D endeavor that is designed to conduct CV shipboard demonstration and risk reduction of CV based critical technologies. The Navy UCAS-D system includes an unmanned Low Observable (LO) planform Air Vehicle Segment and Mission Control Segment (MCS). The Navy UCAS-D system will be designed for autonomous launch and recovery as well as operations in the Carrier Control Area. The scope of the technological maturation efforts for N-UCAS includes modeling, simulation, and analysis and development of technologies to evolve required technologies to a Technology Readiness Level (TRL)-6. Technology areas include transformational communications, integrated propulsion, CV suitable materials, 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. System Development and Demonstration (SDD) funding is not covered or described in this exhibit.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Product Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			7.281
RDT&E Articles Qty			

A primary effort in the Navy Unmanned Combat Air System (UCAS) program is the identification and maturation of technologies required to support the demonstration of an unmanned, LO planform UCAS on an aircraft carrier. Technology maturation aligns with the Navy UCAS demonstration to evolve this capability to achieve the requirements outlined in the Joint Capabilities Enhancement Initial Capabilities Document. Modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs support the evaluation of alternatives needed to support a future milestone decision and subsequent entry into System Development and Demonstration (SDD).

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Not Applicable									

D. ACQUISITION STRATEGY:

In December 2005, the Department directed funding of the Navy Unmanned Combat Air System (Navy UCAS) Program. The primary goal of the Navy UCAS program is risk reduction of critical technologies needed to support a future milestone decision and subsequent entry into Systems Development and Demonstration (SDD). The Navy UCAS program will leverage technologies and efforts performed under the Defense Advanced Research Project Agency (DARPA) J-UCAS efforts in order to maintain consistent focus of those technologies and how they relate to the demonstration of a UCAS in a carrier environment. 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 (TRL)-6 to support the Advanced Development effort.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO DEV				PROJECT NUMBER AND NAME 3191, UCAS TECHNOLOGY MATURATION						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	TBD	TBD						3.613	Nov 2008	68.342	71.955	71.955
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD						2.000	Nov 2008	Continuing	Continuing	
Systems Eng	VARIOUS	VARIOUS						1.551	Dec 2008		1.551	1.551
Systems Eng	WX	SPAWARSSYSCEN SAN DIEGO CA						.117	Nov 2008	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT								7.281		Continuing	Continuing	

Remarks:

MANAGEMENT												
SUBTOTAL MANAGEMENT												

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												

Remarks:

SUPPORT												
SUBTOTAL SUPPORT												

Remarks:

Total Cost								7.281		Continuing	Continuing	
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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	R-1 ITEM NOMENCLATURE PE 0101221N Strategic Sub & Wpns Sys Spt	

COST (\$ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Total PE Cost* (total may or may not add due to rounding)	123.854	67.758	80.120	56.699	56.856	58.663	51.672
J2228 Technology Applications Program	79.253	44.233	45.490	46.298	46.331	48.152	51.200
J3158 Enhanced Special Weapons	41.863	5.816	0.935	0.935	0.000	0.000	0.000
J0951 TRIDENT II	0.000	0.000	0.000	9.072	10.069	10.047	0.000
J3196 Reliable Replacement Warhead	0.000	14.455	23.346	0.000	0.000	0.000	0.000
J3198 Underwater Launch Missile System	0.000	0.000	10.000	0.000	0.000	0.000	0.000
S0004 TRIDENT Submarine System Improvement	0.167	0.273	0.349	0.394	0.456	0.464	0.472
9A66N Advanced Conventional Strike Capability (SLIRBM)	1.261	0.000	0.000	0.000	0.000	0.000	0.000
9A67N /9999 Free Electron Laser Facility	1.310	2.981	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Technology Applications Program 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, Radiation Hardened Electronics Applications, and Strategic Propulsion Applications.

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 technologies. This budget supports efforts directed at improving the current technological baseline through a series of studies focusing on land and waterside requirements, including both surface and underwater. Collectively, these efforts will improve countermeasure technologies addressing detection, delay and denial.

The TRIDENT II effort supports the SSBN Planning and Operational Flexibility (SPOF) that is the follow-on program to the SLBM Retargeting System (SRS) program. SPOF provides targeting planning tools and added connectivity between United States Strategic Command (STRATCOM), Naval Surface Warfare Center (NSWC) Dahlgren and the Fleet. SPOF will provide the following new capabilities in response to initiatives required by STRATCOM and substantiated by the Nuclear Posture Review (NPR): 1) improved flexibility and responsiveness, 2) enhanced accuracy and effectiveness, and 3) information management and the decision making tools/capabilities.

The Reliable Replacement Warhead Program (RRW) is an effort to provide reliable replacement warheads to the nation's nuclear stockpile. The program will allow the design of replacement warheads that are more efficient to manufacture, are safer and more secure, eliminate environmentally hazardous materials, and increase design performance margins. The design of RRW will enable transformation to a more efficient and responsive nuclear weapons research, development, and production infrastructure in support of the Nuclear Posture Review and the requirements of the new Strategic Triad.

The Underwater Launch Missile System (ULMS) effort develops capabilities definitions and assessments, science & technology development strategies, and conceptual work to prepare for R&D and Prototyping in FY10.

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.

The Free Electron Laser Program is for advanced capability Linear Accelerator (LINAC) to include a three stage accelerator section and an electron storage ring that will reduce the main limitations (electrical noise and micro-beam structure) of current LINAC technology. The enhanced LINAC will allow future large chips to be tested while meeting strategic test requirements.

R-1 SHOPPING LIST - Item No. 159 - 1 of 37

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	R-1 ITEM NOMENCLATURE PE 0101221N Strategic Sub & Wpns Sys Spt

B. (U) Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008 President's Controls)	126.691	81.398	96.776
Current FY 2009 President's Budget	123.854	67.758	80.120
Total Adjustments	2.837	13.640	16.656
Summary of Adjustments			
Small Business Innovative Research (SBIR)	-2.837	-1.177	
NWCF Rate Adjustment			-0.002
Sea Strike - Underwater Launched Missile Study (ULMS)			10.000
Section 8097: Contract Adjustments		-0.113	
Section 8104: Revised Economic Assumptions		-0.328	
Section 8025: FFRDC		-0.022	
RRW Program Adjustment			-26.654
Congressional Reduction RRW		-15.000	
Congressional Add (LINAC)		3.000	

R-1 SHOPPING LIST - Item No. 159 - 2 of 37

UNCLASSIFIED

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME Technology Applications J2228	

COST (\$ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J2228 Technology Applications	79.253	44.233	45.490	46.298	46.331	48.152	51.200
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project supports implementation of a coordinated Navy/Air Force Reentry System Applications Program (RSAP), a coordinated Navy/Air Force Strategic Guidance Applications Program (GAP), a coordinated Navy/Air Force Strategic Propulsion Applications Program (SPAP), and a coordinated Department of Defense Radiation Hardened Applications Program (RHAP). 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 SPAP program, which commenced in FY 2004, demonstrates and validates technologies unique to strategic missile applications. The RHAP program, which commenced in FY 2004, addresses production, qualification and manufacturing issues associated with strategic and space radiation hardened electronics. 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 insure 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 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.

The SPAP program is a coordinated Navy/Air Force effort and addresses infrastructure needs by exercising critical development skills to allow for future large-scale rocket motor test firings. A sound base of demonstrated technologies suitable for Strategic Missile applications will be maintained and will provide the nation a talent base and source of technologies suitable for a follow-on development program. Boost propulsion (missile stages), post boost propulsion (missile payload delivery vehicle) and Ordnance (separation events and flight termination events) and are all integral parts of missile propulsion application efforts. As a result of affordability reductions made to the Technical Applications programs during the POM-08 process, the SPAP program was terminated beginning in FY2008.

The RHAP program sustains critical skills in radiation hardened electronics by advancing radiation hardened simulation technologies to reflect the processes in future systems. These efforts become of greater importance because of the shrinking industrial base for radiation hardened electronics, the unavailability of underground testing resources, and the loss of radiation hardened expertise. These efforts are coordinated by the Radiation Hardened Oversight Council (RHOC) chaired by the Director, Defense Research & Engineering (DDR&E). The RHAP program focuses on a coordinated Productization & Qualification Program which provides a transition between Science Technology (S&T) and production by efficient utilization of limited resources, sharing of information to eliminate redundancy, increased use of common part/technologies, coordination into the RHOC technology road map and implementation of the OSD (AT&L) investment strategy. The RHAP complements the GAP electronic parts activities by specifically focusing on those tasks required to ensure producibility of radiation hardened parts. As a result of affordability reductions to the Technical Applications programs during the POM-08 process, the RHAP program was terminated beginning in FY2008.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: Technology Applications J2228	

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Reentry Systems Application Program (RSAP)	26.238	27.163	28.149
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) (\$26.238) Continue Reentry System Applications Program.

FY 2007 efforts include:

- (U) Maintain the current capability and support the planned service life extension of Navy reentry systems.
- (U) Continue development and ground testing of reentry vehicle candidate heatshield and nosetip materials including those available from Science & Technology (S&T)
- (U) Flight test alternative low-cost heatshield and replacement nosetip material. Next materials FT FY09.
- (U) Flight test operationally aged heatshields to support aging trends and replacement materials assessments.
- (U) Complete development and flight test advanced reentry instrumentation such as inertial sensors, avionics computers, and power distribution units encapsulated on the updated engineering instrumentation package.

R-1 SHOPPING LIST - Item No. 159 - 4 of 37

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: Technology Applications J2228	

B. (U) Accomplishments/Planned Program

(U) FY 2008 PLAN

(U) (\$27.163) Continue Reentry System Applications Program.

FY 2008 efforts include:

- (U) Maintain the current capability and support the planned service life extension of Navy reentry systems.
- (U) Continue development and ground testing of reentry vehicle candidate heatshield and nosetip materials including those available from Science & Technology (S&T)
- (U) Flight test alternative low-cost heatshield and replacement nosetip material.
- (U) Flight test operationally aged heatshields to support aging trends and replacement materials assessments.
- (U) Complete development and flight test advanced reentry instrumentation such as inertial sensors and avionics computer, encapsulated on the updated engineering instrumentation package.
- (U) Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities.
- (U) Continue Reentry Body material development and advanced flight test instrumentation activities.
- (U) Continue development of advanced GPS receiver
- (U) Ground test advanced reentry material systems and advanced instrumentation components.
- (U) Develop test instrumentation to demonstrate D5LE missile reentry body interface compatibility.
- (U) Continue to develop the capability to produce Thermocouple (TC) Plugs at significantly reduced cost to the Government.
- (U) Create and execute plan to build Life Extension Test Bed (LETB) #2 Flight Test Body - FT Aug 2009.

(U) FY 2009 PLAN

(U) (\$28.149) Continue Reentry System Applications Program.

FY 2009 efforts include:

- (U) Maintain the current capability and support the planned service life extension of Navy reentry systems.
- (U) Continue development and ground testing of reentry vehicle candidate heatshield and nosetip materials including those available from Science & Technology (S&T)
- (U) Flight test alternative low-cost heatshield and replacement nosetip material.
- (U) Flight test operationally aged heatshields to support aging trends and replacement materials assessments.
- (U) Complete development and flight test advanced reentry instrumentation such as inertial sensor avionics computer, encapsulated on the updated engineering instrumentation package.
- (U) Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities.
- (U) Continue Reentry Body material development and advanced flight test instrumentation activities.
- (U) Continue development of advanced GPS receiver
- (U) Ground test advanced reentry material systems and advanced instrumentation components.
- (U) Develop test instrumentation to demonstrate D5LE missile reentry body interface compatibility.

R-1 SHOPPING LIST - Item No. 159 - 5 of 37

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile																				DATE: February 2008									
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7										PROGRAM ELEMENT NUMBER AND NAME: PE 0101221N Strategic Sub & Wpns Sys Spt										Project Number and Name Technology Applications/RSAP J2228									
Fiscal Year	CY-2007				2008				2009				2010				2011				2012				2013				
	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	
Contract Go-ahead and Milestones	△				△				△																				
	Contract Award				Contract Award				Contract Award																				
Common Technology, Component, and Interface studies (Tech Dev Phase)	▬																												
System Development & Demonstration Phase	▬																												
Systems Engineering Reviews	△	△	△		△				△	△																			
	Kickoff		SRR	PDR	CDR				MRR	FRR																			
System Integration Test - Mock-up			▬																										
Ground Testing of Advanced, Low Cost Materials and Instrumentation.					△				△				△				△												
Systems Integration Test - Engineering Development Units						▬																							
Long Lead Items		▬																											
Systems Integration Test - Production Proofing Units Including LRIP																													
Production and Deployment Phase																													
System Flight Test LETB-2 (Not scheduled, platform dependent)																													

CLASSIFICATION:

EXHIBIT R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7			PROGRAM ELEMENT NUMBER AND NAME: PE 0101221N Strategic Sub & Wpns Sys Spt			Project Number and Name Technology Applications/RSAP J2228	
Fiscal Year	CY-2007	2008	2009	2010	2011	2012	2013
Contract Award -ahead and Milestones	1Q	1Q	1Q				
Common Technology, Component, and Interface studies	1-2Q						
System Development & Demonstration	1-4Q	1-2Q					
Initial Production Baseline							
Production and Deployment							
Systems Engineering Reviews	1-4Q	2Q	1-2Q				
System Integration Test - Mock-up	3-4Q	1-2Q					
Systems Integration Test - Engineering Development Units		2-4Q	1-2Q				
Systems Integration Test - Production Proofing Units							
System Flight Test IOC DASO (Not scheduled, platform dependent)			3Q				

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EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: Technology Applications J2228

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Guidance Application Program (GAP)	20.742	17.070	17.341
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) (\$20.742) Continue Strategic Guidance Applications Programs (GAP).

FY 2007 efforts include:

(U) Support the Inertial Measurement Unit (IMU) system integration effort, model simulation development in support of the enhanced ground testing (EGT) task, support remaining non-real-time sensor technologies, (accelerometer, gyro, and stellar) and proximity electronics for application in the D5 Life Extension Guidance system and/or replacement of system weak links. Evaluate prototype radiation-hardened sensor build and test results for appropriate applications.

(U) Continue design, build and evaluate SOA support electronics and improved build processes. Test the all-silicon SOA in a strategic radiation environment.

(U) (AltPIGA) Develop producible long-life, low cost hemispherical gas bearing wheel and commercial processes/vendors for mass produced flexure/pick off assemblies for AltPIGA.

(U) (IFOG) Build and radiation test complete sense head. Perfect technologies and processes for producing low cost Rad-Hard fiber. Conduct investigations to improve circumvention and recovery performance.

(U) (HRG) Improve benign scale factor performance. Examine and demonstrate technologies for reducing long term bias trending. Improve performance during and following shock and vibration events.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: Technology Applications J2228	

B. (U) Accomplishments/Planned Program

(U) FY 2008 PLAN

(U) (\$17.070) Continue Strategic Guidance Applications Programs (GAP).

FY 2008 efforts include:

- (U) Production and Qualification (P&Q) of telecom-based components for use in strategic grade gyros (e.g.fiber light source, integrated optics chip, couplers.).
- (U) Production and Qualification (P&Q) of reduced cost, long life Pendulous Integrating Gyro Accelerometer (PIGA) sensor
- (U) 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.
- (U) Complete the development of alternate sources for critical components required to support D5LE emergent sensors.
- (U) Conduct investigations to improve circumvention and recovery performance.
- (U) (SOA) Continue design, build, evaluate and demonstrate SOA as a potential strategic grade accelerometer.

(U) FY 2009 PLAN

(U) (\$17.341) Continue Strategic Guidance Applications Programs (GAP).

FY 2009 efforts include:

- (U) Develop new architectures using telecom-based optical components for high-precision strategic gyro.
- (U) Continue to evaluate emergent alternate sensor technologies, (accelerometer, gyro, and stellar) with an emphasis on providing existing performance in a significantly reduced form factor.
- (U) Assess feasibility of advanced stellar sensor technologies for use a strategic application; specifically, active pixel and camera-on-a-chip architectures will be evaluated.
- (U) 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.
- (U) Complete the development of alternate sources for critical components required to support D5LE emergent sensors.
- (U) Conduct investigations to improve circumvention and recovery performance.
- (U) (SOA) Continue design, build, evaluate and demonstrate SOA as a strategic grade accelerometer.

R-1 SHOPPING LIST - Item No. 159 - 9 of 37

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile																							DATE: February 2008									
APPROPRIATION/BUDGET ACTIVITY RESEARCH, DEVELOPMENT, TEST AND EVALUATION, NAVY/BA-7												PROGRAM ELEMENT NUMBER AND NAME: PE 0101221N Strategic Sub & Wpns Sys Spt								Project Number and Name Technology Applications/GAP J2228												
Fiscal Year	CY-2007				2008				2009				2010				2011				2012				2013							
	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				
Contract Award	△								△																							
Production and Qualification of telecom-based strategic gyro components																																
Production and Qualification of long-life PIGA sensor																																
Virtual Systems Simulation trade studies for advanced system concepts																																
Circumvention and Recovery investigations																																
Continue SOA design, build, evaluation and demonstration																																
Develop system architectures for high precision strategic gyro																																
Evaluation of emerging alternate accelerometer technologies																																
Evaluation of emerging alternate gyro technologies																																
Assess feasibility of advanced strategic stellar sensor technologies																																

CLASSIFICATION:

EXHIBIT R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7			PROGRAM ELEMENT NUMBER AND NAME: PE 0101221N Strategic Sub & Wpns Sys Spt			Project Number and Name Technology Applications/GAP J2228	
Fiscal Year	CY-2007	2008	2009	2010	2011	2012	2013
Contract Award	1Q	1Q	1Q				
Production and Qualification of telecom-based strategic gyro components	1-4Q	1-4Q					
Production and Qualification of long-life PIGA sensor	1-4Q	1-4Q	1-4Q				
Virtual Systems Simulation trade studies for advanced system concepts	1-4Q	1-4Q	1-4Q				
Circumvention and Recovery investigations		1-4Q	1-4Q				
Continue SOA design, build, evaluation and demonstration	1-4Q	1-4Q	1-4Q				
Develop system architectures for high precision strategic gyro			1-4Q				
Evaluation of emerging alternate accelerometer technologies			1-4Q				
Evaluation of emerging alternate gyro technologies			1-4Q				
Assess feasibility of advanced strategic stellar sensor technologies			1-4Q				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: Technology Applications J2228

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Strategic Propulsion Applications Program (SPAP)	17.152	0.000	0.000
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) (\$17.152) Continue SPAP program.

FY 2007 efforts include:

- (U) Continue to evaluate and down-select suitable technologies for boost motor test.
- (U) Continue component tests for identified post boost control technologies.
- (U) Continue to evaluate and down-select suitable post boost control technologies test.
- (U) Contingency planning for post boost and ordnance demonstration test.

R-1 SHOPPING LIST - Item No. 159 - 12 of 37

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: Technology Applications J2228

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Radiation Hardened Applications Program (RHAP)	15.121	0.000	0.000
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) (\$15.121) Continue RHAP program.

FY 2007 efforts include:

- (U) Complete productization and initiate qualification of 0.15/0.35 micron digital CMOS SOI products (RHPPC, ASICs, SRAM, SSI logic).
- (U) Complete productization and initiate qualification of 0.35/0.7 micron mixed-signal SOI products (ADC, DAC, Comparator, LV Opamp, Multiplexer).
- (U) Continue productization and qualification of primary non-volatile memory technology and product Magnetic (MRAM).
- (U) Complete productization and initiate qualification of high-voltage analog SOI products (Vref, HV op-amp, PCIC, clock driver).
- (U) Complete physics based modeling for nuclear radiation effects on complex digital circuits with built in testability.
- (U) Complete evaluation and validation of post radiation Simulation Program with Integrated Circuit Emphasis (SPICE) models for dose rate, total ionizing dose, neutron and single event effects.

- (U) Continue physics based modeling of survivability and rail-span collapse of complex digital circuits in dose-rate (x-ray and gamma) environment.

(U) FY 2008 PLAN

(U) (\$0.000) Program Terminated.

(U) FY 2009 PLAN

(U) (\$0.000) Program Terminated.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: Technology Applications J2228

C. (U) Other Program Funding Summary: (Dollars in Thousands)

FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Complete	Total Cost
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

D. (U) 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. (U) Major Performers:

- LMMS/CA - Reentry Body Systems Integration (RSAP)
- NSWC/VA - Heatshield Nosetip materials development (RSAP)
- ITT/CO - Vulnerability and hardness technologies (RSAP)
- CSDL/MA - Reentry Systems flight test instrumentation (RSAP)
- DOE/NM - Advanced fuzing technology (RSAP)
- CSDL/MA - Guidance Application program support (GAP)
- CSDL/MA - Analog, digital, mixed-signal and discreet radiation model development (RHAP)
- HI/FL - RADHARD application specific integrated Circuit library (RHAP)
- NGMS/CA - RADHARD oxi-nitride non-volatile memory productization (RHAP)
- BAE/MD - 4M-bit RADHARD Chalcogenide non-volatile memory product development (RHAP)
- NAWC/CA - Rocket Motor testing and integration (SPAP)
- LMSSC/CA - Missile Systems Integration (SPAP)
- NSWC/VA - Coordinating and executing ordnance tests (SPAP)

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EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME Enhanced Special Weapons J3158

COST (\$ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J3158 Enhanced Special Wpns	41.863	5.816	0.935	0.935	0.000	0.000	0.000
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) 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 (FMB), 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 and waterside requirements, including both surface and underwater. Collectively, these efforts will improve countermeasure technologies addressing detection, delay and denial.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: Enhanced Special Weapons J3158	

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Project Cost J3158 Enhanced Special Weapons	33.940	4.977	0.000
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) (\$33.940) Enhanced Special Weapons/SSBN Escort Mission.

FY 2007 efforts include:

(U) Initiate Development and Test of a prototype system consisting of two independent palletized units. Two units are required in order to properly demonstrate "system-level" capabilities and countermeasure effectiveness while operating in an at-sea scenario.

(U) FY 2008 PLAN

(U) (\$4.977) Enhanced Special Weapons/SSBN Escort Mission.

FY 2008 efforts include:

(U) Complete prototype development and test program. Once the prototypes are completed, plans are to continue with follow-on tests and proofing as a lead in to production which is now planned for FY 2009. Participants in the program will continue to be TARDAC and MIT as the technical and scientific experts and SPA as management's support in addition to the winner of the prototype competition being run in FY 2007.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: Enhanced Special Weapons J3158

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Project Cost J3158 Enhanced Special Weapons	7.923	0.839	0.935
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) (\$7.923) Enhanced Special Weapons/Nuclear Weapons Security program.

FY 2007 efforts include:

(U) Underwater Close-in Defense: This effort is focused on developing an advanced underwater vehicle and diver detection and deterrence system for the protection of high value maritime assets while they are in port. The conceptual system involves a physical net-like barrier that combines use of fiber-optic sensing and alerting technology to provide an extremely high positive detection rate and extremely low false alarm rate. The concept design also includes increased alert time to improve positive identification of intruders and for activation of response systems.

(U) Remotely Operated Weapons Technologies: This task is directed to enhancing the current ROWs technology that uses direct copper connection and modifies it to a network for Navy applications. In addition, new features (i.e. target tracking) for added capabilities will be researched and prototyped.

(U) Land Water Interface Sensors: This effort includes research into existing sensor technologies to improve capabilities in areas where current sonar's and land based sensors capabilities could be improved. Initial findings are expected to be sufficient to warrant development and test of prototype.

(U) Technology Reviews: This task involves reviews and assessments of technologies and advanced concepts for applicability or potential adaptation to protective measures required for safeguard of nuclear assets.

(U) Access Doors: This task explores developing new concepts, technologies and designs for doors and closures protecting nuclear assets.

(U) Final Denial Technologies: This task explores concept weapons, microwaves, acoustic devices, etc. for application to denial requirements related to protection of nuclear assets.

(U) Smart Sensors : This task researches new technologies and concepts for detecting explosives or explosive devices from greater distances than currently available.

(U) Research and study leading to new or improved technologies in both active and passive protection systems to be used in the safeguarding of Navy's nuclear assets.

(U) FY 2008 PLAN

(U) (\$0.839) Enhanced Special Weapons/Nuclear Weapons Security program.

FY 2008 efforts include:

(U) Underwater Close-in Defense: This effort is focused on developing an advanced underwater vehicle and diver detection and deterrence system for the protection of high value maritime assets while they are in port. The conceptual system involves a physical net-like barrier that combines use of fiber-optic sensing and alerting technology to provide an extremely high positive detection rate and extremely low false alarm rate. The concept design also includes increased alert time to improve positive identification of intruders and for activation of response systems.

(U) Technology Reviews: This task involves reviews and assessments of technologies and advanced concepts for applicability or potential adaptation to protective measures required for safeguard of nuclear assets.

(U) FY 2009 PLAN

(U) (\$0.935) Enhanced Special Weapons/Nuclear Weapons Security program.

FY 2009 efforts include:

(U) Underwater Close-in Defense: This effort is focused on developing an advanced underwater vehicle and diver detection and deterrence system for the protection of high value maritime assets while they are in port. The conceptual system involves a physical net-like barrier that combines use of fiber-optic sensing and alerting technology to provide an extremely high positive detection rate and extremely low false alarm rate. The concept design also includes increased alert time to improve positive identification of intruders and for activation of response systems.

(U) Technology Reviews: This task involves reviews and assessments of technologies and advanced concepts for applicability or potential adaptation to protective measures required for safeguard of nuclear assets.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7		PROJECT NUMBER AND NAME: Enhanced Special Weapons J3158

C. (U) Other Program Funding Summary: (Dollars in Thousands)									
Nuclear Weapons Security	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Total Complete</u>	<u>Total Cost</u>
MILCON (CNI)	48.000	39.800	50.700	33.600	259.900	18.400	61.700	continuing	continuing
OPN BA7/PE 0305134N/PE 0208147N	20.286	53.111	52.859	31.362	27.290	27.753	28.389	continuing	continuing
O&MN BA1/1D2D/PE Various	84.585	76.208	85.089	80.685	81.704	83.218	84.927	continuing	continuing
Transit/Escort									
MILCON (CNI)	0.000	0.000	0.000	25.200	35.200	0.000	0.000	continuing	continuing
OPN BA1/1210/PE 0101228N	20.084	0.000	0.000	2.547	0.000	68.153	69.453	continuing	continuing
WPN BA4/4217/PE 0101228N	0.000	6.999	45.357	44.349	31.154	0.000	0.000	continuing	continuing
O&MN BA1/1D2D/PE 0101221N	63.700	73.400	96.913	87.200	85.600	87.400	89.200	continuing	continuing
D. (U) 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. (U) Major Performers:									
<ul style="list-style-type: none"> - TBD - Marinization of Integrated Army Active Protection System (IAAPS) and deliver two (2) operational prototype units. - NFESC/CA - Underwater Close-in defense - DOE/NM - Technology Reviews - APL/MD - Remotely Operated Weapons technologies; final denial technologies. 									

CLASSIFICATION:

EXHIBIT R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7			PROGRAM ELEMENT NUMBER AND NAME: PE 0101221N Strategic Sub & Wpns Sys Spt			Project Number and Name Enhanced Special Weapons J3158	
Fiscal Year	CY-2007	2008	2009	2010	2011	2012	2013
Contract Award -ahead and Milestones		1Q			1Q		
Common Technology, Component, and Interface studies	1Q						
System Development & Demonstration		1-4Q	1-4Q				
Initial Production Baseline			4-Q	1-4Q			
Production and Deployment				1-4Q	1-4Q	1-4Q	
Systems Engineering Reviews		1-4Q					
System Integration Test - Mock-up		4Q	1-2Q				
Systems Integration Test - Engineering Development Units			2-3Q				
Systems Integration Test - Production Proofing Units			3-4Q				
System Flight Test IOC DASO (Not scheduled, platform dependent)				1Q			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7				PROJECT NUMBER AND NAME Reliable Replacement Warhead J3196			
COST (\$ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J3196 Reliable Replacement Warhead	0.000	14.455	23.346	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION							
<p>The Reliable Replacement Warhead Program is a joint DOE and DoD effort to provide reliable replacement warheads to the nations nuclear stockpile. As further reductions continue to be made to the stockpile, the long-term implications of successive refurbishments of the legacy warheads from the Cold War must be considered. Each refurbishment is further from the tested configurations of these highly optimized systems, raising concerns about the ability to ensure stockpile safety and reliability over the very long term without underground nuclear testing. By relaxing Cold War design constraints (e.g. maximum yield in a minimum size/weight package), the RRW program will allow the design of replacement warheads that are more efficient to manufacture, are safer and more secure, eliminate environmentally hazardous materials and increase design performance margins, thus ensuring long-term confidence in reliability and a correspondingly reduced chance of requiring nuclear tests.</p> <p>Improving safety and security in a post-9/11 threat environment is a primary objective. RRW provides opportunities to incorporate the latest technological advances for precluding unauthorized use and access. RRW will enable transformation to a more efficient and responsive nuclear weapons research, development, and production infrastructure in support of the Nuclear Posture Review and the requirements of the new Strategic Triad. Once it can be demonstrated that replacement warheads can be produced on a timescale in which geopolitical threats could emerge, or respond in a timely way to technical problems in the stock pile, then non-deployed warheads can be further reduced and meet the President's vision of the smallest stockpile consistent with the nation's security requirements. In 2005, an RRW design competition was initiated in which two independent design teams from the nuclear weapons labs explored RRW options. The Nuclear Weapons Council has chosen Lawrence Livermore National Laboratory (LLNL) as the lead laboratory. SSP is working with LLNL to deliver cost and schedule data as part of a Phase 2/2A study, which will conclude in August FY08.</p> <p>The team selected will lead the development of an RRW design to replace a portion of the deployed warheads for the Navy's TRIDENT SLBM system. In partnership with the selected design team, the DoD and NNSA will conduct a study to further define the design and develop detailed cost estimates for RRW development and production. This estimate will form the basis of the POM-10 input. The numbers shown here are the current estimate of the DoD portion of the effort required for the first two years of the design and development effort.</p>							

R-1 SHOPPING LIST - Item No. 159 - 23 of 37

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: Reliable Replacement Warhead J3196	

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Reliable Replacement Warhead	0.000	14.455	23.346
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2008 PLAN

(U) (\$14.455) Continue the RRW Program into Phase 3 Engineering Development, when approved by Congress and the Nuclear Weapons Council.

FY 2008 efforts include:

- (U) Engineering development of AF&F for RRW.
- (U) Developmental Test and Evaluation of AF&F components and subsystems.
- (U) Systems engineering and integration of RRW with the TRIDENT D5 Weapon System.
- (U) Engineering development of ancillary reentry body types for RRW.

(U) FY 2009 PLAN

(U) (\$23.346) Continue the RRW Program into Phase 3 Engineering Development, when approved by Congress and the Nuclear Weapons Council.

FY 2009 efforts include:

- (U) Continue engineering development of AF&F for RRW.
- (U) Continue developmental Test and Evaluation of AF&F components and subsystems.
- (U) Continue systems Engineering and integration of RRW with the TRIDENT D5 Weapon System.
- (U) Continue engineering development of ancillary reentry body types for RRW.

R-1 SHOPPING LIST - Item No. 159 - 24 of 37

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile																				DATE: February 2008												
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7										PROGRAM ELEMENT NUMBER AND NAME: PE 0101221N Strategic Sub & Wpns Sys Spt										Project Number and Name Reliable Replacement Warhead J3196												
Fiscal Year	CY-2007				2008				2009				2010				2011				2012				2013							
	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				
Contract Go-ahead and Milestones					△				△																							
Common Technology, Component, and Interface studies (Tech Dev Phase)																																
System Development & Demonstration Phase																																
Systems Engineering Reviews																																
System Integration Test - Mock-up																																
Systems Integration Test - Engineering Development Units																																
Systems Integration Test - Production Proofing Units Including LRIP																																
System Flight Test IOC DASO (Not scheduled, platform dependent)																																

CLASSIFICATION:

EXHIBIT R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7			PROGRAM ELEMENT NUMBER AND NAME: PE 0101221N Strategic Sub & Wpns Sys Spt			Project Number and Name Reliable Replacement Warhead J3196	
Fiscal Year	CY-2007	2008	2009	2010	2011	2012	2013
Contract Award -ahead and Milestones		1Q	1Q				
Common Technology, Component, and Interface studies		1-4Q	1-2Q				
System Development & Demonstration		1-4Q	1-4Q				
Initial Production Baseline							
Production and Deployment							
Systems Engineering Reviews		2-3Q	3-4Q				
System Integration Test - Mock-up			3-4Q				
Systems Integration Test - Engineering Development Units							
Systems Integration Test - Production Proofing Units							
System Flight Test							

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME J3198 Underwater Launch Missile System

COST (\$ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J3198 Underwater Launch Missile System	0.000	0.000	10.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Underwater Launch Missile System (ULMS) effort develops capabilities definitions and assessments, science & technology development strategies, and conceptual work to prepare for R&D and Prototyping in FY10.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: J3198 Underwater Launch Missile System	

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Project Cost J3198 Underwater Launch Missile System	0.000	0.000	10.000
RDT&E Articles Quantity	0.000	0.000	10.000

(U) FY 2009 PLAN

(\$10.000) The Underwater Launch Missile System (ULMS) effort develops capabilities definitions and assessments, science & technology development strategies, and conceptual work to prepare for R&D and Prototyping in FY10.

FY 2009 efforts include:

- (U) Develop Joint Capabilities Integrated Development System (JCIDS) required Capabilities-based Assessments to achieve an approved Initial Capabilities Document (ICD)
- (U) Develop technology assessments and roadmap leading to approved Technology Development Strategy (TDS).
- (U) Develop concepts for top-level integration studies, to analyze performance and cost drivers, and to begin alternatives analysis.
- (U) Develop, update and exercise design and modeling tools including cost modeling methodology for total-ship integration.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME S0004/TRIDENT Submarine System Improvement

COST (\$ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost S0004 TRIDENT Submarine System Improvement	0.167	0.273	0.349	0.394	0.456	0.464	0.472
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) 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 1970's 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 (SFMPL) 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.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7				PROJECT NUMBER AND NAME J9A66N Advanced Conventional Strike Capability (SLIRBM)			
COST (\$ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J9A66N Advanced Conventional Strike Capability (SLIRBM)	1.261	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

A study will be conducted utilizing the baseline data developed during performance of the Submarine Launched Intermediate Range Ballistic Missile (SLIRBM) Boost Motor Demonstration contracts. This study will focus on providing best value missile system design concepts. Cost considerations will include development, production, operational, and disposal costs over the life of the program. This Congressional add belongs to SSP.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: J9A66N Advanced Conventional Strike Capability (SLIRBM)	

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Project Cost J9A66N Advanced Conventional Strike Capability (SLIRBM)	1.261	0.000	0.000
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) A study will be conducted utilizing the baseline data developed during performance of the Submarine Launched Intermediate Range Ballistic Missile (SLIRBM) Boost Motor Demonstration contracts. This study will focus on providing best value missile system design concepts. Cost considerations will include development, production, operational, and disposal costs over the life of the program. This Congressional add belongs to SSP.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME J9A67N Free Electron Laser Facility/9999 Advanced Linear A	

COST (\$ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J9A67N Free Electron Laser Facility	1.310	2.981	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Free Electron Laser Program is for advanced capability Linear Accelerator (LINAC) to include a three stage accelerator section and an electron storage ring that will reduce the main limitations (electrical noise and micro-beam structure) of current LINAC technology. The enhanced LINAC will allow future large chips to be tested while meeting strategic test requirements. This Congressional add belongs to SSP.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PROJECT NUMBER AND NAME: J9A67N Free Electron Laser Facility/9999 Advanced Linear Acceleromet

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Project Cost J9A67N Free Electron Laser Facility	1.310	2.981	0.000
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) The Free Electron Laser Program is for advanced capability Linear Accelerator (LINAC) to include a three stage accelerator section and an electron storage ring that will reduce the main limitations (electrical noise and micro-beam structure) of current LINAC technology. The enhanced LINAC will allow future large chips to be tested while meeting strategic test requirements. This Congressional add belongs to SSP.

(U) FY 2008 PLAN

(U) Continue work on the Free Electron Laser Program and the advanced capability Linear Accelerator (LINAC) .

CLASSIFICATION:		UNCLASSIFIED
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	R-1 ITEM NOMENCLATURE 0101226N/SUBMARINE ACOUSTIC WARFARE DEVELOPMENT	
E. MAJOR PERFORMERS: NUWC NPT/ TBD (Competitive Award).		

CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0101226N/SUBMARINE ACOUSTIC WARFARE DEVELOPMENT				PROJECT NUMBER AND NAME 1265/Sub Defense Warfare		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost	2.066	4.062	7.384	7.628	7.793	7.941	8.077	
RDT&E Articles Qty	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 classes of US Submarines. Next Generation Countermeasure (NGCM) efforts 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 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.

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0101226N/SUBMARINE ACOUSTIC WARFARE DEVELOPMENT	PROJECT NUMBER AND NAME 1265/Sub Defense Warfare	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
Weapons Analysis Facility (WAF) Analysis	1.500	1.500	1.500
RDT&E Articles Quantity	0	0	0
FY 07-09 - Continued to conduct countermeasure proofing and effectiveness analysis for designated torpedo at Weapons Analysis Facility (WAF).			
	FY 2007	FY 2008	FY 2009
Next Generation Countermeasure (NGCM)	0.566	2.562	5.884
RDT&E Articles Quantity	0	0	0
FY07 - Continue transitioning of Future Naval Capability (FNC) technologies into existing fleet countermeasures including Group Behavior, Full Duplex, Classification Look-Up Table, and RF Up-Link.			
FY08 - Continue transitioning of Future Naval Capability (FNC) technologies into existing fleet countermeasures including ACCOMS, and Fire Through Friendly Fire. Achieve MS B. Award NGCM Contract for integrating technology inserts.			
FY09 - Continue integration of technology inserts.			

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0101226N/SUBMARINE ACOUSTIC WARFARE DEVELOPMENT					PROJECT NUMBER AND NAME 1265/Sub Defensive Warfare					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
WAF ANALYSIS SYSTEM ENGINEERING	WR	NUWC Newport, RI	1.500	1.500	JAN-07	1.500	JAN-08	1.500	DEC-08	CONT	CONT	0.000
NGCM SYSTEM ENGINEERING	WR	NUWC Newport, RI	4.283	0.191	JAN-07	1.462	JAN-08	0.347	DEC-08	CONT	CONT	0.000
NGCM DEVELOPMENT	C/CPAF	Contractor - TBD	0.000	0.000		0.800	JUN-08	5.237	JAN-09	CONT	CONT	0.000
NGCM SYSTEM ENGINEERING	WR	NSWC CRANE, IN	0.000	0.075	MAY-07	0.000		0.000		0.000	0.075	0.000
Subtotal Product Development			5.783	1.766		3.762		7.084		0.000	CONT	0.000
Remarks:												
PROGRAM MANAGEMENT SUPPORT	C/CPAF	EG&G Gaithersburg, MD	0.250	0.250	FEB-07	0.250	FEB-08	0.250	FEB-09	CONT	CONT	0.000
TRAVEL	WR	PMS415	0.050	0.050	NOV-06	0.050	NOV-07	0.050	NOV-08	CONT	CONT	0.000
Subtotal Management Services			0.300	0.300		0.300		0.300		CONT	CONT	0.000
Remarks:												
Total Cost			6.083	2.066		4.062		7.384		0.000	CONT	0.000

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-4, SCHEDULE PROFILE

DATE
February 2008

APPROPRIATION/BUDGET ACTIVITY
RD TEN/BA 7

PROGRAM ELEMENT NUMBER AND NAME
0101226N/SUBMARINE ACOUSTIC WARFARE DEVELOPMENT

PROJECT NUMBER AND NAME
1265/Sub Defensive Warfare

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
WEAPONS ANALYSIS FACILITY (WAF)	CM Effectiveness / WAF Threat Vulnerability						
TORPEDO DEFENSE WORKING GROUP (TDWG) / NEXT GENERATION COUNTERMEASURE (NGCM)	Group Behavior	ACCOMS	Integration of Technology Inserts				
	Classif. Table	Fire Through Friendly Fire			Contractor Testing	D/T Testing	
	RF Up-Link	MS B				Techeval Opeval	LRIP
	Full Duplex	Contract Award					

CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL						DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0101226N/SUBMARINE ACOUSTIC WARFARE DEVELOPMENT			PROJECT NUMBER AND NAME 1265/Sub Defensive Warfare			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
NGCM/ TDWG								
Integration of Technology Insertions		Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q2			
Milestone B			Q3					
Contract Award			Q3					
Contractor Testing					Q3-Q4			
Milestone C						Q2		
D/T Testing						Q3-Q4		
Technical Evaluation							Q2	
Operational Evaluation							Q4	
LRIP								Q1-Q4

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						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0101402N, NAVY STRATEGIC COMMUNICATIONS	
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	36.395	35.777	47.495	44.594	15.083	8.790	
0793 E-6 SERVICE LIFE ASSESSMENT PROGRAM	.900						
3002 NAVY STRATEGIC COMMUNICATIONS BLOCK I	35.495	35.777	47.495	44.594	15.083	8.790	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(0793) A Service Life Assessment Program (SLAP) of selected critical components is being performed on the E-6B. The original E-6A service life of this airframe was 27,000 hours based on a prescribed weight and expected operational usage. Current E-6B weight and operational usage exceeds those original values and lessens, by some unknown value, the original 27,000 hours airframe service life. SLAP is a two-phase program. Phase 1 conducts a general study to define the critical locations using data gathered from the fleet and previous test data. Phase 1A will use data gathered during Phase 1 to develop a finite element model. Phase 2 will conduct the detailed analyses of the critical locations. The contractor will analyze fleet aircraft and review onboard recorder data in order to generate an updated loads spectrum. The contractor will update the external/internal loads analysis associated with the updated loads spectrum and operational usage data. Utilizing the data from the first two steps, the contractor will update the existing E-6B Durability and Damage Tolerance Assessments. This data will then allow the contractor to update the Reliability-Centered Maintenance (RCM) analysis, and optimize the E-6B Maintenance Plans. The contractor will perform preliminary high level trade studies of potential modifications to increase the service life.

(3002) The E-6B Block I modification program corrects Airborne National Command Post program FOT&E operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems by 2010. Block I designs, develops, integrates, and tests a Multi-Level Security (MLS) system, Open Systems Architecture (OSA); replaces the intercommunications (ICS) and mission computer systems (MCS); modifies the cooling, electrical, and Ultra-High Frequency Command, Control and Communications (UHFC3) system; and addresses Internet Protocol Bandwidth Expansion IPBE impacts to pre-Block I baseline aircraft. Block I adds operator workstations throughout the aircraft to reduce workload and improve system interoperability, and provide a foundation for evolutionary upgrades. Other modifications (BLOCK 1A) include: An additional Auxiliary Power Unit (APU) to enhance power and cooling capabilities supporting the additional systems in the MLS OSA, a Very Low Frequency Transmitter (VLF-TX) obsolescence replacement, and a High Power Transmit Set (HPTS) subsystem refurbishment.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget	37.317	36.531	31.725
FY2009 President's Budget	36.395	35.777	47.495
Total Adjustments	-0.922	-0.754	15.770

Summary of Adjustments

Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.828	-0.247	
Congressional Increases			
Economic Assumptions			-0.244
Reprogrammings	-0.094		
Program Rephasing			16.000
Miscellaneous Adjustments		-0.507	0.014
Subtotal	-0.922	-0.754	15.770

Schedule:

(3002) Changes in the schedule are a result of a contract restructure which resulted in a one-year delay in Low Rate Initial Production (LRIP). This delay allows for the development, integration and test schedules to accommodate Internet Protocol Bandwidth Expansion (IPBE) impacts.

Technical:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0101402N, NAVY STRATEGIC COMMUNICATIONS			PROJECT NUMBER AND NAME 0793, E-6 SERVICE LIFE ASSESSMENT PROGRAM			
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0793 E-6 SERVICE LIFE ASSESSMENT PROGRAM			.900						
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A Service Life Assessment of selected critical components is being performed on the E-6B. The original service life of this airframe was 27,000 hours based on a prescribed weight and expected operational usage. Current weight and operational usage exceed those original values and lessen, by some unknown value, the original 27,000 hour airframe service life. SLAP is a two-phase program. Phase 1 is conducting a general study to define the critical locations using data gathered from the fleet and previous test data. Phase 1A will use data gathered during Phase 1 to develop a finite element model. Phase 2 will conduct the detailed analyses of the critical locations. The contractor will analyze fleet aircraft and review onboard recorder data in order to generate an updated loads spectrum. The contractor will update the external/internal loads analysis associated with the updated loads spectrum and operational usage data. Utilizing the data from the first two steps, the contractor will update the existing E-6B Durability and Damage Tolerance Assessments. This data will then allow the contractor to update the Reliability-Centered Maintenance (RCM) analysis, and optimize the E-6B Maintenance Plans. The

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Phase 2	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.900		
RDT&E Articles Qty			

Funding supports the E-6B Service Life Assessment Program, which includes the following efforts: assemble and deliver GF; assist contractor in developing critical location selection criteria; develop finite element model; perform RCM Analysis; assess scheduled maintenance impacts; perform supportability analysis; attend technical review meetings; review and correct CDRLs; determine the load-to-strain/stress relationships for each critical location; generate a service spectra and calculate critical location fatigue lives that 85 percent of the fleet should exceed; perform damage tolerance analysis to determine critical location inspection techniques and intervals; evaluate life enhancement potential for life-critical locations; modify the LOOPIN fatigue damage algorithms to accept available individual aircraft data (3M, NAVAIR form 13920/1, Structural Data Recording Set (SDRS), and structural configuration) to calculate individual aircraft fatigue life expended (FLE) values for all critical locations; validate SDRS for baseline individual aircraft FLE values; develop damage tolerance algorithms to accept available individual aircraft data (3M, NAVAIR form 13920/1, Structural Data Recording Set (SDRS), and structural configuration) to calculate individual aircraft crack size (growth) values for all critical locations.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
056400 E-6 A/B Series	54.707	84.609	88.894	121.046	125.373	123.604	114.937	184.200	897.370

D. ACQUISITION STRATEGY:

SLAP is a sole source program due to the proprietary nature of the data needed to complete the required studies and analyses. Each phase of SLAP will be awarded a separate cost-reimbursable delivery order under a Basic Ordering Agreement (BOA) with Boeing.

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0101402N, NAVY STRATEGIC COMMUNICATIONS			PROJECT NUMBER AND NAME 3002, NAVY STRATEGIC COMMUNICATIONS BLOCK I		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
I		35.495	35.777	47.495	44.594	15.083	8.790
RDT&E Articles Qty			1				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The E-6B Block I modification program corrects Airborne National Command Post program FOT&E operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems by 2010. Block I designs, develops, integrates, and tests a Multi-level Security (MLS) system, Open Systems Architecture (OSA); replaces the intercommunications (ICS) and mission computer systems (MCS); modifies the cooling, electrical, and Ultra-High Frequency Command, Control and Communications (UHFC3) system; and addresses Internet Protocol Bandwidth Expansion IPBE impacts to pre-Block I baseline aircraft. Block I adds operator workstations throughout the aircraft to reduce workload and improve system interoperability, and provide a foundation for evolutionary upgrades. Other modifications include: An additional Auxiliary Power Unit (APU) to enhance power and cooling capabilities supporting the additional systems in the MLS OSA, a Very Low Frequency Transmitter (VLF-TX) obsolescence replacement, and a High Power Transmit Set (HPTS) subsystem refurbishment.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Aircraft Induction Readiness Review (IRR)	FY 07	FY 08	FY 09
Accomplishments / Effort / Sub-total Cost	3.866	6.191	7.248
RDT&E Articles Qty			

Funding supports Government acquisition planning, acquisition strategy adjustment, requirements analysis, industry conferences, DoD 5000 Series document development and revision, program management, technical reviews, oversight, SIL and aircraft modification and test, contract management; design, test readiness, and CDRL reviews; functional and physical configuration audits; technical interchange and program management meetings; development and operational test planning, execution, and reporting in support of government review and design approval of Block I and IA modifications. Development of design changes to accommodate Internet Protocol Bandwidth Expansion (IPBE) impacts and the Block IA increment will begin in FY08.

Aircraft IRR and Sys Integration Lab (SIL)	FY 07	FY 08	FY 09
Accomplishments / Effort / Sub-total Cost	2.728	1.699	2.685
RDT&E Articles Qty			

Funding will be used to buy contract support services to perform engineering, management, trade studies, and analysis to develop acquisition documents; plan logistics and training; develop and monitor schedules and revisions to DoD 5000 series documents; attend industry conferences; perform engineering and architectural studies and analyses; modify and test the SIL and aircraft; conduct functional and physical configuration audits; and review CDRLs for Block I and IA modifications. Development of design changes to accommodate Internet Protocol Bandwidth Expansion (IPBE) impacts and the Block IA increment will begin in FY08.

Aircraft IRR and SIL Install	FY 07	FY 08	FY 09
Accomplishments / Effort / Sub-total Cost	28.901	27.887	34.662
RDT&E Articles Qty			

Funding supports tasks allotted to the prime contract including; program initiation, engineering research, design development, integration and test of Block I and IA systems; preparation and presentation of the Block I and IA designs and test readiness reviews; SIL and aircraft modification, functional and physical configuration audits; contractor developmental test planning, leading to Low Rate Initial Production approval and award. Development of design changes to accommodate Internet Protocol Bandwidth Expansion (IPBE) impacts and the Block IA increment will begin in FY08.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0101402N, NAVY STRATEGIC COMMUNICATIONS	PROJECT NUMBER AND NAME 3002, NAVY STRATEGIC COMMUNICATIONS BLOCK I

DT/OT Testing	FY 07	FY 08	FY 09
Accomplishments / Effort / Sub-total Cost			2.900
RDT&E Articles Qty			

Funding supports Developmental Testing (DT) and Operational Testing (OT).

C. OTHER PROGRAM FUNDING SUMMARY:	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
056400 E-6 A/B Series	54.707	84.609	88.894	121.046	125.373	123.604	114.937	184.200	897.370

D. ACQUISITION STRATEGY:

Competitively awarded Cost Plus Award Fee (CPAF) development contract and CPAF/Cost Plus Incentive Fee (CPIF) Low Rate Initial Production (LRIP) option with sole source follow-on Firm Fixed Price (FFP) Full Rate Production (FRP) contract. The current contract was modified on 13 April 2007 to a CPIF contract.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT 0101402N, NAVY STRATEGIC COMMUNICATIONS				PROJECT NUMBER AND NAME 3002, NAVY STRATEGIC COMMUNICATIONS BLOCK I					

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	C/CPIF	ROCKWELL COLLINS ,Cedar Rapids, IA	50.482	28.901	Nov 2006	25.621	Nov 2007	13.807	Nov 2008	1.901	120.712	120.712
Award Fee	C/CPAF	ROCKWELL COLLINS ,Cedar Rapids, IA	3.751								3.751	3.751
Primary Hdw Development	C/CPIF	TBD				2.266	VARIOUS	19.655	VARIOUS	47.197	69.118	69.118
Training Development WST	C/CPIF	TBD						1.200	Nov 2008		1.200	1.200
SUBTOTAL PRODUCT DEVELOPMENT			54.233	28.901		27.887		34.662		49.098	194.781	

Remarks: The Rockwell Collins Primary Hardware contract was converted from a C/CPAF a C/CPIF beginning in FY07

SUPPORT												
STUDIES, ANALYSIS & EVAL	RX	VARIOUS	3.476	.028	Dec 2006	.034	Dec 2007	.036	Dec 2008	.108	3.682	
SUBTOTAL SUPPORT			3.476	.028		.034		.036		.108	3.682	

Remarks:

TEST & EVALUATION												
Developmental Test & Eval.	WX	NAWCAD, PATUXENT RIVER MD						2.900	Dec 2008	.581	3.481	
Operational Test & Eval.	WX	NAWCAD, PATUXENT RIVER MD								4.910	4.910	
SUBTOTAL TEST & EVALUATION								2.900		5.491	8.391	

Remarks:

MANAGEMENT												
Contractor Engineering Supt	RX	VARIOUS	8.021	1.537	Dec 2006	1.422	Dec 2007	1.822	Dec 2008	2.389	15.191	
Government Engineering Supt	WX	NAWCAD, PATUXENT RIVER MD	16.832	2.626	Dec 2006	2.655	Dec 2007	2.293	Dec 2008	3.638	28.044	
Government Engineering Supt	RX	VARIOUS	3.819	1.100	Dec 2006	3.236	Dec 2007	4.655	Dec 2008	6.143	18.953	
Program Management Supt	WX	VARIOUS	8.723	1.163	Dec 2006	.243	Dec 2007	.827	Dec 2008	.900	11.856	
Travel	TO	NAVAIR HQ, PATUXENT RIVER, MD	.668	.140	VARIOUS	.300	VARIOUS	.300	VARIOUS	.700	2.108	
SUBTOTAL MANAGEMENT			38.063	6.566		7.856		9.897		13.770	76.152	

Remarks:

Total Cost			95.772	35.495		35.777		47.495		68.467	283.006	
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Remarks:

CLASSIFICATION:																												
EXHIBIT R4, Schedule Profile																								DATE:				
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME								
RDT&E, N / BA-7								0101402N, Navy Strategic Communications												3002, Navy Strategic Communications Block 1								
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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																												
Source Selection																												
Contract Award / Modifications																												
Design Readiness Review																												
Milestone C																												
System Development																												
System Integration Lab (SIL) Install																												
Prototype Aircraft (A/C) Installation																												
Test & Evaluation Milestones																												
Contractor/Developmental																												
Operational Test (OPEVAL)																												
Production Milestones																												
LRIP Phase																												
Full Rate Production Decision/Start																												
First Deployment																												
Full Rate Production																												
IOC																												

CLASSIFICATION:							
Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT 0101402N, Navy Strategic Communications				PROJECT NUMBER AND NAME 3002, Navy Strategic Communications Block 1	
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Systems Integration Lab (Blk I)	1Q-4Q	1Q					
Design Readiness Review	4Q						
Source Selection (Blk IA)		1Q-4Q					
Contractor/Developmental Testing (CT/DT) (Blk I)		1Q-4Q	1Q-4Q				
Prototype Aircraft Installation (Blk I)		2Q-4Q	1Q				
Contract Award (IPBE)		3Q					
Contract Award (Blk IA)			1Q				
Milestone C (MS-C) (Blk I)				1Q			
Contract Award LRIP (Blk I)				1Q			
Operational Testing (OPEVAL) (Blk I)				1Q			
LRIP Phase				1Q-4Q	1Q-4Q	1Q-2Q	
Contractor/Developmental Testing (CT/DT) (Blk IA)				2Q-4Q	1Q-2Q		
Systems Integration Lab (Blk IA)				3Q-4Q	1Q		
Full Rate Production (FRP) Decision/Start (Blk I)					1Q		
Prototype Aircraft Installation (Blk IA)					1Q-2Q		
Full Rate Production (FRP) (Blk I)					1Q-4Q	1Q-4Q	1Q-4Q
Operational Testing (OPEVAL) (Blk IA)					3Q-4Q		
First Deployment					4Q		
Full Rate Production (FRP) Decision/Start (Blk IA)						1Q	
Milestone C (MS-C) (Blk IA)						1Q	
Contract Award FRP (Blk IA)						1Q	
Full Rate Production (FRP) (Blk IA)						1Q-4Q	1Q-4Q
IOC (Blk I)						4Q	

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: February 2008

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0203761N
PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

COST: (Dollars in Thousands)

Project Number & Title	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE	38,370	39,778	34,469	45,592	40,174	41,398	47,564
3126 RAPID TECHNOLOGY TRANSITION (RTT)	23,537	29,542	28,422	33,638	28,028	34,396	34,858
3174 RAPID DEVELOPMENT & DEPLOYMENT (RDD)	10,948	9,441	6,047	11,954	12,146	7,002	12,706
9999 CONGRESSIONAL PLUS-UPS	3,885	795	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the Rapid Technology Transition (RTT) program and the Technology Insertion Program for Savings (TIPS) is to increase the rate that new, innovative, and potentially disruptive technologies are inserted into DON acquisition programs and the hands of the warfighter. The RTT program transitions technology from any source, including those not traditionally associated with defense technology. TIPS increases the rate that new cutting edge technologies are inserted into DON acquisition programs in order to significantly reduce operations and maintenance support costs. 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. These 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.

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 pro-active in identifying opportunities and to work with resource sponsors,

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: February 2008

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0203761N
PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

fleet and force users, and Program Managers (PMs) in constructing viable technology transition deals one at a time.

To ensure the widest possible awareness of emergent commercial technology opportunities, these programs interact with the venture capital community and industry. These programs coordinate closely with Program Executive Offices (PEOs) and 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.

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: February 2008

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0203761N
PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

B. PROGRAM CHANGE SUMMARY:

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2008/FY 2009 President's Budget Submission	39,326	44,756	34,469
Congressional Action	0	-4,200	0
Congressional Undistributed Reductions/Rescissions	0	-258	0
Execution Adjustments	-97	0	0
SBIR Assessment	-859	-520	0
FY 2009 President's Budget Submission	38,370	39,778	34,469

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable.

Schedule: As a result of the FY 2008 Congressional reduction, cancel one new technology transition deal in support of the RTT program, two new start projects in support of the TIPS program, and cancel two new projects in support of the RDD program in FY 2008.

C. OTHER PROGRAM FUNDING SUMMARY:

Not applicable.

D. ACQUISITION STRATEGY:

Not applicable.

E. PERFORMANCE METRICS:

The RTT program will, at a minimum, initiate 5-8 new deals a 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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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT NUMBER: 3126

PROJECT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

COST: (Dollars in Thousands)

Project Number & Title	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
3126 RAPID TECHNOLOGY TRANSITION (RTT)	23,537	29,542	28,422	33,638	28,028	34,396	34,858

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.

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.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
RTT	23,537	29,542	28,422

FY 2007 Accomplishments:

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT NUMBER: 3126

PROJECT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

- Continued efforts on the following TIPS projects: Heat Induction Based Coating Removals project currently scheduled for completion in FY 2008; and Continued Sprayable Dielectric Shield Coatings effort.
- Completed the following RTT projects: Portable Fluid Analyzer (PFA); HELLFIRE Trajectory Shaping; Cryptologic Management and Analysis Support Segments (CMASS); Battle Force e-mail (BF-EM) for P-3C AIP; HF SIPRNET for E-2C; Enhanced Battlefield Situational Awareness (EBSA); Technical Control and Analysis Center SIGINT Query Tool; Low Cost Expendable Small Robotic Platform - BOMBOT; and MLS Coalition Architecture.
- Initiated the following RTT projects for the September 2006 and March 2007 Deal Cycles: Digital RF Memory (DRFM) Jammer; Subnet Relay (SNR) and High Frequency Internet Protocol (HF IP); Communications T/FDOA (Time / Frequency Difference of Arrival) Geo-location; Submarine Tactical Paging at Speed and Depth; Deployable Alternative Energy Module (DAEM); Airborne Communications Package ADNS Airborne Network Node; Expedient Airfield Damage Repair (ADR); Sparsely Populated Volumetric Array Acoustic Intercept Sensor Enhancing Submarine Passive Broadband Detection and Localization (SPVA PBB); Joint Mission Planning System Expeditionary SPF (JMPS-E); CLUSTER BIGHT Optical Subsystem (CBOS); Cryogenic Filters; MPU with Commercial Stirling Cooler; and Littoral Combat Ship Mission Package Networked Tactical Training System (LCS NTTS).
- Initiated the following TIPS projects: Non-Skid Coatings; Modified Atmosphere Packaging System for Fresh Fruits and Vegetables currently scheduled for completion in FY 2008; and Normal Fuel Oil Tanks and Littoral Combat Ship Virtual Maintenance Performance Aid in collaboration with RTT LCS - Network Transition Training System. Primary objectives of these projects are cost savings and reducing Operations and Support costs.

FY 2008 Plans:

- Continue efforts initiated in FY 2007.
- Complete Non-Skid Coatings, Modified Atmosphere Packaging System and Heat Induction Based Coating Removals TIPS projects.
- Initiate 11 new technology transition deals in support of the RTT program. (Note: As a result of the Congressional reduction, cancel one new technology transition deal)
- Initiate 4 new start projects in support of the TIPS program. (Note: As a result of the Congressional reduction, cancel two new start projects)

FY 2009 Plans:

- Continue new efforts initiated in FY 2008.
- Complete all efforts initiated in FY 2007.
- Initiate 6-10 new technology transition deals in support of the RTT program.

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT NUMBER: 3126

PROJECT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

- Initiate 5-8 new start projects in support of the TIPS program.

C. OTHER PROGRAM FUNDING SUMMARY - NAVY RELATED RDT&E::

Not applicable.

OTHER PROGRAM FUNDING SUMMARY - NON-NAVY RELATED RDT&E::

Not applicable.

D. ACQUISITION STRATEGY:

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

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT NUMBER: 3174

PROJECT TITLE: RAPID DEVELOPMENT & DEPLOYMENT (RDD)

Project Number & Title	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
3174 RAPID DEVELOPMENT & DEPLOYMENT (RDD)	10,948	9,441	6,047	11,954	12,146	7,002	12,706

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 needs in the Global War on Terrorism (GWOT). The RDD process applies when existing DON processes cannot meet urgent operational needs. GWOT has 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.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
RDD	10,948	9,441	6,047

RDD was a new start in FY 2007.

Change from FY 2008 to FY 2009 is due to reduced level of investment/effort required for completing projects and subsequent initiations in FY 2009.

FY 2007 Accomplishments:

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT NUMBER: 3174

PROJECT TITLE: RAPID DEVELOPMENT & DEPLOYMENT (RDD)

- The Counter Suicide Bomber Detection program was initiated and the prototype is currently in development. Additionally, the Tactical Biometric Collection and Matching System prototype, which supports the Expanded Maritime Intercept Operations mission area, is scheduled for delivery in 2008. The transition to program of record is progressing. RDD continued to support a number of urgent operational requirements throughout FY 2007.

FY 2008 Plans:

- Continue new efforts initiated in FY 2007.
- Initiate RDD effort titled: Chemical, Biological, Radioactive/Nuclear and Explosive and Weapons of Mass Destruction (WMD).
- Initiate 2 new RDD projects. (Note: As a result of Congressional reduction, cancel two new projects)

FY 2009 Plans:

- Continue new efforts initiated in FY 2008.
- Complete all efforts of FY 2007 less those noted as completed in FY 2008.
- Initiate and complete multiple projects within RDD for urgent warfighter requirements that meet the RDD selection and execution criteria. RDD will initiate 3 projects.

C. OTHER PROGRAM FUNDING SUMMARY - NAVY RELATED RDT&E:

Not applicable.

OTHER PROGRAM FUNDING SUMMARY - NON-NAVY RELATED RDT&E:

Not applicable.

D. ACQUISITION STRATEGY:

For RDD requirements that meet the selection criteria, the virtual Naval Innovation Laboratory (NaIL) is used to initiate projects. The NaIL 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 NaIL will bring together, on demand, multi-disciplinary teams to develop and deliver rapid, innovative solutions. The NaIL will maintain an inventory of specialized RDT&E capabilities within the community, and will maintain visibility of available and emerging technologies from

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROJECT NUMBER: 3174

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT TITLE: RAPID DEVELOPMENT & DEPLOYMENT (RDD)

all sources that may serve as enablers to the success of RDD initiatives. The NaIL will review Urgent Combat Needs, identify and evaluate alternative solutions and provide recommendations. The NaIL 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 NaIL 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.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0203761N

PROJECT NUMBER: 9999

PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

PROJECT TITLE: CONGRESSIONAL PLUS-UPS

CONGRESSIONAL PLUS-UPS:

	FY 2007	FY 2008
120MM HIGH EXPLOSIVE PLASTIC AMMUNITION PROGRAM	3,885	0

This effort supported development of the 120MM high explosive plastic ammunition to be used specifically for breaching structures in the urban warfare environment. This effort supported the USMC solution planning directive for the M1A1 Breaching Round Universal Need Statement.

	FY 2007	FY 2008
US NAVY MOBILE CONDITION ASSESSMENT SYSTEM PILOT	0	795

This effort supports US Navy Mobile Condition Assessment System Pilot project.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS
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COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	38.944	49.580	71.232	93.109	90.251	60.034	32.044
1662 F/A-18 Improvements	24.481	38.755	63.972	93.109	90.251	60.034	32.044
2065 F/A18 RADAR Upgrade	12.512	2.876	7.260				
9999 Congressional Adds	1.951	7.949					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 is capable of performing either fighter or attack missions. The capabilities of the F/A-18 weapon system and external equipment to 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 development capability is required to successfully optimize new F/A-18 weapon system capabilities in the Fleet and to ensure interoperability in a network centric environment. Additionally, continued improvements in reliability and maintainability are necessary to ensure maximum benefit is achieved through reduced cost of ownership and to provide enhanced availability.

F/A-18 Improvements (1662): The F/A-18 is a multi-mission strike fighter aircraft that is used in both fighter and attack roles through selected use of external equipment (fuel tanks, targeting/navigation, Advance Targeting Forward Looking Infrared (ATFLIR) pods, and various bomb/missile launching racks). Additional capabilities are required for interoperability in a network-centric operational 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 the Joint Helmet Mounted Cueing System (JHMCS), development of the F/A-18 E/F Advanced Crew Station (ACS), replacement of Automatic Carrier Landing System (ACLS) in the F/A-18, and upgrade of the existing Global Positioning System/Inertial Navigation System in order to meet precision strike/precision approach requirements. Continued hardware/software development is required to successfully optimize fleet F/A-18 weapon systems for interoperability in a network centric operational environment, to include: increased software capabilities, potential new hardware capabilities, upgrading existing hardware, and network centric warfare upgrades. Additionally, a continuing capability is needed to perform technical evaluations/investigative flight testing and improve software based on reported fleet problems. This funding line also includes F/A-18E/F weapons integration requirements where a new capability is added to the aircraft, to include Dual Mode Weapons, an Infrared Search and Track (IRST), and Integrated Defensive Electronic Counter Measures (IDECM) integrated with the Active Electronically Scanned Array (AESA) to provide Narrow Band High Gain Electronic Attack. This budget also contains funding for F/A-18A-F Test Wing Maintenance support and F/A-18 E/F Sensor Integration and Distributed Targeting.

F/A-18 Radio Detection and Ranging (RADAR) Upgrade (2065): 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. The AESA is also more affordable than previous RADARs. Significant savings in operating and support costs can be realized through a five fold increase in reliability over the AN/APG-73 as well as incorporating open architecture and Higher Order Language software. Additionally, savings can be realized by avoiding parts obsolescence redesign costs that will be experienced on the AN/APG-65 and AN/APG-73.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS
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Congressional Adds:

Military Rapid Response Command Information System (9999): The Military Rapid Response-Command and Information System (MRR CIS) is a command, control, and communications mobile ground node that will provide enhanced connectivity between Naval Tactical Air (TACAIR) (F/A-18) weapon platforms and USMC's Expeditionary Warfare ground Command and Control (C2) nodes such as the On-the-Move Network Digital Over Horizon Radio System (CONDOR) and Joint Forces Command's Rapid Attack Information Dissemination Execution Relay (RAIDER). This funding will be used to perform an initial proof-of-concept demonstration, system engineering and analysis on new technologies with the long range goal of establishing test and evaluation facilities in Hawaii. This work will leverage off of joint service facilities to test the Sea Power 21/ForceNet concepts above.

Congressional Adds TBD:

Airborne Tactical Server; F/A-18 Roadmap Procurement Plan Fidelity; F/A-18 Tactical Operational Flight Trainer Fidelity; NAVAIR CPI Tech Man Conversion & Support

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 07	FY 08	FY 09
FY2008 President's Budget:	39.279	44.891	66.289
FY2009 President's Budget:	38.944	49.580	71.232
Total Adjustments	-0.335	4.689	4.943
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.492		
Congressional Increases	1.100	8.000	
Economic Assumptions	0.019	-0.338	-0.208
Miscellaneous Adjustments	-0.962	-2.973	5.151
Subtotal	-0.335	4.689	4.943

1. FY2008 funding totals do not include \$1.500 previously requested for current FY2008 GWOT requirements.

Schedule:

The schedule changes beginning in FY09 are due to additional funding for F/A-18 Distributed Targeting, Sensor Integration and the Active Electronically Scanned Array (AESA) Multi-Jammer Electronic Protection (EP) program. Also, as noted in the AESA Initial Operational Test and Evaluation (IOT&E) report, deficiencies in AESA software capabilities contributed to the schedule delay of the Fleet Release of the H4E and H5 System Configuration Sets (SCS) as well as the delay in the operational deployment of the first AESA radar. The delay in starting Network Centric Operations algorithm development is due to a delay in contracting actions. Schedules have been added for Distributed Targeting and Sensor Integration.

Technical:

The technical changes beginning in FY09 are due to additional funding for F/A-18 Distributed Targeting, Sensor Integration and the Active Electronically Scanned Array (AESA) Multi-Jammer Electronic Protection (EP) program.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		24.481	38.755	63.972	93.109	90.251	60.034	32.044
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

F/A-18 Improvements (1662): The F/A-18 is a multi-mission strike fighter aircraft that is used in both fighter and attack roles through selected use of external equipment (fuel tanks, targeting/navigation, Advance Targeting Forward Looking Infrared (ATFLIR) pods, and various bomb/missile launching racks). Additional capabilities are required for interoperability in a network-centric operational 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 the Joint Helmet Mounted Cueing System (JHMCS), development of the F/A-18 E/F Advanced Crew Station (ACS), replacement of Automatic Carrier Landing System (ACLS) in the F/A-18, and upgrade of the existing Global Positioning System/Inertial Navigation System in order to meet precision strike/precision approach requirements. Continued hardware/software development is required to successfully optimize fleet F/A-18 weapons systems for interoperability in a network centric operational environment, to include: increased software capabilities, potential new hardware capabilities, upgrading existing hardware, and network centric warfare upgrades. Additionally, a continuing capability is needed to perform technical evaluations/investigative flight testing and improve software based on reported fleet problems. This funding line also includes F/A-18E/F weapons integration requirements where a new capability is added to the aircraft, to include Dual Mode Weapons, an Infrared Search and Track (IRST), and Integrated Defensive Electronic Counter Measures (IDECM) integrated with the AESA to provide Narrow Band High Gain Electronic Attack. This budget also contains funding for F/A-18A-F Test Wing Maintenance support and F/A-18 E/F Sensor Integration and Distributed Targeting.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 1662 F/A-18 Improvements

B. Accomplishments/Planned Program

New Weapons System, Network Centric Ops		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.062	10.647	9.158
RDT&E Articles Quantity				

Continue to conduct engineering analysis and develop improvements to existing systems and subsystems for deficiencies identified during development and fleet use of the aircraft. Provide technical support for the integration of new weapons and systems. Begin Network Centric Warfare capability development.

Weapons Systems/MIDS/ANAV/SIAP		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		18.819	5.600	
RDT&E Articles Quantity				

Continue to develop and integrate enhancements to the effectiveness, interoperability, and safety of the F/A-18 Weapon System (airframe, avionics, and weapons) and subsystems to include Multi-Functional Information Distribution System (MIDS) and Accurate Navigation (ANAV). Continue to develop and integrate enhancements in support of Single Integrated Air Picture (SIAP) block 0 ICP TJ00-004 change 2 to incorporate track identification Taxonomy improvements.

IDECM with AESA/Weapons Testing and Maintenance		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		3.500	16.741	19.018
RDT&E Articles Quantity				

Begin validation and verification of various Weapon Configurations on F/A-18E/F aircraft, to include Dual Mode Weapons and fleet-identified high priority weapons loads. Perform aircraft maintenance on Test Wing aircraft. Begin Hardware and software development for Integrated Defensive Electronic Counter Measures (IDECM) integration with Active Electronically Scanned Array (AESA) to provide Narrow Band High Gain Electronic Attack capability.

R-1 SHOPPING LIST - Item No. 164

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 1662 F/A-18 Improvements

B. Accomplishments/Planned Program (Cont.)

IRST	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		5.767	16.396
RDT&E Articles Quantity			

Systems design and development of an Infrared Search & Track sensor for the F/A-18 E/F.

Distributed Targeting	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			10.800
RDT&E Articles Quantity			

Begin integration of the Distributed Targeting Processor, Mass Storage Unit and Mission Planning Interface to provide a baseline capability that can generate precision targeting coordinates for the F/A-18 E/F.

Sensor Integration	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			8.600
RDT&E Articles Quantity			

Begin integration of high gain electronic attack capability to the F/A-18 E/F. Develop software algorithm to correlate multiple ground and surface tracks from on-ship to off-ship sensor sources to enhance target identification and location, and to begin integration with the Common Tactical Picture and Blue Force Track information.

EW Sensor - Increased Combat Effectiveness	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.100		
RDT&E Articles Quantity			

Congressional add to support development of Electronic Warfare (EW) technology for increased combat effectiveness.

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EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 1662 F/A-18 Improvements
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C. OTHER PROGRAM FUNDING SUMMARY:

Related Procurement

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
F/A-18E/F APN-1 (P-1 Line Item #4)	2,684.497	2,028.446	1,868.688	1,567.660	1,533.637	1,735.028	200.125		38,118.022
F/A-18E/F Adv Procurement (P-1 Line Item #5)	52.582	46.501	42.616	41.508	40.538				1,576.962
EA-18G APN-1 (P-1 Line Item #2)	696.108	1,257.453	1,604.800	1,593.936	886.157	20.494	14.999		6,399.378
EA-18G Adv Procurement (P-1 Line Item #3)	39.593	50.771	46.831	20.986					192.517
APN-5									
F-18 Series Modification (P-1 Line Item #28)	514.381	429.858	450.909	471.857	499.657	514.266	523.277	338.706	6,235.238

Related RDT&E

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Complete</u>	<u>Cost</u>
(U) P.E. 0604269N EA-18G (R-1 Line Item #93)	361.037	278.469	128.906	48.394	27.452	21.922	22.230		888.410

D. ACQUISITION STRATEGY:

- The F/A-18 Improvements program consists of extensive development projects and integration of avionics systems onto the F/A-18E/F. The major programs within the F/A-18 Improvements project are:
- Accurate Navigation (ANAV). ANAV development is provided on a sole source cost plus fixed fee contract on an Research & Development (R&D) Basic Ordering Agreement to Boeing. Procurement of production hardware will be made as Contractor Furnished Equipment (CFE) through the prime contractor.
 - Multi-Functional Information Distribution System (MIDS). An acquisition developmental effort supported by SPAWAR (PMW-780).
 - Joint Helmet Mounting Cueing System (JHMCS). JHMCS development is via a sole source cost plus award fee Joint Air Force contract to Boeing.
 - Automated Carrier Landing System (ACLS). ACLS development is provided on a sole source cost plus fixed fee contract on an R&D Basic Ordering Agreement to Boeing. Procurement of redesigned/replacement components will be made as Government Furnished Equipment (GFE) through Naval Undersea Warfare Center.
 - Infrared Search & Track (IRST). The IRST Phase 1 program is a Navy program* entering the Systems Design and Development phase at Milestone B in FY08. A Phase 1 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 FY13.
 - Distributed Targeting. Distributed Targeting development is provided on a sole source cost plus fixed fee contract on an Research & Development (R&D) Basic Ordering Agreement to Boeing.
 - Sensor Integration - Sensor Integration development is provided on a sole source cost plus fixed fee contract on an Research & Development (R&D) Basic Ordering Agreement to Raytheon.

Note: There exists potential US Air Force interest in a Phase II capability to be funded in future Program Objective Memorandum (POM) submits.

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RD&E, N / BA-7			0204136N F/A-18 SQUADRONS				1662 F/A-18 Improvements					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, PAX RIVER, MD	55.688	2.628	11/06	1.800	11/07	0.800	11/08	2.000	62.916	
Operational Test & Evaluation	WX	OPTEVFOR, NORFOLK, VA	14.111	2.198	11/06	0.200	11/07			2.450	18.959	
Developmental Test & Evaluation	WX	NAWCWD, CHINA LAKE, CA		3.460	11/06	1.557	11/07	0.468	11/08	9.127	14.612	
Developmental Test & Evaluation IRST	WX	NAWC-WD / NAWC-AD						0.500	11/08	3.200	3.700	
Operational Test & Evaluation IRST	WX	OPTEVFOR / VX-9								5.500	5.500	
Developmental Test & Evaluation Se	WX	NAWC-WD / NAWC-AD						1.000	12/08	9.400	10.400	
Operational Test & Evaluation Sensd	WX	OPTEVFOR, NORFOLK, VA								2.100	2.100	
Subtotal T&E			69.799	8.286		3.557		2.768		33.777	118.187	
Remarks:												
Program Management Support	VARIOUS	NAVAIR, PAX RIVER, MD	15.915	0.547	12/06	0.805	01/08	0.700	01/09	7.248	25.215	
Travel	WX	NAVAIR, PAX RIVER, MD	6.196	0.498	VAR	0.990	01/08	1.000	01/09	0.606	9.290	
Contractor Engineering Support IRST	TBD	TBD				1.200	01/08	2.065	01/09	7.100	10.365	
Government Engineering Support IRST	WX	TBD				1.350	01/08	1.350	01/09	7.226	9.926	
Contractor Engineering Support TWCM	TBD	NAVAIR, PAX RIVER, MD				11.469	01/08	11.226	01/09	47.208	69.903	
Government Engineering Support	WX	NAWCWD/NAWCAD				0.239	01/08	0.676	01/09	1.932	2.847	
Subtotal Management			22.111	1.045		16.053		17.017		71.320	127.546	
Remarks:												
Total Cost			3,433.038	24.481		38.755		63.972		275.438	3,835.684	

R-1 SHOPPING LIST - Item No. 164

EXHIBIT R4, Schedule Profile																					DATE: February 2008											
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME															
RDT&E, N / BA-7					0204136N F/A-18 Squadrons												1662 F/A-18 Improvements															
Fiscal Year	2007				2008				2009				2010				2011				2012				2013							
	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				
ANAV Acquisition Milestones																																
Box Development Development					PCA																											
Aircraft Integration Design Reviews Integration Test Tape H-4E					Flight Test																											
Test & Evaluation Milestones																																
Aircraft Modifications																																
Lab/King Air Box Test																																
Non-AESA Aircraft					DT-IIB																											
AESA Aircraft					DT-IIC /Techeval																											
Aircraft Production Milestones																																
FY06 Procurements (Lot 30)																																
FY07 Procurements (Lot31)					Award																											
Aircraft Deliveries																																

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EXHIBIT R-4a, Schedule Profile																								DATE:							
APPROPRIATION/BUDGET ACTIVITY																								PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E/BA-7																								0204136N F/A-18 Squadrons				1662 F/A-18 Improvements			
Fiscal Year	2007				2008				2009				2010				2011				2012				2013						
	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			
MIDS LVT F/A-18 Milestones					★ H4E Fleet Release Date				☆ 21X Fleet Release Date																						
F/A-18C/D MIDS Integration																															
C/D DT&E																															
C/D OT&E																															
F/A-18 E/F MIDS Integration																															
E/F DT&E																															
E/F OT&E																															
F/A-18 MC SW Development																															
19C Software Configuration Set																															
21X SCS (SIAP Block 0) [C/D]																															
H4E SCS (SIAP Block 0) [E/F]																															
SIAP SOW Tasks																															
Production Deliveries																															
Software Load																															

R-1 SHOPPING LIST - Item No.164

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2008								
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA-7					0204136N F/A-18 Squadrons										1662 F/A-18 Improvements													
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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
NCO Acquisition Milestones					<div style="text-align: right; margin-right: 50px;">First Deployment</div> <div style="text-align: center; margin-right: 100px;">★</div>																							
NCO Development					<div style="display: flex; justify-content: space-around; font-size: small;"> SSRSDRSW PDRSW CDRTRRPRRPCA </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> △△△△△△△ </div>																							
NCO EDM Development Prototype Phase Hardware					<div style="text-align: center; margin-top: 20px;">EDM H/W Del</div> <div style="text-align: center; margin-top: 10px;">△</div>																							
Software Algorithm Development Software Integration Software Development for D&D					<div style="display: flex; justify-content: space-around; font-size: x-small; margin-top: 20px;"> Algorithm DevelopmentSoftware IntegrationSoftware Development for D&D </div>																							
T & E Milestones					<div style="display: flex; justify-content: space-around; font-size: x-small; margin-top: 20px;"> Development Test Design DevelopmentOperational Testing </div>																							
Production Deliveries					<div style="display: flex; justify-content: space-around; font-size: small; margin-top: 20px;"> HW DeliveriesHW Install </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> △△ </div>																							

Note: This schedule includes efforts funded with the FY06 Congressional Add in this PE 0204136N, Project # 9839.

R-1 SHOPPING LIST - Item No. 164

UNCLASSIFIED

Exhibit R-4, Schedule Profile

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for NCO	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IA/AT Assessment							
Critical Design Review (CDR) Hardware							
Engineering Development Model Development	1Q-4Q						
NCO Algorithm development		2Q-4Q					
System Design Review (SDR)		3Q					
Software Integration (DTP & NCO Algorithms)		3Q-4Q	1Q				
Software Specification Review (SSR)		2Q					
Prototype Phase		4Q	1Q-2Q				
Engineering Development Model Hardware			2Q				
Preliminary Design Review (PDR) (S/W)			2Q				
System Development		3Q-4Q	1Q-4Q	1Q-2Q			
Critical Design Review (CDR)				1Q			
Test Readiness Review (TRR)				2Q			
Software Development for D&D			1Q				
Design Testing			2Q-4Q	1Q			
Development Testing				2Q-3Q			
Preproduction Readiness Review (PRR)				4Q			
Operational Testing				4Q	1Q		
Hardware Deliveries				4Q			
Physical Configuration Audit (PCA)					1Q		
Hardware Installs					4Q		
First Deployment					4Q		

Note: This schedule includes efforts funded with the FY06 Congressional Add in this PE 0204136N, Project # 9839.

R-1 SHOPPING LIST - Item No. 164

UNCLASSIFIED

EXHIBIT R4, Schedule Profile																			DATE: February 2008													
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME																	
RDT&E, N / BA-7					0204136N F/A-18 SQUADRONS										1662 F/A-18 Improvements																	
Fiscal Year	2007				2008				2009				2010				2011				2012				2013							
	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				
IRST Acquisition Milestones							MS B △										MS C △															IOC ☆
Design & Development							System Development																									
IRST System Development							SSR △			△		△				TRR △		△	△					△								
IRST EDM Delivery							SDR △	IBR △		PDR △		CDR △				DRR △		FCA △	PRR △					PCA △								
Software 1XXSW Delivery												△		△																		
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																
LRIP I FY 11																																
LRIP II FY 12																																
FRP FY 13																																
Production Deliveries																																
LRIP I (Quantity 6)																																
LRIP II (Quantity 7 of 14)																																

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Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for IRST	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B (MS B)		3Q					
System Development		3Q-4Q	1Q-4Q	1Q			
System Design Review (SDR)		4Q					
Software Specification Review (SSR)		4Q					
Integrated Baseline Review (IBR)		4Q					
Preliminary Design Review (PDR)			2Q				
Critical Design Review (CDR)			4Q				
Software Delivery 1XXSW (Build 1)				1Q			
Software Delivery 1XXSW (Build 2)				2Q			
Design Readiness Review (DRR)				2Q			
Eng Dev Model (EDM) IRST Delivery - Lab/IT&E (Units 1-2)				2Q			
Eng Dev Model (EDM) IRST Delivery - (Units 3-10)				2Q-3Q			
Developmental Testing (DT-IB)				2Q-3Q			
Test Readiness Review (TRR)				2Q			
Operational Assessment (OA)				3Q			
Milestone C (MS C)					1Q		
Functional Configuration Audit (FCA)					1Q		
Start Low-Rate Initial Production I (LRIP I)					1Q		
Developmental Testing (DT-IIB)					1Q-3Q		
Preproduction Readiness Review (PRR)					2Q		
Operational Testing (OT-IIB)					3Q		
Physical Configuration Audit (PCA)						1Q	
Start Low-Rate Initial Production II						1Q	
Developmental Testing (DT-IIIB)						1Q-2Q	
Developmental Testing/Technical Evaluation (DT-IC/TECHEVAL)						3Q-4Q	
Low-Rate Initial Production I Delivery						3Q-4Q	1Q-2Q
Operational Test Readiness Review (OTRR)						4Q	
Operational Evaluation (OT-IC) (OPEVAL)						4Q	1Q-2Q
Start Low-Rate Initial Production III							1Q
Low-Rate Initial Production II Delivery							3Q-4Q
IOC							3Q

R-1 SHOPPING LIST - Item No. 164

UNCLASSIFIED

EXHIBIT R4, Schedule Profile																							DATE: February 2008									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7					PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS										PROJECT NUMBER AND NAME 1662 F/A-18 Improvements																	
Fiscal Year	2007				2008				2009				2010				2011				2012				2013							
	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				
IDECM Acquisition Milestones																																
Hardware Integration																																
Software Development																																
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Integration Test																																

△
FRP Decision/FRP Production Start

H/W Int

S/W Development

DT-C1

DT-C2

OT-IC

IT&E

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EXHIBIT R4, Schedule Profile																							DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7					PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS										PROJECT NUMBER AND NAME 1662 F/A-18 Improvements															
Fiscal Year	2007				2008				2009				2010				2011				2012				2013					
	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		
Distributed Targeting Acquisition Milestones									MSU HW Development																					
Hardware Development									MPI HW Development				Qual/Reliability Testing																	
Software Development									DAG △	SDR △	DTP Integration Spiral 1				DTP Integration Spiral 2				DTP Integration Spiral 3											
System Integration													Integration Testing																	
Test & Evaluation													Ground Testing				FTRR △	DT Flight Testing				OT Flight Testing								
Production Milestones																					Transition to Production									

R-1 SHOPPING LIST - Item No. 164

EXHIBIT R4, Schedule Profile																							DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7					PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS										PROJECT NUMBER AND NAME 1662 F/A-18 Improvements													
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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
Sensor Integration Acquisition Milestones																												
Requirements Definition																												
Software Design Interfaces																												
(V)3 Op Fit Program (OFP) Mod																												
Mission Computer (MC) OFP Mod																												
H8 Software Release																												
Test & Evaluation Milestones																												
Development Test																												
Operational Test																												
(V)3 ECP																												
MC ECP																												

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		12.512	2.876	7.260				
RDT&E Articles Qty								

DTP Integration Spiral 1

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. The AESA is also more affordable than previous RADARs. Significant savings in operating and support costs can be realized through a five fold increase in reliability over the AN/APG-73 as well as incorporating open architecture and Higher Order Language software. Additionally, savings can be realized by avoiding parts obsolescence redesign costs that will be experienced on the AN/APG-65 and AN/APG-73.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade

B. Accomplishments/Planned Program

AESAs Engineering & Mfg Development		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		9.251	2.816	7.260
RDT&E Articles Quantity				

Continue Engineering Manufacturing Development effort and radar cross-section assessments. Osprey Holstein was reduced in FY06. Osprey Holstein began in FY05 and will complete in FY08. FY09 funding includes Multi-Jammer Electronic Protection (EP) efforts that will increase the number of channels within the Receiver to enable multi-channel EP.

AESAs Software Dev., Dev. Test, and Integration		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.100	0.060	
RDT&E Articles Quantity				

Continue software development, Development Testing, and systems integration efforts.

IDECM with AESA/Weapons Testing and Maintenance		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		3.161		
RDT&E Articles Quantity				

Complete AESA Operational Test and Evaluation.

R-1 SHOPPING LIST - Item No. 164

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade				
C. OTHER PROGRAM FUNDING SUMMARY:									
Related Procurement									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
F/A-18E/F APN-1 (P-1 Line Item #4)	2,684.497	2,028.446	1,868.688	1,567.660	1,533.637	1,735.028	200.125		38,118.022
EA-18G APN-1 (P-1 Line Item #2)	696.108	1,257.453	1,604.800	1,593.936	886.157	20.494	14.999		6,399.378
APN-5									
F-18 Series Modification (P-1 Line Item #28) (OSIP 002-07)	12.860	83.361	88.395	116.364	122.160	49.963	49.444	2.500	525.047
D. ACQUISITION STRATEGY:									
<p>The AESA program employs a two-phase approach with sole source contracts to Boeing, the airframe prime manufacturer. Phase I is a moderate risk reduction phase conducted in FY 1999 and FY 2000. During this phase, Boeing conducted competitive source selection at the radar system subcontract level. A Basic Ordering Agreement (BOA) order for Request for Proposal (RFP) development and subcontractor selection was made to conduct this effort. It includes an "845" agreement for prototype development, which includes commercial development/amortization provisions. Conducting the competition early in the program allowed for focused risk reduction and contractor investment. Phase II consisted of a typical system demonstration program and development contract. The program transitioned to Phase II with a successful Milestone II Decision in FY 2001. When the program entered production in FY03, the "845" agreement allowed the contractor to amortize unreimbursed development costs into the production unit cost. This strategy fully utilizes acquisition reform initiatives such as: early partnering with industry; alpha contracting; leveraging industry investment; optimizing use of Commercial Off-The Shelf (COTS) software and Non-Developmental Item; Cost as an Independent Variable; and Electronic Data Deliverables.</p>									

R-1 SHOPPING LIST - Item No. 164

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204136N F/A-18 SQUADRONS			2065 F/A-18 RADAR Upgrade						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPFF	MDA - Boeing, St. Louis, MO	446.498	9.251	01/07	2.816	01/08	7.260	11/08		465.825	465.825
GFE	SS/CPFF	MDA - Boeing, St. Louis, MO	3.517								3.517	3.517
Subtotal Product Development			450.015	9.251		2.816		7.260		0.000	469.342	
Remarks:												
Software Development	WX	NAWCWD, China Lake, CA	22.515								22.515	
Integrated Logistics Support	WX	Various	1.511								1.511	
Subtotal Support			24.026	0.000		0.000		0.000		0.000	24.026	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204136N F/A-18 SQUADRONS			2065 F/A-18 RADAR Upgrade						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	Various	75.847	3.111	12/06						78.958	
Operational Test & Evaluation	WX	OPTEVFOR, Norfolk, VA	13.334	0.050							13.384	
Subtotal T&E			89.181	3.161		0.000		0.000		0.000	92.342	
Remarks:												
Program Management Support	Various	NAVAIR Pax River, MD	2.269								2.269	
Travel	TO	NAVAIR Pax River, MD	0.544	0.100	10/06	0.060	10/07				0.704	
Subtotal Management			2.813	0.100		0.060		0.000		0.000	2.973	
Remarks:												
Total Cost			566.035	12.512		2.876		7.260		0.000	588.683	
Remarks:												

R-1 SHOPPING LIST - Item No. 164

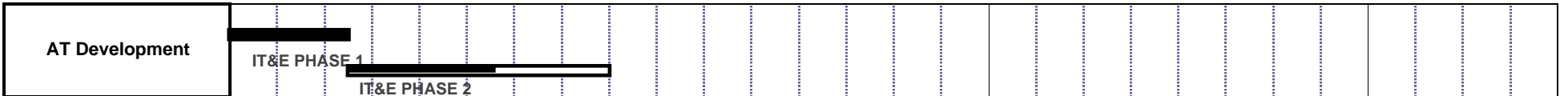
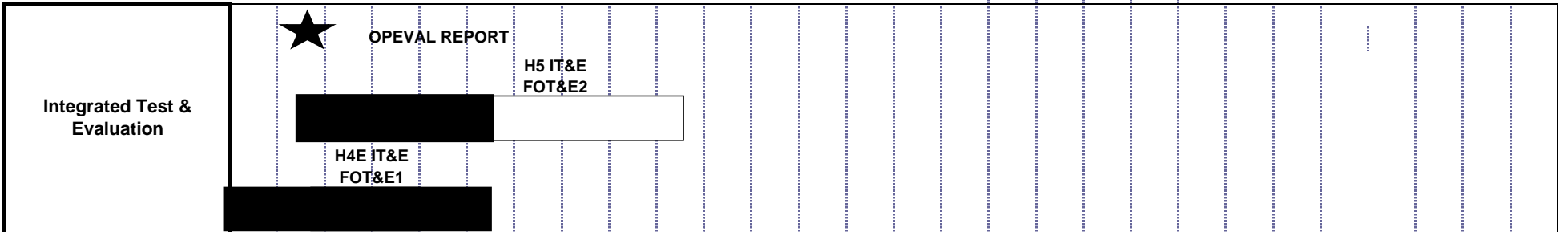
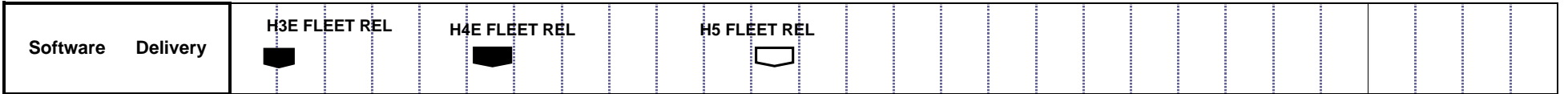
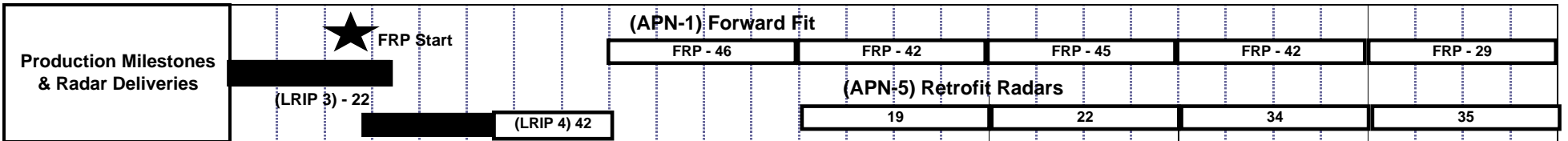
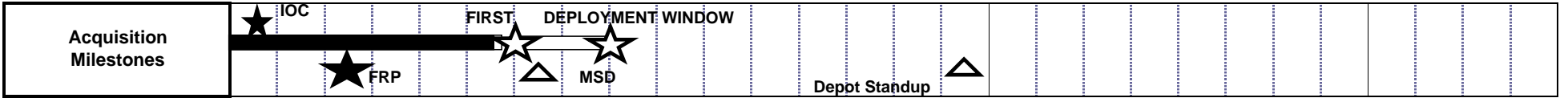
UNCLASSIFIED

DATE:

February 2008

EXHIBIT R4, Schedule Profile	UNCLASSIFIED												DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7				PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS								PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade							

Calendar Year	2007				2008				2009				2010				2011				2012				2013			
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4



F/A-18E/F Deliveries	LOT 29(42)	LOT 30(42)	LOT 31(46)	LOT 32(42)	LOT 33(45)	LOT 34(42)	LOT 35(29)
Fiscal Year	2007	2008	2009	2010	2011	2012	2013

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 9999 Congressional Adds			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		1.951	7.949					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

R-1 SHOPPING LIST - Item No. 164

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 9999 Congressional Adds
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B. Accomplishments/Planned Program

9614C: Mil Rapid Response Combat Info Sys		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.951		
RDT&E Articles Quantity				

The Military Rapid Response-Command and Information System (MRRCCIS) is a command, control, and communications mobile ground node that will provide enhanced connectivity between Naval Tactical Air (TACAIR) (F/A-18) weapon platforms and USMC's Expeditionary Warfare ground Command and Control (C2) nodes such as the On-the-Move Network Digital Over Horizon Radio System (CONDOR) and JFCOM's Rapid Attack Information Dissemination Execution Relay (RAIDER). This funding will be used to perform an initial proof-of-concept demonstration , system engineering and analysis on new technologies with the long range goal of establishing test and evaluation facilities in Hawaii. This work will leverage off of joint service facilities to test the Sea Power 21/ForceNet concepts above.

9999 Airborne Tactical Server		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			2.384	
RDT&E Articles Quantity				

9999 F/A-18 Roadmap Procurement Plan		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			2.385	
RDT&E Articles Quantity				

9999 F/A-18 Tactical Operational Flight		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			1.590	
RDT&E Articles Quantity				

9999 NAVAIR CPI Tech Manual Conversion		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			1.590	
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No.164

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0204152N, E-2 SQUADRONS		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	9.601	22.483	54.096	54.712	29.672	16.547	7.153	
0463 E-2C IMPROVEMENTS	1.515	22.483	54.096	54.712	29.672	16.547	7.153	
9999 CONGRESSIONAL ADDS	8.086							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

E-2 Improvements (0463) provides for incorporation of innovative technologies for the evolution of E-2 Battle Management and Command and Control (BMC2) capabilities in support of naval warfare command and control requirements. It has previously funded developments for the modification or replacement of selected weapon replaceable assemblies of current installed subsystems, as well as provided for experimentation with narrowband and wideband internet protocol (IP) concepts, to include technologies such as High Frequency (HF) Secure IP Router Network (HF SIPRNET), VRC-99 digital IP radio as a surrogate to the Joint Tactical Radio System, machine-to-machine digital data communications, Advanced Digital Networking System (ADNS), Tactical Information Services (TIS), cooperative and non-cooperative identification, and open architecture hardware and software computing environments. These efforts have laid the foundation for growth to provide additional functional capabilities satisfying evolving operational requirements, e.g., Airborne Networking, Joint Sensor Netting, Tactical Decision Aids, Advanced communications, and permits the evolutionary growth of a Combat Identification (CI) and Theater Air and Missile Defense (TAMD) Capability. A new In Flight Refueling (IFR) capability allows the E-2 to receive fuel from various organic and strategic tanker aircraft. It will provide 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 (CSG)/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. The Automatic Identification System (AIS) is a broadcast transponder system operating in the V-HF maritime band that provides data exchange from Ship to Ship, Ship to Shore and Shore to Ship. Broadcast parameters include Registry Number, Port of Origin, Latitude, Longitude, Course, Speed and other vessel characteristics. The current prototype E-2C AIS installation is integrated into the E-2C weapon system without a means to transfer information off board to other platforms/systems.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget:	9.803	22.691	54.511
FY2009 President's Budget:	9.601	22.483	54.096
Total Adjustments	-0.202	-0.208	-0.415

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.202	-0.144	
Congressional Increases			
Economic Assumptions			-0.055
Miscellaneous Adjustments		-0.064	-0.360
Subtotal	-0.202	-0.208	-0.415

1. FY2008 funding totals do not include \$1.024 previously requested for current FY2008 GWOT requirements.

Schedule:

Project Unit 0463, E-2C Improvements - Schedule changes to MSI Phase 2 are due to development capability completing early and hardware unavailability. Changes to ABC2 are due to not participating in Trident Warrior 07, completing a Limited Objective Experiment (LOE) early and adding new LOE's to support events. Schedule changes to Core OA and HF IP are due to funding delays.
Project Unit 9999, Congressional Adds - Not Applicable.

Technical:

Project Unit 0463, E-2C Improvements -Not Applicable.
Project Unit 9999, Congressional Adds - Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification						DATE:		
						February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E,N / BA-7		0204152N, E-2 SQUADRONS			0463, E-2C IMPROVEMENTS			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0463 E-2C IMPROVEMENTS		1.515	22.483	54.096	54.712	29.672	16.547	7.153
RDT&E Articles Qty			*10					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

E-2 Improvements (0463) provides incorporation of innovative technologies for the evolution of E-2 Battle Management and Command and Control (BMC2) capabilities in support of naval warfare command and control requirements. It has previously funded developments for the modification or replacement of selected weapon replaceable assemblies of current installed subsystems, as well as provided for experimentation with narrowband and wideband internet protocol (IP) concepts, to include technologies such as High Frequency (HF) Secure IP Router Network (HF SIPRNET), VRC-99 digital IP radio as a surrogate to the Joint Tactical Radio System, machine-to-machine digital data communications, Advanced Digital Networking System (ADNS), Tactical Information Services (TIS), cooperative and non-cooperative identification, and open architected hardware and software computing environments. These efforts have laid the foundation for growth to provide additional functional capabilities to satisfy evolving operational requirements, e.g., Airborne Networking, Joint Sensor Netting, Tactical Decision Aids, Advanced communications, and permits the evolutionary growth of a Combat Identification (CID) and Theater Air and Missile Defense (TAMD) Capability. An In Flight Refueling (IFR) capability allows the E-2 to receive fuel from various organic and strategic tanker aircraft. It will provide 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 (CSG) 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. The Automatic Identification System (AIS) is a broadcast transponder system operating in the VHF maritime band that provides data exchange from Ship to Ship, Ship to Shore and Shore to Ship. Broadcast parameters include Registry Number, Port of Origin, Latitude, Longitude, Course, Speed and other vessel characteristics. The current prototype E-2C AIS installation is integrated into the E-2C weapon system with out a means to transfer information off board to other platforms/systems.

* Quantity reflects number of Core Open Architecture (5) and High Frequency Internet Protocol (5) test article sets to be procured. For each, 3 sets will be used for laboratory development efforts at both the Contractor and Government sites, 1 set will be installed in the test aircraft, and 1 set will serve as a spare for both laboratory and aircraft use.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Multi-Source Integration (MSI) Phase II	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.085		
RDT&E Articles Qty			

Funded software architecture analysis and design for incorporation of diverse applications in the E-2 Weapon System, including MSI, Combat ID, and Distributed Weapons Coordination. Funded all-source data fusion in the E-2 including radar, Identification Friend or Foe (IFF), Electronic Surveillance (ES), Link 16, Link 11, and Cooperative Engagement Capability (CEC). Funded requirements analysis for development of integrated communication system architecture to support advanced sensor networking. Fund Fleet Battle Group interoperability testing and evaluation for the E-2.

Single Integrated Air Picture (SIAP) Block 0	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.214		
RDT&E Articles Qty			

Funding supported test and fielding of SIAP Block 0 software.

Airborne Battlefield Command and Control (ABC 2)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.216	4.851	6.789
RDT&E Articles Qty			

Funding will be used to conduct development and demonstrations of E-2 airborne Joint Sensor Netting (including Network Centric Collaborative Targeting (NCCT)), IP networking concepts (including Advanced Digital Networking Systems, Tactical Information Services, and IP enabled communications systems), machine-to-machine interface, open architected 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.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204152N, E-2 SQUADRONS	PROJECT NUMBER AND NAME 0463, E-2C IMPROVEMENTS

In Flight Refueling (IFR)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			8.879
RDT&E Articles Qty			

Funding provides for the system development and testing to support the incorporation of In Flight Refueling (IFR) technology into the E-2 aircraft. Emphasis during system development will be on design drawing updates, fuel system design, human systems integration and design, including interior/lighting modifications and seat replacement. Flight testing is required to evaluate field of view, aerodynamic performance, loads, and handling qualities.

Universal Automatic Information System (UAIS)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			4.166
RDT&E Articles Qty			

Funding will integrate Universal Automatic Information System (UAIS) into the E-2C and E-2D mission computer and provide for a means to transfer Automatic Information System (AIS) data from the aircraft inflight to the warships. The integration will include non-recurring engineering, logistics and test and evaluation to integrate UAIS control features and output into the E-2C and E-2D weapons system and to standardize and document the UAIS hardware already installed on E-2C aircraft, and integrate UAIS hardware on the E-2D. It will integrate other enhancing identification technologies complimentary to UAIS into the E-2C and E-2D.

E-2 Core Open Architecture (OA)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		11.738	25.776
RDT&E Articles Qty		*5	

Funding supports the development, integration and test of an open architected distributed computing environment and Internet Protocol networking infrastructure, which includes Advanced Digital Networking System and Tactical Information Services.

* Quantity reflects number of Core OA test article sets to be procured. 3 sets will be used for laboratory development efforts at both the Contractor and Government sites. 1 set will be installed in the test aircraft, and 1 set will serve as a spare for both laboratory and aircraft use.

E-2 High Frequency (HF) Internet Protocol (IP)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		5.894	8.486
RDT&E Articles Qty		*5	

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 HF Internet Protocol (IP) users.

* Quantity reflects number of HF IP test article sets to be procured. 3 sets will be used for laboratory development efforts at both the Contractor and Government sites. 1 set will be installed in the test aircraft, and 1 set will serve as a spare for both laboratory and aircraft use.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN-1/E-2C/D (LI# 15 & 16)	202.717	52.220	589.123	685.951	777.566	795.552	778.315	9,712.023	13,593.467
APN-5/E-2 (LI# 37)	15.916	8.986	11.489	19.194	17.550	21.081	31.592	115.397	241.205
APN-6/E-2C/D (LI# 55)	0.364		36.882	37.606	29.801	31.555	26.431	79.499	242.138

APN-1/APN-6 funding after FY07 is related to P.E. 0604234N, P.U. 3051, E-2 Advanced Hawkeye.

D. ACQUISITION STRATEGY:
Not Applicable.

E. MAJOR PERFORMERS:
Not Applicable.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0204152N, E-2 SQUADRONS				PROJECT NUMBER AND NAME 0463, E-2C IMPROVEMENTS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Aircraft Integration	VARIOUS	VARIOUS				2.147	VARIOUS	3.776	VARIOUS	4.075	9.998	
Ancillary Hdw Development	TBD	TBD				.200	12/07	.400	12/08	1.800	2.400	
Primary Hdw Development	VARIOUS	VARIOUS	.759								.759	
Primary Hdw Development - ABC2	VARIOUS	VARIOUS	1.616			.405	VARIOUS	.573	VARIOUS	3.261	5.855	
Primary Hdw Development	VARIOUS	VARIOUS				2.034	VARIOUS	10.475	VARIOUS	23.012	35.521	
Primary Hdw Development - MSI	VARIOUS	VARIOUS	1.497	.085	VARIOUS						1.582	
Systems Eng - ABC2	TBD	TBD				.200	VARIOUS	.200	VARIOUS	.800	1.200	
SUBTOTAL PRODUCT DEVELOPMENT			3.872	.085		4.986		15.424		32.948	57.315	

Remarks:
Totals may not add due to rounding.

SUPPORT												
Development Support ABC2	VARIOUS	VARIOUS	.405			.556	11/07	.623	11/08	2.795	4.379	
Eng & Tech Serv	VARIOUS	VARIOUS	1.191			.110	12/07	.591	12/08	1.368	3.260	
Government Engineering Support	WX	NAWCAD, PATUXENT RIVER MD		.268	11/06	.395	11/07	1.173	11/08	4.022	5.858	
Government Engineering Support	VARIOUS	VARIOUS	7.354			.207	11/07	.707	11/08	.113	8.381	
Government Eng Spt - SIAP	VARIOUS	VARIOUS	.516	.214	01/07						.730	
Integrated Logistics Support	VARIOUS	VARIOUS				1.431	11/07	1.947	11/08	1.854	5.232	
Software Development	VARIOUS	VARIOUS				9.191	12/07	19.847	12/08	25.194	54.232	
Studies & Analyses	TBD	TBD				.100	12/07	.100	12/08	.900	1.100	
SUBTOTAL SUPPORT			9.466	.482		11.990		24.988		36.246	83.172	

Remarks:
Totals may not add due to rounding.

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0204152N, E-2 SQUADRONS				0463, E-2C IMPROVEMENTS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TEST & EVALUATION												
Dev T&E ETS	TBD	TBD						.389	12/08	6.855	7.244	
Dev Test & Eval - ABC2	VARIOUS	VARIOUS	1.440			1.100	11/07	2.100	11/08	8.050	12.690	
Dev Test & Eval - ABC2	VARIOUS	VARIOUS	.647	.100	12/06						.747	
Dev Test & Eval	VARIOUS	VARIOUS	4.560	.197	12/06			1.878	11/08	12.697	19.332	
Dev Test & Eval - MSI	WX	NAWCAD, PATUXENT RIVER MD	.169								.169	
Dev Test & Eval - MSI	VARIOUS	VARIOUS	.561								.561	
Test Assets	TBD	TBD				1.756	VARIOUS	2.107	VARIOUS	2.589	6.452	
SUBTOTAL TEST & EVALUATION			7.377	.297		2.856		6.474		30.191	47.195	

Remarks:
Totals may not add due to rounding.

MANAGEMENT												
Gov't Eng Spt - AIS	TBD	TBD						.105	12/08	.172	.277	
Government Eng Sup	VARIOUS	VARIOUS	.042			1.122	11/07	4.094	11/08	2.472	7.730	
Program Management Support ABC2	VARIOUS	VARIOUS	2.993	.617	11/06	.500	11/07	.601	11/08	2.200	6.911	
Program Mgmt Spt ETS	TBD	TBD						.373	12/08	1.249	1.622	
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD				.976	11/07	1.891	11/08	2.231	5.098	
Travel	VARIOUS	VARIOUS	.249	.035	11/06	.053	11/07	.146	11/08	.376	.859	
SUBTOTAL MANAGEMENT			3.284	.652		2.651		7.210		8.700	22.497	

Remarks:
Totals may not add due to rounding.

Total Cost			23.999	1.515		22.483		54.096		108.085	210.178	
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Remarks:
Totals may not add due to rounding.

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY																								PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME				
RDT&E,N / BA-7																								0204152N, E-2 SQUADRONS				0463, E-2C IMPROVEMENTS				
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013							
	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																																
Air Ops Dec Supp							▲																									
Multiple Source Integ PH I							▲																									
Single Integ Air Pict Blk 0							▲																									
Airborne Battlefield C2							▲																									
Multi Source Integ PH 2																																
Core Open Arch																																
High Frequency Internet Proto																																
In Flight Refueling																																
Universal Automatic Info System																																
Deliveries																																

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0204152N, E-2 SQUADRONS			PROJECT NUMBER AND NAME 9999, Congressional Adds		
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
9999 CONGRESSIONAL ADDS			8.086					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

9418C - E-2C Open Architecture Computing Framework	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.265		
RDT&E Articles Qty			

Supported development and test of a Model Driven Architecture for the E-2 Advanced Control Indicator Set software. This included modeling the applications using the Unified Modeling Language with initial emphasis on associated interfaces.

9420C - Makaha Ridge FORCENet Lab	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.115		
RDT&E Articles Qty			

Conducted research and development efforts at the Makaha Ridge FORCENet Laboratory, which served as the Battle Management Command and Control test center which developed capabilities for FORCENet oriented technologies and systems. Integrated a Cooperative Engagement Capability (CEC) into the FORCENet lab and enabled participation in the CEC network with live assets.

9744C - Airborne Advanced Network	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.148		
RDT&E Articles Qty			

Demonstrated the Internet Protocol network waveform Tactical Targeting Network Technology (TTNT). Provided insight into the network architecture of TTNT and a realistic software and radio frequency environment that enabled a Single Integrated Air Picture. Provided a means to measure and compare performance against legacy Tactical Digital Information Links and validate the requirements for the Joint Tactical Radio System waveform.

9A70N - E-2C/Advanced Hawkeye Transmitter Technologies	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.558		
RDT&E Articles Qty			

Designed, developed and tested the E-2C replacement APS-145 Radar Transmitter (ATR). Developed a prototype that provided aircraft with reliable radar transmitter that was capable of detecting airborne and surface targets within the E-2C operational environment to meet the required situational awareness of the E-2 operator.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7				R-1 ITEM NOMENCLATURE 0204163N FLEET COMMUNICATIONS			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	27.508	23.582	26.696	24.832	12.496	18.904	11.110
0725 Communications Automation	17.170	9.520	11.570	10.711	3.450	4.640	3.335
1083 Shore to Ship Communications	10.338	13.069	15.126	14.121	9.046	14.264	7.775
9999 AN-USQ-155 Card Upgrade		0.993					

(U) 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 Tactical Messaging (formerly Naval Modular Automated Communications System/Single Messaging Solution II (NAVMACS/SMSII), Joint Network Management System (JNMS), Automated Digital Network System (ADNS), Naval Global Directory Services, and Tactical Switching Ashore [formerly Shore Infrastructure Modernization (SIM)].

ADNS is the method by which tactical Navy units (Surface, Subsurface, and Air Assets) transfer Internet Protocol (IP) data to Navy and Department of Defense (DoD) 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. Utilization of ADNS allows Unclassified, Secret, Top Secret traffic, as well as various Joint, Allied, and Coalition services to interconnect to the Defense Information Systems Network (DISN) ashore via multiple Radio Frequency (RF) paths and pier connectivity.

Tactical Messaging, formerly Naval Modular Automated Communications System II / Single Message Solution (NAVMACS II/SMS II) developed joint/combined individual and organizational message handling for United States Naval ships and submarines, Tactical Mobile (TacMobile) units, United States Marine Corp (USMC) vans, and selected Military Sealift Command (MSC) and United States Coast Guard (USCG) platforms. Tactical Messaging (NAVMACS II/SMS) develops fleet interfaces to the Defense Message System (DMS) and legacy ashore messaging systems. DMS Proxy will develop the interface with Integrated Shipboard Networks System (ISNS) to allow removal of DMS Components from all ships. Requirements for DMS Proxy implementation transition to other Assured Internet Protocol (AIP) enabling programs in FY09-FY11.

Naval Global Directory Service (NGDS): The NGDS developed a directory services architecture providing enhancements and efficiencies for security, application accessibility, and Naval Identity Management (IdM) that span Naval enterprise-wide operations across the Navy Marine Corps Intranet (NMCI), OCONUS Navy Enterprise Network (ONE-NET), Marine Corps Enterprise Network (MCEN) and Naval Afloat Networks/(Information Technology (IT)-21 network domains. The projected NGDS capabilities included: Authentication to enterprise applications; Support for an enterprise Single Sign On (SSO) solution; Backbone for federating (sharing) identity data amongst the Naval Domains, afloat environments, and external sources; Storage for Public Key Infrastructure (PKI) material and other credentials; Basic "Locator" services. NGDS built upon the initial research, development and deployment of the Navy Marine Corps White Pages, in addition to other requirements such as the Navy Marine Corps Intranet's (NMCI) directory service, Navy Marine Corps Portal (NMCP) directory service and Single Sign On (SSO) initiatives, and the IT-21 Windows 2000 shipboard integrated directory service. The projected NGDS capabilities included: Authentication to enterprise applications; Support for an enterprise SSO solution; Domain Naming Service (DNS) for a Naval Enterprise network De-Militarized Zone (DMZ); Backbone for federating (sharing) identity data amongst the Naval Domains, afloat environments, and external sources; Storage for Public Key Infrastructure (PKI) material and other credentials; Basic "Locator" services; Additional advanced directory or identity based functions. NGDS delivered an integrated directory service infrastructure across the Naval enterprise both ashore and afloat by building trusted relationships between people, applications, services, and other resources throughout the network. Once established, NGDS manage and maintain these relationships regardless of the user's or services location.

EXHIBIT R-2, RDT&E Budget Item Justification

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204163N FLEET COMMUNICATIONS	
<p>Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting Naval, Coalition and Joint enclaves worldwide. ADNS utilizes Commercial Off the Shelf Government Off the Shelf (COTS/GOTS) equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment (INC) I provides initial limited, Ship to Shore Internet Protocol (IP) connectivity, separation of enclaves, reuse of unused enclave bandwidth, and Ship to Shore Tactical IP connectivity. ADNS INC II provides additional capabilities of load balancing, Radio Frequency (RF) restoral, Initial Quality of Service (QoS) to include application prioritization, Initial Traffic Management, and enhancements designed to maximize use of "effective" available bandwidth for surface, shore, and airborne platforms. ADNS INC III will converge all Navy Tactical Voice, Video, and Data requirements into a converged IP Data stream. In addition, the INC III architecture will incorporate an IPv4/IPv6 dual stack and a ciphertext security architecture to align to the GIG in order to mesh Navy tactical surface, subsurface, and airborne platforms into a single IP environment with Gateway functions to Joint and Coalition Networks. ADNS INC III will serve as the Navy tactical interface (Gateway) for IP Networking with Transformational Satellite (TSAT), Joint Tactical Radio System (JTRS), High Assurance Internet Protocol Encryptor (HAIBE), Advanced Extremely High Frequency (AEHF). ADNS INC IV will utilize the emerging transformational technologies to integrate additional Future Department of Defense (DoD) Transformational Command, Control, Communications, Computers, & Intelligence (C4I) Programs.</p> <p>The Tactical Switching Ashore (TSw) program rebuilds 1970s based shore high frequency based infrastructure to current and future scalable technical standards in order to provide a commercially standardized, technically compliant, and robust network. TSw will migrate the shore sites and their terrestrial interconnections into a coherent, scalable, network-centric capability. While leveraging off recent shore upgrades for the major shore communication regions, TSw will incorporate a system integrator approach to develop, design, and implement a plan to remove bandwidth limitations, create failover communication paths, provide secure and available communications, provide dynamic bandwidth management, and reduce costly dependencies on legacy systems. This plan is designed to increase efficiencies, and reduce manpower and the overall footprint of the Navy's shore sites. In addition, TSw will provide an enterprise-wide network operations capability providing full network Situational Awareness (SA)/network visualization, network Management and Control (M/C) and automation capabilities. TSw will bring new technologies and capabilities that converge legacy, circuit-based, communications to a standard, integrated, and interoperable IP network. This enabling system, of which United States Navy enterprise network (FORCENet) is a part, supports the four pillars of Sea Power 21 by providing the infrastructure required to support collaborative decision-making, faster decision cycles, and shared superior situational awareness required to fight the War on Terrorism.</p> <p>The Shore to Ship Communications System develops communication system elements which provide positive command and control of deployed Ship Submersible Ballistic Nuclear Submarines (SSBNs), Ship Submersible Guided Nuclear Submarines (SSGNs), and Ship Submersible Nuclear Submarines (SSNs). Continuous assessment of the command and control links between the National Command Authority (NCA) and missile platforms is conducted to ensure compliance with Nuclear Technical Performance Criteria (NTPC). 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 SSBNs .</p> <p>The Low Band Universal Communications System (LBUCS) will ensure continued operational capability through the Very Low Frequency (VLF) architecture by implementing system life extension and flexibility of Submarine Broadcast traffic to the submarine in stealth posture. The flexibility includes simplified shore architecture to maintain capability while utilizing fewer shore nodes (Broadcast Keying Sites). LBUCS also provides a life extension to the VLF receive system to ensure continued compliance with NTPC through the life of the system.</p> <p>Submarine communications allied interoperability issues are being investigated. Coalition architectures are developed and tested to address continued interoperability, as new technology is applied. Interoperability between coalition SUBOPAUTHs and submarines under US operational control is evaluated to determine the most effective approaches for interoperability in an environment dealing with changing North Atlantic Treaty Organization (NATO) standards for submarine communication, as these standards migrate from serial to Internet Protocol (IP) based systems.</p> <p>The Nuclear Command and Control Long Term Solution (NC3 LTS) replaces the existing stove-piped legacy and aging joint shore based EAM delivery system. The NC3 LTS investigates current technologies and inherent vulnerabilities to determine the most modern and effective system to implement, while meeting Joint Staff (JS) defined NTPC (e.g. system availability and EAM delivery timeliness requirements for NC3.)</p> <p>The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Military SATCOM multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. This project has extremely high visibility within the DoD and United States Congress.</p> <p>The High Frequency Internet Protocol/Sub Network Relay (HFIP/SNR) program provides legacy Battleforce Email (BFEM) 66 to enable delivery of Internet Protocol (IP) based collaboration services over legacy HF assets. The intent is to provide an interoperable, low data rate, multi-node, Beyond-Line-of-Sight (BLOS) tactical edge networking capability using existing HF radio infrastructure. Supports Tactical Edge Networking and provides data path backbone for both airborne and afloat forces. Supports increased data exchange with Allied Coalition forces.</p> <p>Congressional add to develop a Radio over Internet Protocol (RoIP) interface for the Tactical Variant Switch (TVS) AN-USQ-155 radio to be compatible with Internet Protocol (IP) based communications, switching, and distribution of voice and media via common networks as well as Integrated Services Digital Network (ISDN) and analog connections.</p>		

EXHIBIT R-2, RDT&E Budget Item Justification

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204163N FLEET COMMUNICATIONS
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(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	<u>FY07</u>	<u>FY08</u>	<u>FY09</u>
FY08/09 President's Budget:	26.997	23.108	18.903
FY 09 President's Submit	27.508	23.582	26.696
Total Adjustments	0.511	0.474	7.793

Summary of Adjustments

Miscellaneous Adjustments:	1.000	-0.335	7.793
Small Business Innovation Tax:	-0.489	0.000	0.000
Congressional Adjustments:	0.000	0.809	0.000
Subtotal	0.511	0.474	7.793

(U) Schedule:

ADNS: INC III Sys Dev has moved to the right to incorporate INC III development modifications to the rack design, which pushed DT, OT, FRPDR, IOC and FOC to the right for INC III. INC III Submarine efforts were added to reflect current requirements.

LBUCS: The Milestone B date has moved to the right (June 08.) This was due to the CDD determination being Joint Integration vice Joint Interest. This determination added a Joint review cycle to the CDD approval process, which delayed the approval of the CDD.

(U) Technical:

EXHIBIT R-2a, RDT&E Project Justification				DATE: FEBRUARY 2008			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		R-1 ITEM NOMENCLATURE 0204163N FLEET COMMUNICATIONS			PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	17.170	9.520	11.570	10.711	3.450	4.640	3.335
RDT&E Articles Qty	4						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project is a continuing program that provides for automation and communications upgrades for Fleet tactical users. Tactical Messaging, formerly The Naval Modular Automated Communications System II (NAVMACS II/Single Messaging Solution (SMS)) provides processing, storage, distribution and forwarding of General Service organizational messages on ships and submarines. Legacy NAVMACS/SMS units on surface ships will be replaced by the network-centric DMS Proxy solution as part of the multi-program Assured IP (AIP) initiative.

Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting Naval, Coalition and Joint enclaves worldwide. ADNS utilizes Commercial Off the Shelf/ Government Off the Shelf (COTS/GOTS) equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment (INC) I provides initial limited, Ship to Shore Internet Protocol (IP) connectivity, separation of enclaves, reuse of unused enclave bandwidth, and Ship to tactical Shore IP connectivity. ADNS INC II provides additional capabilities of Load Balancing, Radio Frequency (RF) restoral, Initial Quality of Service (QoS) to include application prioritization, Initial Traffic Management, and enhancements designed to maximize use of "effective" available bandwidth for surface, shore, and airborne platforms. ADNS INC III will converge all Navy Tactical Voice, Video, and Data requirements into a converged IP Data stream. In addition, the INC III architecture will incorporate an IPv4/IPv6 dual stack and a ciphertext security architecture to align to the Global Information Grid (GIG) in order to mesh Navy tactical surface, subsurface, and airborne platforms into a single IP environment with Gateway functions to Joint and Coalition Networks. ADNS INC III will serve as the Navy Tactical Interface (Gateway) for IP Networking with Transformational Satellite (TSAT), Joint Tactical Radio System (JTRS), High Assurance Internet Protocol Encryptor (HAPE), Advanced Extremely High Frequency (AEHF). INC IV will utilize emerging transformational technologies to integrate with additional Future DoD C4I Programs.

Naval Global Directory Service (NGDS): Naval Global Directory Services is a key component of the infrastructure that will be leveraged to support a variety of network operations. The NGDS developed a directory services architecture providing enhancements and efficiencies for security, application accessibility, and naval Identity Management (IdM) that span Naval enterprise-wide operations across the Navy Marine Corps Intranet (NMCI), OCONUS Navy Enterprise Network (ONE-NET), Marine Corps Enterprise Network (MCEN) and Naval Afloat Networks/IT-21 network domains. The NGDS built upon the initial research, development and deployment of the Navy Marine Corps White Pages, in addition to other requirements such as the Navy Marine Corps Intranet's (NMCI) directory service, Navy Marine Corps Enterprise Services (NMES) directory service and Single Sign On (SSO) initiatives, and the IT-21 Windows 2000 shipboard integrated directory service. NGDS delivered an integrated directory service infrastructure across the Naval enterprise both ashore and afloat by building trusted relationships between people, applications, services, and other resources throughout the network. Once established, NGDS manage and maintain these relationships regardless of the user's or services' location. Tactical Switching Ashore will support the migration of the shore sites and their terrestrial interconnections into a coherent, scalable, network capability.

EXHIBIT R-2a, RDT&E Project Justification

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2008
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATIONS	PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION
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(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
Automated Digital Network System (ADNS)			
Accomplishments/Effort/Subtotal Cost	5.972	3.964	5.740
RDT&E Articles Quantity	4		

FY07 Accomplishments: Conducted Increment IIa formal Developmental and Operational Testing (DT/OT). Continued funding INC III System Development and Demonstration phase. INC III contractor conducted system requirements review and will deliver an ADNS INC III system and subsystem specification. Evaluated industry produced INC III Engineering Demonstration Models (EDMs). Conducted system Preliminary and Critical Design Review ((PDR) and (CDR)).

FY08: Continue the system development and demonstration phase of ADNS INC III with required interfaces. Develop acquisition documents, specifications, and capability requirements for INC III and future increments, as necessary to deliver technology, networks, and throughput capabilities defined in the ADNS Capability Development Document (CDD) for all Navy Tactical Units (Surface, Airborne, and Shore.)

FY09: Conduct INC III formal Developmental Testing (DT). Conduct formal Operational Testing (OT) of INC III. Develop system modification of INC III for HAIPE integration. Develop acquisition documents, specifications, and capability requirements for INC III Subs. Develop and update system and subsystem interface designs for integration with new SATCOM and Radio Frequency (RF) paths, as they emerge. Begin research and evaluation of emergent technology maturity for inclusion into the next generation of ADNS, INC IV.

	FY 07	FY 08	FY 09
Tactical Messaging (NAVMACS)			
Accomplishments/Effort/Subtotal Cost	0.000	1.378	1.242
RDT&E Articles Quantity			

FY08: Begin planning and developmental testing for Interoperability Demonstration of the DMS Proxy solution to be implemented as part of the multiprogram Assured Internet Protocol (AIP) initiative.

FY09: Continue development and test efforts for emerging technology to transition Tactical Messaging into a Service Oriented Architecture to align with DoD Organizational Messaging (OM) of the future, and enable mobile tactical users to better support reporting for Maritime Domain Awareness.

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATIONS	PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
Naval Global Directory Services			
Accomplishments/Effort/Subtotal Cost	0.332		
RDT&E Articles Quantity			

FY07 Accomplishments: Completed the development of the Naval Global Directory Service (NGDS) - enterprise wide, integrated directory service architecture. Assisted in the continuing convergence of NMCI, ONE-NET, MCEN and IT-21 environments. Provided developmental engineering support for shore-based identity data sharing/synchronization. Supported Navy directed testing efforts.

	FY 07	FY 08	FY 09
Tactical Switching (Ashore)			
Accomplishments/Effort/Subtotal Cost	9.366	4.178	4.013
RDT&E Articles Quantity			

FY07 Accomplishments: Completed the development of Increment II Spiral A Enterprise Network Management and Control System (ENMS) (Management Capability) that began in FY06. Completed the system integrators task to develop a shore communications architecture that will provide Situational Awareness (SA), Management and Control (M/C) for ENMS of Navy Shore Networks. Continued consolidation communications technical control facilities supporting migration of all services to an all IP infrastructure. Initiated development of Increment II Spiral B ENMS expanding the Management and Control (M/C) of equipment to include automation and remote capabilities.

FY08: Continue the Increment II Spiral B development that began in FY07. The program will expand the monitoring (Situational Awareness), Management and Control capability developed in FY06/FY07 to further define the automation and remote capabilities of the ENMS. In addition, TSW will develop and design a plan to eliminate bandwidth limitations within the architecture by designing failover communication paths either physical or virtual, providing real time integrated security, enabling dynamic bandwidth management, and reducing costly dependencies on legacy systems. This new capability requires less manual intervention and will serve as the backbone technology to reduce the Navy communication facilities infrastructure from 4 Fleet Network Operation Centers (NOCs) to 2 Regional Network Operations and Security Centers (RNOSC). Efforts outlined in Increment II Spiral A and B provide the foundation for reducing the manpower and facilities which will enable substantial FYDP savings.

FY09: Complete Increment II Spiral B development that began in FY07 and continued in FY08. Initiate Increment III ENMS (GIG/Joint/All IP Integration Capability). Complete the design, development, testing and implementation of the upgrades to the Tactical Switching and NOC systems to allow for full integration with the Joint Community on the All IP GIG. Develop the design and implementation plan to eliminate the remaining legacy and Navy unique networking elements that remain in the Tactical Switching architecture. This will allow for full All IP interoperability and integration between Navy forces and the forces of other branches of the service in the Joint battlespace to allow for full Network Centric Warfare. Provide for full direct access for Navy warfighters through the Navy RNOSCs to the All IP GIG for full warfighting application data exchange. Provide the mechanism for dynamically and automatically managed real time integrated Information Assurance and security. Provide for Quality of Service (QoS) enabled traffic flow prioritization and fully automated dynamic bandwidth management. This new capability will require only a minimal amount of manual intervention and will provide for full integration between the Navy and Joint operational enclaves over UNCLAS, Secret, SCI and multiple CENTRIXS network enclaves. The integration of Navy and Joint operational enclaves over multiple security domains provides key foundational connectivity require to support the Navy's Maritime Domain Awareness efforts.

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATIONS	PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION
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(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
HFIP/SNR			
Accomplishments/Effort/Subtotal Cost	1.500	0.000	0.575
RDT&E Articles Quantity			

FY07 Accomplishments: Began development of acquisition documentation including Acquisition Program Baseline (APB), Test & Evaluation Master Plan (TEMP), Acquisition Strategy/Acquisition Plan (AS/AP), and Clinger-Cohen Act (CCA) compliance documentation.

FY09: Complete testing of HFIP/SNR equipment.

EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2008	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME						PROJECT NUMBER AND NAME		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204163N FLEET COMMUNICATIONS						0725 COMMUNICATIONS AUTOMATION		
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Complete</u>	<u>Cost To Total</u>
3050 – Ship Comm Auto - Tactical Messaging	4.732	7.050	2.680	5.444	3.169	1.306	1.335	Continuing	Continuing
3050 – Ship Comm Auto – ADNS	18.956	46.478	58.118	33.949	46.098	50.653	53.321	Continuing	Continuing
3050 – Ship Comm Auto – Tactical Switching (Ashore)	30.577	35.326	41.993	19.634	19.412	24.070	24.344	Continuing	Continuing
3057 – Comm Items Under \$5M – HFIP/SNR	-	6.319	14.137	13.644	12.525	10.296	6.261	Continuing	Continuing
(U) E. ACQUISITION STRATEGY: *									
<p>ADNS: Evolutionary acquisition approach with overlapping development and implementation phases for defined Increment I, II, and III incremental baselines. Increment I and II will use existing competitively awarded contracts; however, Increment III will be based on a new Contracting Strategy to include the use of innovative contract types that implement changes consistent with acquisition streamlining initiatives. Aggressively leverage 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.</p> <p>Tactical Messaging (formally NAVMACS): The Tactical Messaging acquisition approach has evolved according to key technology advances, resulting incremental developmental phases, and the principals of acquisition reform. While initial production units were acquired through competitively awarded vehicles, future contracting will also embrace acquisition streamlining initiatives in addition to maintaining the benefits of competitive, best value contracting.</p> <p>NGDS supports a variety of network operations that include Single Point of Administration (SPA) and Unified Account Management; Software Distribution; White/Yellow/Blue Pages; Menu, Profile and Application Management; PKI-enablement of applications/devices, and Network Management. All management oversight by SPAWAR.</p> <p>Tactical Switching Ashore Evolutionary acquisition approach with overlapping development and implementation increments. Use existing contract vehicles during Increment I implementation of procurement upgrades to existing shore legacy equipment at the major communication centers (NCTAMS PAC, NCTAMS LANT, NCTAMS EURCENT, NCTS Bahrain, and NCTS San Diego) and to include 40+ shore communication facilities (COMSTATIONS, NOCs, Mini-NOCs, and STEP sites). Increment I upgrades serve as an enabler to Increment II activities. Based upon the future shore communication architecture as defined by the Navy, Increment II transitions the Navy's 3 NCTAMS and two major NCT Shore infrastructure to a 2 regional network operations and security center (RNOSC) and 1 global network operations and security center (GNOSC) concept to achieve a Joint/DoD Net-Centric environment. Increment II will be organized into two steps. Each step will build upon the previous step and serve as risk mitigation for the succeeding step. This strategy provides flexibility in a rapidly evolving technology environment and allows earlier implementation of developmental technology as it becomes available.</p>									
* Not required for Budget Activities 1,2,3, and 6									

EXHIBIT R-3 Cost Analysis										DATE: FEBRUARY 2008		
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7				0204163N FLEET COMMUNICATIONS				0725 COMMUNICATIONS AUTOMATION				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	PO	SSC	1.025	0.000		0.000		0.000			1.025	5.500
Primary Hardware Development	TBD	TBD	1.000	0.000		0.000		0.000			1.000	
Primary Hardware/Software	CPFF	Air Force	2.078								2.078	
Primary Hardware/Software	CPFF	Northrop Grumman	0.000	2.845	Dec-07	2.351	Apr-08	2.050	Jun-09	Continuing	Continuing	
Primary Hardware/Software	CPFF	General Dynamics	0.000	4.131	Dec-06	2.670	Dec-07	2.128	Dec-08	Continuing	Continuing	
Integration and Test	TBD	TBD	0.000	0.000		0.000		1.884	TBD	Continuing	Continuing	
Systems Engineering	WX	SSC	12.927	3.711	Dec-06	1.107	Dec-07	1.079	Dec-08	Continuing	Continuing	
Systems Engineering	VAR	VAR	5.022	0.000		1.410	Jan-08	1.194	TBD	Continuing	Continuing	
Systems Engineering	WX	NUWC	0.0000	0.400	Dec-07	0.233	Dec-07	0.380	Dec-08	Continuing	Continuing	
Prime Mission Product	PO	SSC	4.353	0.000		0.000		0.000			4.353	
Subtotal Product Development			26.405	11.087		7.771		8.715		Continuing	Continuing	
Remarks:												
Development Support	WX	SSC	0.160								0.160	
Software Development	VAR	VAR	5.501	0.000		0.000		0.000			5.501	
Integrated Logistics Support	TBD	TBD	1.000	0.150	Dec-06	0.000		0.000			1.150	
Documentation	VAR	VAR	0.280	0.333	Dec-06	0.093	Dec-08	0.125	TBD	Continuing	Continuing	
Technical Data	TBD	TBD	0.500	0.000		0.000		0.000			0.500	
Studies and Analysis	WX	SSC	0.960	0.000		0.000		0.000			0.960	
Subtotal Support			8.401	0.483		0.093		0.125		Continuing	Continuing	
Remarks:												

Exhibit R-3 Cost Analysis								DATE: FEBRUARY 2008				
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7			PROGRAM ELEMENT 0204163N FLEET COMMUNICATIONS					PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SSC	0.844	1.481	Dec-06	0.447	Dec-07	0.640	Dec-08	Cont	Cont	
Developmental Test & Evaluation	MP	JITC	0.000	0.051	Dec-06	0.033	Dec-07	0.040	TBD	Cont	Cont	
Operational Test & Evaluation	VAR	VAR	4.280	0.325	Dec-06						4.605	
Operational Test & Evaluation	WX	OPTEVFOR	0.371	0.106	Mar-07	0.073	Dec-07	0.100	TBD	Cont	Cont	
Operational Test & Evaluation	VAR	VAR	0.350	0.000		0.000		0.000			0.350	
Subtotal T&E			5.845	1.963		0.553		0.780		Cont	Cont	
Remarks:												
Contractor Engineering Support	VAR	VAR	0.481	0.000		0.000		0.000			0.481	
Government Engineering Support	WX	SSC	0.380	0.000		0.000		0.575	TBD	Cont	Cont	
Program Management Support	WX	SSC	1.973	0.317	Dec-06	0.195	Dec-07	0.300	TBD	Cont	Cont	
Program Management Support	CPAF	VAR	3.040	3.320	Nov-06	0.908	Dec-07	1.075	Dec-08	Cont	Cont	
Subtotal Management			5.874	3.637		1.103		1.950		Cont	Cont	
Remarks:												
Total Cost			46.525	17.170		9.520		11.570		Cont	Cont	

Exhibit R-3 Cost Analysis

Exhibit R-4a, Exhibit R-4a, Schedule Detail							DATE: FEBRUARY 2008	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204163N FLEET COMMUNICATIONS			0725 COMMUNICATIONS AUTOMATION - TACTICAL SWITCHING ASHORE				
Schedule Profile - Tactical Switching Ashore	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Increment II Milestone B								
Increment II Milestone C	4Q							
Increment II IOC		2Q						
Increment II FOC				4Q				
Increment II Spiral A Hardware/Software Development	1Q-4Q							
Increment II Requirements Definition								
Increment II Systems Specifications								
Increment II Spiral B1 Hardware/Software Development	4Q	1Q-3Q						
Increment II Spiral B2 Hardware/Software Development		3Q-4Q	1Q-2Q					
Increment III Requirements Definition			1Q-3Q					
Increment III Systems Specifications			3Q					
Increment III Milestone B				1Q				
Increment III Milestone C					1Q			
Increment III IOC					3Q			
Increment III Hardware/Software Development				2Q-4Q				
Development Testing (DT) Increment II Spiral A	3Q							
Development Testing (DT) Increment II Spiral B1		3Q						
Development Testing (DT) Increment II Spiral B2			1Q					
Development Testing (DT) Increment III					1Q			
JTIC Increment II Spiral A	4Q							
JTIC Increment II Spiral B2			2Q					
JTIC Increment III					1Q			
Systems of Systems Testing	3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Increment II Spiral A Production/Installation	4Q	1Q-3Q						
Increment II Spiral B1 Production/Installation		3Q-4Q	1Q-2Q					
Increment II Spiral B2 Production/Installation			2Q-Q4	1Q-3Q				
Increment III Production/Installation					2Q-4Q	1Q-4Q	1Q-4Q	
Deliveries - OPN	4Q	3Q	2Q		2Q			

* Joint Interoperability Test Center (JITC)

Exhibit R-4a, Schedule Detail

EXHIBIT R4, Schedule Profile																				DATE: FEBRUARY 2008												
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7										PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATIONS										PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION/ADNS												
Fiscal Year	2006				2007				2008				2009				2010				2011				2012				2013			
	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	1	2	3	4
Acquisition Milestones	▲ FRPDR INC II		▲ OTRR/LRIP Decision INC IIa	▲ MS B INC III	▲ IOC INC IIa		▲ Fielding Decision INC IIa				▲ MS C INC III						▲ IOC INC III				▲ MS B INC IV										▲ MS C INC IV	
System Development		▲ CDR INC IIa			▲ PDR INC III	▲ CDR INC III					▲ PDR INC III Subs				▲ CDR INC III Subs																	
Test & Evaluation Milestones																																
Development Test																																
Operational Test					▲ Combined DT/OT INC IIa		▲ Acpt Test INC III							▲ DT INC III																		
Production																																
Deliveries																																

EXHIBIT R4, Schedule Profile

Exhibit R-4a, Schedule Detail						DATE: FEBRUARY 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204163N FLEET COMMUNICATIONS				0725 COMMUNICATIONS AUTOMATION/ADNS			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
INCREMENT I *								
INCREMENT II								
<i>Initial Traffic Management, Shore (TMS)</i>								
Fielding Decision								
Operational Testing (OT)								
JITC Certification								
Full Rate Production Decision Review (FRPDR)								
Full Operational Capability (FOC)					4Q			
INCREMENT IIa								
<i>Voice Over IP (VOIP)</i>								
System Development								
Critical Design Review (CDR)								
OTRR/LRIP Decision								
Combined Developmental Testing (DT) and Operational Testing (OT)	1Q							
Fielding Decision	3Q							
Initial Operational Capability (IOC)	1Q							
INCREMENT III								
<i>Core Capability - Converged IP, Meshed, IPv6, Black Core, 25/50 Mbps</i>								
Prototype Phase								
Milestone B (MS B)								
System Design Review (SDR)								
Preliminary Design Review (PDR)	1Q-2Q							
System Development	1Q-4Q	1Q-4Q	1Q-2Q					
Deliver 2 EDMs and SDSs	3Q							
Milestone C (MS C)		2Q						
Critical Design Review (CDR)	2Q-3Q							
Acceptance Test	3Q-4Q							
Low Rate Initial Production (LRIP)		2Q						
Developmental Testing (DT)			3Q					
Operational Testing (OT)			4Q					
Full Rate Production Decision Review (FRPDR)				2Q				
Initial Operational Capability (IOC)				2Q				
Interface Design Development with SATCOM and Radio Frequency (RF) paths			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Subs								
Preliminary Design Review (PDR)			1Q					
Critical Design Review (CDR)			4Q					
Acceptance Test				2Q				
Deliver 3 EDMs and 2 SDSs				2Q				
Test Asset Decision					2Q			
Developmental Testing (DT)						2Q		
Operational Testing (OT)						4Q		
Fielding Decision						4Q		
Initial Operational Capability (IOC)						4Q		
Fielding and Sustainment						4Q	1Q-4Q	
INCREMENT IV								
Milestone B (MS B)					1Q			
Milestone C (MS C)							1Q	

Exhibit R-4a, Schedule Detail

EXHIBIT R4, Schedule Profile																	DATE: FEBRUARY 2008															
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7										PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATIONS							PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION - TACTICAL MESSAGING															
Fiscal Year	2007				2008				2009				2010				2011				2012				2013							
	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																																
Pilot Phase					DMS Proxy																											
Development																																
In-Progress Review (Multiple Baselines)																																
S/W Delivery (EMD)																																
Software																																
S/W Delivery DMS Proxy DISA DMS MR Delivery																																
Test & Evaluation Milestones																																
Development Test					DT				DT																							
Operational Test																																
JITC IV&V Certification																																
Deliveries			33				49				3				8				5				2				2					

EXHIBIT R4, Schedule Profile

* Joint Interoperability Test Center (JITC)

Development Test efforts remaining are the Interoperability Demonstration for Defense Message System (DMS) Proxy functionality in FY08-FY09.

* Schedule changes reflect revised program direction for Tactical Messaging as part of the multi-program Assured Internet Protocol (AIP) strategy. Tactical Messaging is transitioning from stand-alone components into a DMS Proxy application on the consolid

Exhibit R-4a, Schedule Detail					DATE: FEBRUARY 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		0204163N FLEET COMMUNICATIONS			0725 COMMUNICATIONS AUTOMATION - TACTICAL MESSAGING		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Win2K/Development							
DMS Proxy Development Planning							
IPR		1Q,3Q	1Q,3Q				
EMD - Lab		1Q	1Q				
EMD - JITC		3Q	3Q				
S/W Delivery 2.3							
S/W Delivery 2.4							
S/W Delivery 2.5							
Pilot Phase DMS Proxy		1Q-3Q					
Development Test		1Q-4Q	2Q-4Q				
JITC IV&V Certification		1Q-4Q	1Q-4Q				
Deliveries	33	49	3	8	5	2	2

Exhibit R-4a, Schedule Detail

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		PROGRAM ELEMENT NUMBER 0204163N FLEET COMMUNICATIONS			PROJECT NUMBER AND NAME 1083 SHORE TO SHIP COMMUNICATION		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	10.338	13.069	15.126	14.121	9.046	14.264	7.775
RDT&E Articles Qty							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project develops communication system elements which provide positive command and control of deployed SSBNs and fleet submarine broadcast connectivity to Submersible Ship Nuclear (SSN)s, Submersible Ship Guided Nuclear (SSGN)s and Ship, Submersible, Ballistic, Nuclear (SSBN)s. This project provides enhancements to the shore-to-ship transmitting systems and provides submarine capabilities to the Broadcast Control Authority (BCA) consistent with the Network Operation Center (NOC) architecture. The BCA provides the oversight and control for all fixed submarine broadcasts. Effective utilization of this communications system's performance is provided via the Strategic Communications Assessment Program (SCAP). The Continued Evaluation Program (CEP) provides constant assessment of the effectiveness of the end-to-end network. The submarine operating authority (SUBOPAETH) includes both submarine communications and Operational Control (OPCON) at shore sites. A SUBOPAETH architecture provides for back-up capability among the four Broadcast Control Authority/Operational Control (BCA/OPCONs) to ensure Continuity of Operations Procedure (COOP) in the event of a BCA outage. The Common Submarine Radio Room (CSRR) integrates Commercial Off The Shelf (COTS) and Government Off The Shelf (GOTS) components into a single radio room configuration for all classes of submarines. The CSRR design is based on the Virginia class radio room and is adapted for each platform's hull shape and mission needs. Technologies to improve high voltage insulators, helix house bushings and antenna components used in the Fixed Very Low Frequency VLF (FVLF) transmit systems are evaluated and tested through the High Voltage Improvement Program (HVIP). The NC3 LTS will provide a communications approach in support of the Joint Operational Architecture (JOA) for time-critical EAMs to be disseminated across Areas of Responsibility (AOR's) in support of joint operations. This project implements the Joint Staff EAM Board of Directors (BoD) direction for a viable long-term EAM dissemination solution, NC3 LTS, and near term enhancements enabling the interim hybrid solution infrastructure to be sustained until a replacement system comes on-line. Low Band Universal Communications System (LBUCS) provides operational capability through the Very Low Frequency (VLF) architecture to ensure system life extension and flexibility of submarine broadcast traffic to the submarine in stealth posture. The flexibility includes enhanced throughput, ensuring more operational products are delivered to a submarine without risking mast exposure. The Submarine Enhanced Emergency Alert System (SEEAS) upgrades the Army-Navy/BST-1 (AN/BST-1) transmitter buoy used to communicate "in extremis" messages to the fleet commander from an SSBN on patrol that had been rendered incapable of performing its mission either by hostile action or by a casualty.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER 0204163N FLEET COMMUNICATIONS	PROJECT NUMBER AND NAME 1083 SHORE TO SHIP COMMUNICATION

(U) B. Accomplishments/Planned Program

Low Band Universal Communication System (LBUCS)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.639	4.841	5.622
RDT&E Articles Quantity			

FY07 Accomplishments: Completed documentation in support of Milestone B. Completed the Capability Development Document (CDD). Commenced preparation of Development and LRIP RFP for transmit terminal.
FY08: Complete Milestone B. Award Prime Contract to begin development of prototype transmit terminal for testing. Commence Engineering Development Model (EDM). Commence CPD development for transmit terminal in support of Milestone C.
FY09: Complete Preliminary Design Review (PDR) for transmit terminal. Commence preparations of acquisition documentation for receive terminal. Continue CPD development for transmit terminal. Continue EDM. Commenced preparation of Development and LRIP RFP for receive terminal. Continue updating acquisition documentation for Milestone C.

Nuclear Command, Control Communications Long Term Solution (NC3 LTS)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.377	2.168	4.246
RDT&E Articles Quantity			

FY07 Accomplishments: Completed Initial Capabilities Document (ICD). Commenced Analysis of Alternatives (AoA).
FY08: Commence Capabilities Development Document (CDD) and System Performance Specification (SPS). Commence development of Test and Evaluation Master Plan (TEMP). Commence preparation of Milestone B acquisition documentation.
FY09: Complete CDD. Complete development of TEMP. Commence preparation of Development and LRIP RFP. Commence preparation of Development and LRIP RFP. Complete preparation of Milestone B acquisition documentation.

Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.061	3.800	2.600
RDT&E Articles Quantity			

FY07 Accomplishments: Continued efforts for assessment of strategic communications capabilities and deficiencies and for evaluation of Nuclear Strategic Communications and EAM delivery.
FY08: Continuation of strategic communications capabilities and deficiencies assessment for evaluation of Nuclear Strategic Communications and EAM delivery.
FY09: Continuation of strategic communications capabilities and deficiencies assessment for evaluation of Nuclear Strategic Communications and EAM delivery.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER 0204163N FLEET COMMUNICATIONS	PROJECT NUMBER AND NAME 1083 SHORE TO SHIP COMMUNICATION

(U) B. Accomplishments/Planned Program

Concept Development/Systems Planning	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.891	1.353	1.603
RDT&E Articles Quantity			

FY07 Accomplishments: Conducted testing, data collection and analysis necessary to optimize bandwidth use. Utilized the data to develop employment Continuity Of Operations (CONOPS) to maximize operational benefit. Demonstrated Joint/Allied Network Enabled Operations (NEO) in an operational environment.
FY08: Demonstrate an optimized bandwidth algorithm in a laboratory environment. Commence integrate Joint/Allied NEO with other US Navy enterprise network (FORCENet) applications.
FY09: Demonstrate an optimized bandwidth algorithm in an operational environment. Continue the integration of Joint/Allied NEO with other FORCENet applications.

High Voltage Improvement Program	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.427	0.410	0.521
RDT&E Articles Quantity			

FY07 Accomplishments: Completed examination of sealed Helix variometers for antenna tuning. Examined lightning protection techniques for light weight insulators from rare extremely high voltage positive lightning strikes.
FY08: Commence examination of ultra quick cut off devices to prevent overload conditions.
FY09: Complete examination of ultra quick cut off devices to prevent overload conditions. Begin examination of Nanocrystalline Ferrites to reduce the loss and size of Helix Enclosures.

Common Submarine Radio Room (CSRR)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.943	0.497	
RDT&E Articles Quantity			

FY07 Accomplishments: Completed OPEVAL of SSBN and SSGN variants. Commenced modernization development of DMR 6.4 and SHF capability.
FY08: Complete modernization development and testing of DMR and SHF capabilities.

BCA Architecture	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			0.534
RDT&E Articles Quantity			

FY09: Develop SUBOPAETH communications tools to automate functionality at the SUBOPAETH to reduce operational workload.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7			PROGRAM ELEMENT NUMBER 0204163N FLEET COMMUNICATIONS			PROJECT NUMBER AND NAME 1083 SHORE TO SHIP COMMUNICATION	
(U) C. OTHER PROGRAM FUNDING SUMMARY:							
<u>Line Item No. & Name</u>	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3107 Submarine Broadcast Support	0.663	4.141	3.139	6.972	11.494	15.139	22.213
(U) D. ACQUISITION STRATEGY:							
<p>Low Band Universal Communications System (LBUCS): Provides operational capability through the VLF architecture to ensure system life extension and flexibility of submarine broadcast traffic to the submarine in stealth posture. The flexibility includes enhanced throughput, ensuring more operational products are delivered to a submarine without risking mast exposure. Will maximize the use of Commercial Off The Shelf (COTS) and Non-Developmental Items (NDI) hardware and software. Contract award will be based on full and open competition.</p> <p>The Nuclear Command, Control and Communications Long Term Solution (NC3-LTS): Will develop an approach to use Commercial Off-The-Shelf (COTS) and Non-Developmental Item (NDI) components to extend operational life of the existing system and to establish a long term solution compatible with future Global Information Grid structures. The program plans Milestone (MS)-B in 1st QTR FY10.</p>							

EXHIBIT R-2a, RDT&E Project Justification

**UNCLASSIFIED
CLASSIFICATION**

EXHIBIT R-3, RDT&E Project Cost Analysis									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7				PROGRAM ELEMENT 0204163N FLEET COMMUNICATIONS				PROJECT NUMBER AND NAME 1083 SHORE TO SHIP COMMUNICATION				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	10.258	1.089	Nov-06	3.235	Nov-07	4.555	Nov-08	Continuing	Continuing	0.000
Ancillary Hardware Development	Various	Various	0.603	0.288	Nov-06	0.275	Nov-07	0.575	Nov-08	Continuing	Continuing	0.000
Systems Engineering	CPFF	APL/JHU, Baltimore, MD	23.568	0.997	Dec-06	2.760	Nov-07	2.600	Nov-08	Continuing	Continuing	0.000
Systems Engineering	WR	SSC San Diego, CA	39.730	1.857	Nov-06	1.667	Nov-07	0.655	Nov-08	Continuing	Continuing	0.000
Systems Engineering	WR	Misc. Labs, NUWC, RI	10.973	0.800	Nov-06	0.702	Nov-07	0.498	Nov-08	Continuing	Continuing	0.000
Systems Engineering	WR	US Army, Monmouth, NJ	5.582	0.525	Nov-06	0.465	Nov-07	0.525	Nov-08	Continuing	Continuing	0.000
Systems Engineering	Various	Various	16.154									0.000
Subtotal Product Development			106.868	5.556		9.104		9.408		Continuing	Continuing	0.000
Remarks:												
Development Support			2.671	1.695	Nov-06	0.964	Nov-07	1.157	Nov-08			0.000
Software Development	WR	SSC San Diego, CA	9.064							Continuing	Continuing	0.000
Software Development	TBD	TBD	0.000					1.220	TBD	Continuing	Continuing	0.000
Training Development			0.000									0.000
Integrated Logistics Support			0.545	0.215	Nov-06	0.200	Nov-07	0.215	Nov-08			0.000
Acquisition/Program Development			0.462	0.261	Nov-06	0.261	Nov-07	0.261	Nov-08	Continuing	Continuing	0.000
Technical Data			2.822							Continuing	Continuing	0.000
GFE			0.000									0.000
Subtotal Support			15.564	2.171		1.425		2.853		Continuing	Continuing	0.000
Remarks:												

EXHIBIT R-3, RDT&E Project Cost Analysis

**UNCLASSIFIED
CLASSIFICATION**

EXHIBIT R-3, RDT&E Project Cost Analysis										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					PROGRAM ELEMENT 0204163N FLEET COMMUNICATIONS			PROJECT NUMBER AND NAME 1083 SHORE TO SHIP COMMUNICATION				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Strategic OP Systems Perf Evaluation	CPFF	APL/JHU, Baltimore, MD	15.522	1.071	Dec-06	1.040	Dec-07	1.482	Dec-08	Continuing	Continuing	
System Testing	Various	Various	6.066	0.993	Dec-06	0.900	Dec-07	0.448	Dec-08	Continuing	Continuing	
Tooling												
GFE												
Subtotal T&E			21.588	2.064		1.940		1.930		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	WR	US Army, Monmouth, NJ	1.194	0.081	Dec-06	0.100	Dec-07	0.201	Dec-08	Continuing	Continuing	
Government Engineering Support	WR	Various	0.845	0.244	Dec-06	0.275	Dec-07	0.457	Dec-08	Continuing	Continuing	
Program Management Support	Various	Various	4.592	0.171	Dec-06	0.175	Dec-07	0.228	Dec-08	Continuing	Continuing	
Travel			0.050	0.050		0.050		0.050				
Subtotal Management			6.681	0.547		0.600		0.935		Continuing	Continuing	
Remarks:												
Total:			150.701	10.338		13.069		15.126				

EXHIBIT R-3, RDT&E Project Cost Analysis

EXHIBIT R4, Schedule Profile				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204163N FLEET COMMUNICATIONS			1083 SHORE TO SHIP COMMUNICATION - LBUCS			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Requirements Definition							
CDD	1Q-4Q	1Q					
CPD			1Q-4Q	1Q-2Q			
Milestones							
Milestone B		3Q					
CDR - Transmit				1Q			
CDR - Receive						1Q	
Milestone C				4Q			
LRIP PR					1Q		
FRP						1Q	
IOC							1Q
Transmit Subsystem Development:							
Development, LRIP and FRP RFP		2Q					
Contract Award		3Q					
EDM Development		3Q-4Q	1Q-4Q	1Q-2Q			
Test & Evaluation (DT-B2/OT-B1)				3Q			
LRIP Deployment					1Q		
Test & Evaluation (DT-C1)					3Q		
Test & Evaluation (OT-C1)					4Q		
Receive Subsystem Development:							
Development, LRIP and FRP RFP			2Q				
Contract Award				1Q			
EDM Development				1Q-4Q	1Q-4Q	1Q-2Q	
Test & Evaluation (DT-C3/OT-C2)						3Q	
LRIP Deployment							1Q
Test & Evaluation (DT-C4)							3Q
Test & Evaluation (OT-C3)							4Q

EXHIBIT R4, Schedule Profile

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7			PROGRAM ELEMENT NUMBER 0204163N FLEET COMMUNICATIONS			PROJECT NUMBER AND NAME 9999 AN-USQ-155 Card Upgrade	
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		0.993					
RDT&E Articles Qty							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Develop a Radio over Internet Protocol (RoIP) interface for the Tactical Variant Switch (TVS) AN-USQ-155 radio to be compatible with Internet Protocol (IP) based communications, switching, and distribution of voice and media via common networks as well as Integrated Services Digital Network (ISDN) and analog connections.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER 0204163N FLEET COMMUNICATIONS	PROJECT NUMBER AND NAME 9999 AN-USQ-155 Card Upgrade	
(U) B. Accomplishments/Planned Program			
AN-USQ-155 Card Upgrade	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.993	
RDT&E Articles Quantity			
<p>FY08: Develop a Radio over Internet Protocol (RoIP) interface for the Tactical Variant Switch (TVS) AN-USQ-155 radio to be compatible with the DoD /DoN directive for Internet Protocol (IP) based communications, switching, and distribution of voice and media via common networks as well as Integrated Services Digital Network (ISDN) and analog connections.</p>			

EXHIBIT R-2a, RDT&E Project Justification

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-07						0204229N, TOMAHAWK & TMPC		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		22.384	15.687	14.212	13.435	10.841	9.579	9.319
0545 TOMAHAWK		16.805	11.235	14.212	13.435	10.841	9.579	9.319
9999 CONGRESSIONAL ADD		5.579	4.452					

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Tomahawk Weapons System (TWS) provides a Tomahawk cruise missile attack capability against targets on land (Tomahawk Land Attack Missile (TLAM)). The TLAM can be fitted with either Conventional unitary warhead (TLAM/C), nuclear warhead (TLAM/N) or submunition dispenser (TLAM/D). 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 (TACTOM) 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, and a lower production cost as compared to the Block III missile. Block IV provides a UHF 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 (BDI) messages. Block IV also includes a high anti-jam GPS receiver, navigation improvements and associated antenna systems. The Tomahawk program (A0545) also includes development of Torpedo Tube Launch (TTL) capability for submarines and the continuing advances identified as spiral development under the Tomahawk Baseline IV Operational Requirements Document (ORD), to include development of the Joint Chiefs of Staff (JCS)-directed incorporation of Selective Availability Anti-Spoofing Module (SAASM) capability. A third waiver will be requested as the program slipped its FY09 date for SAASM incorporation to FY10.

The Tomahawk Command and Control System (TC2S) Theater Mission Planning Center (TMPC) and Afloat Planning System (APS) (a shipboard version of TMPC) provide mission planning and employment support information for both the nuclear (TMPC only) and conventional TLAM, including the distribution of mission data and command information essential to TLAM employment via the Mission Distribution System (MDS) and associated communications infrastructure. Development of Tactical Tomahawk capabilities in TMPC/APS/MDS includes software development, integration, test, and delivery, including support for TECHEVAL and OPEVAL, training development, installation planning, and simulation/model development required by COMOPTEVFOR to offset live missile flights in TECHEVAL and OPEVAL. 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 (TTWCS) 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 (TTWCS) is required to meet the DoD IT Standards Registry (DISR), to meet FORCEnet compliance and be Internet Protocol Version 6 (IPv6) ready in order to remain interoperable within the Joint Service Architecture. These efforts provide battle-group tactical flexibility and responsiveness while maximizing TWS wartime capability. TTWCS entered Engineering and Manufacturing Development (EMD) in FY 99, with Phase A IOC (BLK III) in DEC 2003, and Phase B IOC (TACTOM) in June 2004.

EXHIBIT R-2, RDT&E Budget Item Justification				DATE:
APPROPRIATION/BUDGET ACTIVITY				February 2008
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-07				R-1 ITEM NOMENCLATURE 0204229N, TOMAHAWK & TMPC
B. PROGRAM CHANGE SUMMARY				
Funding:	FY 2007	FY 2008	FY 2009	
Previous President's Budget:	24.144	11.405	14.227	
Current BES / President's Budget:	<u>22.384</u>	<u>15.687</u>	<u>14.212</u>	
Total Adjustments	-1.760	4.282	-0.015	
Summary of Adjustments				
Congressional Reductions				
Congressional Rescissions				
Congressional Undistributed Reductions	-0.476	-0.108		
Congressional Increases		4.480		
Economic Assumptions			-0.015	
Miscellaneous Adjustments	<u>-1.284</u>	<u>-0.090</u>		
Subtotal	-1.760	4.282	-0.015	
Schedule:				
TT SAASM Integration - is extended through 3Q FY10.				
Launch platform availability for flight test surface validation of TTWCS V5 did occur in 1Q FY07.				
TTWCS OTTR replaced by Alternative Systems Review (ASR)				
Development test for SAASM was deleted. SAASM capability will be demonstrated on an OTL Flight Test.				
TTWCS V6 Operational, Test and Evaluation (OT&E) is removed from schedule as requirements have been refined.				
Technical: Not Applicable				

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204229N, TOMAHAWK & TMPC			PROJECT NUMBER AND NAME 0545, TOMAHAWK				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
0545 TOMAHAWK	16.805	11.235	14.212	13.435	10.841	9.579	9.319	
RDT&E Articles Qty	Not Applicable							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Tomahawk Weapons System (TWS) provides a cruise missile attack capability against targets on land (Tomahawk Land Attack Missile (TLAM)). The TLAM can be fitted with either Conventional unitary warhead (TLAM/C), nuclear warhead (TLAM/N) or submunition dispenser (TLAM/D). 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 (TACTOM) 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, and a lower production cost as compared to the Block III missile. Block IV provides a UHF 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 (BDI) messages. Block IV also includes a high anti-jam GPS receiver, navigation improvements and associated antenna systems. The Tomahawk program (A0545) also includes development of Torpedo Tube Launch (TTL) capability for submarines and the continuing advances identified as spiral development under the Tomahawk Baseline IV Operational Requirements Document (ORD), to include development of the Joint Chiefs of Staff (JCS)-directed incorporation of Selective Availability Anti-Spoofing Module (SAASM) capability. A third waiver will be requested as the program slipped its FY09 date for SAASM incorporation in FY10.

The Tomahawk Command and Control System (TC2S) Theater Mission Planning Center (TMPC) and Afloat Planning System (APS) (a shipboard version of TMPC) provide mission planning and employment support information for both the nuclear (TMPC only) and conventional TLAM, including the distribution of mission data and command information essential to TLAM employment via the Mission Distribution System (MDS) and associated communications infrastructure. Development of Tactical Tomahawk capabilities in TMPC/APS/MDS includes software development, integration, test, and delivery, including support for TECHEVAL and OPEVAL, training development, installation planning, and simulation/model development required by COMOPTEVFOR to offset live missile flights in TECHEVAL and OPEVAL. 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 (TTWCS) 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 (TTWCS) is required to meet the DoD IT Standards Registry (DISR), to meet FORCEnet compliance and be Internet Protocol Version 6 (IPv6) ready in order to remain interoperable within the Joint Service Architecture. These efforts provide battle-group tactical flexibility and responsiveness while maximizing TWS wartime capability. TTWCS entered Engineering and Manufacturing Development (EMD) in FY 99, with Phase A IOC (BLK III) in DEC 2003, and Phase B IOC (TACTOM) in June 2004.

APPROPRIATION/BUDGET ACTIVITY

RDT&E,N / BA-7

PROGRAM ELEMENT NUMBER AND NAME

0204229N, TOMAHAWK & TMPC

PROJECT NUMBER AND NAME

0545, TOMAHAWK

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Tactical Tomahawk All-Up-Round (TACTOM AUR)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	10.466	7.864	5.785
RDT&E Articles Qty			

Complete development of the Tactical Tomahawk Torpedo-Tube Launch (TT-TL) capability. Completed TTL software and hardware qualification testing, DT/OT flight tests. Continue hardware and software trade studies for Phase 2 ORD requirements. Incorporate Selective Availability Anti-Spoofing Module (SAASM) capability into the GPS and continue to develop Precision Terrain Aided Navigation (PTAN) capability.

Completed demonstration prototype of Precision Terrain Aided Navigation (PTAN) capability to demonstrate real-time operation. Initiated PTAN advance technology risk reduction efforts to develop next generation PTAN prototypes and to integrate PTAN capability into the missile simulation labs. Completed real-time processing capability for PTAN scenes.

Continue integration and development of a precision Radar Altimeter into the All-Up-Round (AUR).

TACTOM Command and Control	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.951	2.383	2.695
RDT&E Articles Qty			

Continue development and incorporation of new capabilities in Tomahawk Command and Control systems necessary for the employment of Tactical Tomahawk. Continue development of TTWS Integration Training Architecture. Continue development of related training and installation materials. Continue imagery upgrades to Tomahawk Command and Control System. Continue Test & Evaluation support for Tomahawk Command and Control Systems.

TACTOM Weapons Control System (TTWCS)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.388	.988	5.732
RDT&E Articles Qty			

Initiate minimal Tactical Tomahawk Weapons Control System (TTWCS) viability development activities to reduce risks in the areas of overall TTWCS supportability, sustainment, and interoperability with external interfaces. Begin to address key DoD/DoN mandates such as Internet Protocol (IP)v6, FORCEnet, Open Architecture, and SAASM. Complete the development of TTWCS viability and enter the TECHEVAL/OPEVAL.

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204229N, TOMAHAWK & TMPC	PROJECT NUMBER AND NAME 0545, TOMAHAWK
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C. OTHER PROGRAM FUNDING SUMMARY:	PY	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
WPN - BLI 210100 TOMAHAWK	9,765.580	353.031	380.486	281.096	289.975	304.778	334.276	337.097	CONT	12,046.319
OPN - BLI 525300 TOMAHAWK SUPPORT EQUIPMEN	74.074	62.839	53.601	61.976	61.165	61.430	61.426	62.548	486.092	985.151
OPN SPARES - BLI 902010 INITIAL SPARES	1.698	1.376	0.871	0.176	0.068	0.033	0.030	0.028	CONT	4.280
OPN SPARES - BLI 902090 VENDOR DIRECT SPAR	0.597	0.000	1.066	0.042	0.015	0.009	0.014	0.016	CONT	1.759

D. ACQUISITION STRATEGY:

(U) 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. Torpedo Tube Launch (TTL) capability will IOC in FY 2008. TTL missiles will be procured beginning in FY 08 within the current missile production budget as required to meet Fleet load-out requirements. Other spiral development capabilities (PTAN, Multi-effects Warhead, Anti Surface Warfare (ASUW) will be introduced after successful qualification and testing. Continue SAASM integration efforts.

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)										DATE:		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0204229N, TOMAHAWK & TMPC				0545, TOMAHAWK						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
PHD - Weapons Control System	C-CPAF	LOCKHEED MARTIN, Valley Forge, PA	91.064	.900	Dec 2006						91.964	91.964
Award Fees - WCS			4.996								4.996	
PHD - Weapons Control System	RX	NAVSEASYSCOM, WNY DC	.875					1.091	Nov 2008		1.966	
PHD-Mission Plan Systems TC2S	SS/CPFF	COMGLOBAL SYSTEMS, San Jose CA	36.314			.400	Dec 2007	.403	Dec 2008	3.100	40.217	40.217
PHD-Mission Plan Systems TC2S	VARIOUS	VARIOUS	7.674								7.674	7.674
Primary Hardware Devel - AUR	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ	217.782					1.000	Nov 2008	10.651	229.433	229.433
Primary Hardware Devel - PTAN	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ	2.644								2.644	2.644
Primary Hardware Devel- SAASM	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ	5.582	1.143	Mar 2007						6.725	6.725
Primary Hardware Devel - TTL	C/CPAF	RAYTHEON COMPANY, TUCSON, AZ	11.272	.614	Dec 2006						11.886	11.886
Prim H/W Devel -TTL AWARD FEE	C/CPAF	RAYTHEON COMPANY, TUCSON, AZ	.819								.819	.819
Prim Hardware Devel -TTPC	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ	3.189								3.189	3.189
Primary Hardware Devel - ASUW	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ		.206	Apr 2007						.206	.206
Primary Hardware Devel - WCS	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ	.828								.828	.828
Ship Integr - Launch Integr	RX	NAVSEASYSCOM, WNY DC	25.422	1.765	Various	2.556	Nov 2007	2.283	Nov 2008		32.026	
Ship Integration - Award Fee	C/CPFF	NAVSEASYSCOM, WNY DC	.752								.752	.752
Systems Engineering -	RX	JOHNS HOPKINS UNIV, COLUMBIA, MD	3.735	1.096	Various					5.781	10.612	
Systems Engineering - AUR	RX	JOHNS HOPKINS UNIV, COLUMBIA, MD	26.979	.395	Jan 2007			.400	Various		27.774	
Systems Engineering - AUR	C/FP	BOEING, St. Louis, MO	3.000								3.000	3.000
Systems Engineering - PTAN	RX	JOHNS HOPKINS UNIV, COLUMBIA, MD	2.691								2.691	
Systems Engineering - SAASM	C/CPFF	VARIOUS	.334	.288	Various	.350	Various	.275	Various	.250	1.497	1.497
Systems Engineering - AUR	C/FP	RAYTHEON COMPANY, TUCSON, AZ	14.237								14.237	14.237
Systems Engineering - TTL	C/FP	RAYTHEON COMPANY, TUCSON, AZ	.496								.496	.496
Systems Engineering - TTL	SS/CPFF	JOHNS HOPKINS UNIV, COLUMBIA, MD	.837	.075	Jan 2007						.912	.912
1974 thru TBIP Costs in 1996	VARIOUS	VARIOUS	2,176.447								2,176.447	2,177.647
SUBTOTAL PRODUCT DEVELOPMENT			2,637.969	6.482		3.306		5.452		19.782	2,672.991	

Note: Award Fees and prior years total \$6.567M.

SUPPORT												
Dev Sup- Weapons Contrl Sys	WX	NUWC DET, NEWPORT RI	20.632	.230	Nov 2006	.104	Nov 2007	.977	Nov 2008		21.943	
Development Support	SS/CPFF	SAIC, SAN DIEGO, CA	9.700								9.700	9.700
Development Support	WX	NAWCWD, CHINA LAKE CA		1.078	Nov 2006						1.078	
Development Support	WX	VARIOUS		.122	Various	.092	Various	.114	Various		.328	
Development Support - AUR SAASM	C/CPFF	SAIC, SAN DIEGO, CA				.260	Nov 2007	.275	Nov 2008		.535	.535
Development Support - AUR	SS/CPFF	SAIC, SAN DIEGO, CA	1.112					.200	Various	1.440	2.752	2.752
Development Support - AUR	WX	VARIOUS		.486	Various			.403	Various	13.140	14.029	
Development Support - AUR	WX	NAWC-WD CHINA LAKE, CA	63.256								63.256	
Development Support - PTAN	VARIOUS	VARIOUS	.020								.020	
Development Support - PTAN	C/CPFF	HONEYWELL INTL INC. Minneapolis	3.924								3.924	3.924
Development Support - PTAN	WX	NAWCWD, CHINA LAKE CA	.606								.606	
Development Support - SAASM	WX	VARIOUS		.115	Various	1.999	Various	.300	Various		2.414	
Development Support - TTL	SS/CPFF	SAIC, SAN DIEGO, CA	.391	.185	Nov 2006					.090	.666	.666
Development Support - TTL	WX	NUWC DET, NEWPORT RI	10.521								10.521	
Development Support - TTL	WX	VARIOUS	4.488	1.015	Various						5.503	
Government Eng Sup - SAASM	WX	STRATEGIC SYSTEMS PROGRAMS, WASH, DC		.683	Nov 2006	2.700	Nov 2007	.667	Nov 2008		4.050	
Government Eng Sup - SAASM	WX	VARIOUS	.035	.026	Various						.061	
Soft Dev-Mission Plan SysTC2S	RX	RAYTHEON COMPANY, TUCSON, AZ	5.100								5.100	
Soft Dev-Mission Plan SysTC2S	MIPR	HQ SEC OF AF-FMB, WASHINGTON DC		.951	Various					1.243	2.194	

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME					
RDT&E,N / BA-7			0204229N, TOMAHAWK & TMPC			0545, TOMAHAWK					
Soft Dev-Mission Plan SysTC2S	RX	JOHNS HOPKINS UNIV, COLUMBIA, MD	17.846	1.150	Various					.672	19.668
Soft Dev-Mission Plan SysTC2S	MIPR	LOCKHEED, Valley Forge, PA	7.104								7.104
Soft Dev-Mission Plan SysTC2S	RX	NAVY SYST MGT ACT, ARLINGTON VA	2.889	.950	Various	1.982	Various	2.292	Various	6.223	14.336
Soft Dev-Mission Plan SysTC2S	RX	NAVY SYST MGT ACT, ARLINGTON VA	4.326								4.326
Soft Dev-Mission Plan SysTC2S	RX	SAIC, SAN DIEGO, CA	14.307								14.307
Software Dev - Wpns Contr Sys	WX	NSWC Dahlgren	30.306	.909	Nov 2006	.110	Nov 2007	2.150	Nov 2008		33.475
Software Dev - Wpns Contr Sys	C/CPFF	LOCKHEED, Valley Forge, PA	99.246	.272	Jan 2007	.217	Jan 2008	1.382	Jan 2009		101.117
Software Dev - Wpns Contr Sys	RX	VARIOUS		.973	Various	.465	Various				1.438
Software Development - SAASM	C/CPFF	TBD									.000
Software Development - PTAN	RX	JOHNS HOPKINS UNIV, COLUMBIA, MD	1.702								1.702
SUBTOTAL SUPPORT			297.511	9.145		7.929		8.760		22.808	346.153

TEST & EVALUATION												
Dev Test & Eval	SS/CPFF	RAYTHEON COMPANY, TUCSON,AZ	42.883								42.883	42.883
Dev Test & Eval	RX	JOHNS HOPKINS UNIV, COLUMBIA, MD	1.602	.128	Jan 2007					.800	2.530	
Dev Test & Eval	WX	VARIOUS	37.023	.570	Various						37.593	
Dev Test & Eval	WX	VARIOUS	.275								.275	
Dev Test & Eval	WX	NUWC DET, NEWPORT RI	.375	.306	Apr 2007						.681	
SUBTOTAL TEST & EVALUATION			82.158	1.004						.800	83.962	

MANAGEMENT												
MGT & PROF SUPPT SRVC (NON-FFRDC)	SS/CPFF	SAIC, SAN DIEGO, CA	.227	.174	Dec 2006						.401	.401
SUBTOTAL MANAGEMENT			.227	.174							.401	.401

Remarks:

Total Cost			3,017.865	16.805		11.235		14.212		43.390	3,103.507	
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EXHIBIT R4, Schedule Profile																				DATE: February 2008										
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME															
RDT&E,N / BA-7					0204229N, TOMAHAWK & TMPC										0545, TOMAHAWK															
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013					
	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	★ TTL MSC					☆ TTL IOC																								
Missile Integration					SAASM INTEGRATION										☆ SAASM IOC															
TTWCS V5				☆ TTWCS v5 IOC																										
TTWCS v6 Viability / ASR				☆ Alternative System Review (ASR)																										
P3I																														
Test & Evaluation Milestones																														
Operational Test (V5)			OT&E																											
Production Milestones Deliveries																														
LRIP III	210																													
FRP FY04 Deliveries - FRP 2	MYP 322		FRP 2 298																											
Deliveries - FRP 3					FRP 3 408																									
Deliveries - FRP 4 thru FRP 8									FRP 4 355				FRP 5 394				FRP 6 207				FRP 7 209				FRP 8 218					

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /			PROGRAM ELEMENT NUMBER AND NAME BA 7 0204229N, TOMAHAWK & TMPC			PROJECT NUMBER AND NAME 9999 CONGRESSIONAL ADD							
COST (\$ in Millions)							FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost							5.579	4.452					
RDT&E Articles Qty Not Applicable													

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

Congressional Adds: Precision Terrain-Aided Navigation (PTAN) and Tactical Tomahawk Weapons Control System (TTWCS).

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

0545C PTAN		FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		5.579	3.181	
RDT&E Articles Qty				

Initiate PTAN Advance technology risk reduction effort to develop next generation PTAN prototypes and to integrate PTAN capability into the missile simulation labs.

9999 Tomahawk Weapons Control System		FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			1.271	
RDT&E Articles Qty				

Initiate alternative studies concerning loss of C4I Interoperability (Command, Control, Communication and Computer Interoperability), SSN TTWCS capability, hardware performance, obsolescence and supportability issues.

CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		R-1 ITEM NOMENCLATURE 0204311N/INTEGRATED SURVEILLANCE SYSTEM						
COST (In Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		40.429	31.138	20.565	25.180	25.286	25.915	26.375
0766 / IUSS Detect/Classif System		37.589	27.561	20.565	25.180	25.286	25.915	26.375
9999 / CONGRESSIONAL ADDS		2.840	3.577	0.000	0.000	0.000	0.000	0.000
*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review								
A. MISSION DESCRIPTION:								
<p>This Program Element (P.E.) comprises five projects - 0766, 9A71N and 9A72N. Project 0766 provides for Integrated Undersea Surveillance Systems (IUSS) Research and Development Projects under the Maritime Surveillance Systems (MSS) Program Office (PEO LMW PMS 485). IUSS provides the Navy with its primary means of submarine detection both nuclear and diesel. The program has undergone a major transition from emphasis on maintaining a large dispersed surveillance force keyed to detection and tracking of submarines to a much smaller force that is effective against modern diesel and nuclear submarines in regional/littoral or broad ocean areas of interest. This transition preserves the ability to continue open ocean surveillance. A portion of project 0766 (FSS) is classified, with details available at a higher classification level. In 2007, Congress provided a Program Increase which supports continued expansion of the ISS Common Processor Automation (ICPA) efforts in line tracking, in-buoy processing, bandwidth management, data fusion/view management and alerting, execution and prosecution aids, and operator interfaces for tactical view manipulation and assessments. Projects 9A71N (High Channel Count Interrogator for Sensor Arrays) and 9A72N (Tunable Laser and Laser Array) are both FY07 Congressional Plus-Ups. Project 9A71N supports development of a universal fiber sensor interrogator required for deploying next generation advanced towed arrays. Project 9A72N supports development of a low cost, non-microphonic, Tunable Laser and Laser Array suitable for driving the interferometric fiber sensor interrogators required for deploying next generation advanced towed arrays. (U) JUSTIFICATION FOR BUDGET ACTIVITY: 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.</p> <p>(U) 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 is consolidating on the TB-29A Twin-line array, a variant of the Submarine TB-29A Long line array. This will reduce the number of array variants employed by SURTASS from 3 to 1, and will enable development and logistics cost savings by leveraging off the submarine TB-29A program.</p> <p>(U) Future efforts will be focused on upgrading the LFA capability to the ICP baseline, support bi-static processing utilizing the TL-29A, support activation of fixed sensors, develop smaller, lighter weight acoustic sources for augmentation of small SWATH platforms (under the Compact LFA program), and for replacement of aging LFA sources. Together these efforts support an Active Improvement Program within IUSS.</p>								

CLASSIFICATION:		UNCLASSIFIED							
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)			DATE February 2008						
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		R-1 ITEM NOMENCLATURE 0204311N/INTEGRATED SURVEILLANCE SYSTEM							
B. PROGRAM CHANGE SUMMARY:									
Funding:	FY 2007	FY 2008	FY 2009						
FY08 President's Budget	40.429	27.740	23.628						
*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review									
FY09 President's Budget	40.429	31.138	20.565						
Total Adjustments	0.000	3.398	-3.063						
Summary of Adjustments:									
MISC Program Adjustments		-0.179	-0.008						
Congressional Adds		3.577							
Reduction RE:PBD 706			-3.071						
C. OTHER PROGRAM FUNDING SUMMARY:									
Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN 2237	7.850	1.260	26.675	23.906	1.190	1.192	1.252	CONT	CONT
D. ACQUISITION STRATEGY:									
Title	FY 2006	FY 2007	FY 2008	FY 2009					
Program Milestones									
Engineering Milestones	Integrated Common Processor(ICP)	ICP	ICP	ICP					
	TL-29A Variant 9/06	CLFA Variant (7/07)	CLFA Variant(9/08)	Bi-Static Variant (9/09)					
T&E Milestones			CLFA SEA TESTS	CLFA SEA TESTS					
		CFLA/TL-29/ICP DT	CLFA/TL-29A/ICP OT&E						
LFA/TL-29A/ICP FOT&E									
Contract Milestones	CLFA			CLFA					
Production									
E. MAJOR PERFORMERS:									
PERFORMER	LOCATION	DESCRIPTION OF WORK			AWARD DATE				
BAE SYSTEMS	Nashua NH	CLFA Engineering Development Model			2006				

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION) **DATE**
February 2008

APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE**
RD TEN/BA 7 **0204311N/INTEGRATED SURVEILLANCE SYSTEM**

SPAWAR SYSTEMS CENTER	San Diego CA	Technical Direction Agent for LFA/CLFA	Annually
NAVAL FACILITY ENGINEERING SERVICES CENTER	Port Hueneme CA	Technical Direction Agent for Handling Systems	Annually
LOCKHEED MARTIN	Manassas VA	ICP Development	2006
GENERAL DYNAMICS ADVANCED INFORMATION SYS	Anaheim CA	Active ICP Development	2004

*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review

CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204311N/INTEGRATED SURVEILLANCE SYSTEM			PROJECT NUMBER AND NAME 0766/IUSS Detect/Classif System		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	37.589	27.561	20.565	25.180	25.286	25.915	26.375
RDT&E Articles Qty	0	0	0	0	0	0	0
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>A. (U) This project includes efforts for both FSS* and 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 and bi-static active capability; integrated active and passive operations; improved Battle Group support; and improved information processing.</p> <p>(U) 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 into the IUSS Integrated Common Processing architecture. The Integrated Common Processor (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.</p> <p>(U) 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 upon 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 "Tech Insertion" process, modelled 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.</p>							
B. (U) PEO LMW is involved with the development and maintenance of various IUSS systems. These systems include FDS, FDS-C, SDS, SURTASS, and ADS. The near-term goal is							

CLASSIFICATION:		UNCLASSIFIED
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204311N/INTEGRATED SURVEILLANCE SYSTEM	PROJECT NUMBER AND NAME 0766/IUSS Detect/Classif System
<p>development of ICP, which will result in a a single IUSS processor baseline, with minor maintenance efforts continuing on fielded systems. The existing system 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, and 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. In 2007, Congress provided a Program Increase which supports continued expansion of the ISS Common Processor</p> <p>*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review</p> <p>Automation (ICPA) efforts in line tracking, in-buoy processing, bandwidth management, data fusion/view management and alerting, execution and prosecution aids, and operator interfaces for tactical view manipulation and assessments.</p> <p>*A portion of project 0766 (FSS) is classified, with details available at a higher classification level.</p>		

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204311N/INTEGRATED SURVEILLANCE SYSTEM	PROJECT NUMBER AND NAME 0766/IUSS Detect/Classif System	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
N74 ASW Study	0.700	0.700	0.700
RDT&E Articles Quantity	0	0	0
*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review FY07: N74 ASW Study - Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models. FY08: N74 ASW Study - Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models. FY09: N74 ASW Study - Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models.			
	FY 2007	FY 2008	FY 2009
Compact Low Frequency Active	10.200	5.385	6.643
RDT&E Articles Quantity	0	0	0
FY 07: Complete development of Compact Low Frequency Active (CLFA) capability for SWATH-P platforms. Convert first SWATH-P platform to support CLFA system. FY 08: Install EDM and begin at-sea development testing and begin incorporation of final design changes. FY 09: Complete incorporation and at-sea test of final design changes in support of CLFA production program.			
	FY 2007	FY 2008	FY 2009
TB-29A/Twin-Line	1.000	2.000	2.000
RDT&E Articles Quantity	0	0	0
FY 07: Complete developments of Single-Line Tow Capability and fishing net mitigation approaches. FY 08: Development of connectionless array technologies and true fiber-optic arrays. Investigate Twin-line variants of new submarine Long-line arrays for future application to SURTASS. FY 09: 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.			
	FY 2007	FY 2008	FY 2009
SURTASS Active Improvement Program	1.500	1.500	0.000
RDT&E Articles Quantity	0	0	0
FY07: Continue planning for Active Improvement Program (CLFA/LFA/TL-29A/IUSS Common Processor). Continue development of Off-Board Sensor capabilities. FY08: Conduct DT for Active Improvement Program (CLFA/TL-29A/IUSS Common Processor). Continue development of Off-Board Sensor capabilities. Begin development of Bi-static processing capabilities and activation of fixed sensors. FY09: Conduct OT for CLFA/TL-29A/IUSS Common Processor. Conduct FOT&E for LFA/TL-29A/IUSS Common Processor. Continue development of Off-Board Sensor capabilities. Continue			

CLASSIFICATION:		UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)				DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204311N/INTEGRATED SURVEILLANCE SYSTEM		PROJECT NUMBER AND NAME 0766/IUSS Detect/Classif System
development of Bi-static processing capabilities and activation of fixed sensors.				
		FY 2007	FY 2008	FY 2009
Integrated Common Processor (ICP)		13.111	6.020	4.629
RDT&E Articles Quantity		0	0	0
*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review				
FY 07: Complete development of SURTASS passive processing capability. Continue development of SURTASS active processing capability. Develop new automation algorithms and techniques for addressing multi-array, high beam count requirements. In FY07, Congress provided a Program Increase which supports continued expansion of the ISS Common Processor Automation (ICPA) efforts in line tracking, in-buoy processing, bandwidth management, data fusion/view management and alerting, execution and prosecution aids, and operator interfaces for tactical view manipulation and assessments.				
FY 08: Complete development of SURTASS active processing capability. Continue development of new automation algorithms and techniques for addressing multi-array, high beam count requirements. Development of bi-static receive processing for SURTASS. Begin development of littoral LFA improvements.				
FY 09: Begin development of Active Receive processing capability for fixed sensors. Continue development of new automation algorithms and techniques for addressing multi-array, high beam count requirements. Continue development of Littoral LFA improvements. Begin tech refresh development in coordination with the Submarine Acoustic Rapid COTS Insertion (ARCI) Program Advanced Processing Build (APB) tech refresh.				
		FY 2007	FY 2008	FY 2009
Classified Effort		11.078	11.956	6.593
RDT&E Articles Quantity		0	0	0
A portion of project 0766 (FSS) is classified, with details available at a higher classification level.				

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204311N/INTEGRATED SURVEILLANCE SYSTEM					PROJECT NUMBER AND NAME 0766/IUSS Detect/Classif System					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
IUSS COMMON ARCHITECTURE	CPFF	GDAIS/LM/ARL	46.621	4.242	NOV-06	2.220	NOV-07	2.313	NOV-08	CONT	CONT	0.000
*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review												
ENVIRONMENTAL RESEARCH	WR	ONR / VARIOUS	8.500	0.000		0.000		0.000		0.000	8.500	0.000
ACTIVE IMPROVEMENT/CLFA/LFA	CPFF/AF	BAE / GDAIS / NFESC/VARIOUS	105.224	7.700	NOV-06	4.300	NOV-07	2.400	NOV-08	CONT	CONT	0.000
C4I INTEGRATION	CPFF	VARIOUS	31.768	0.000		0.000		0.000		0.000	31.768	0.000
N74 ASW STUDY	WR/PD	NUWC / APL	5.254	0.700	NOV-06	0.700	NOV-07	0.700	NOV-08	CONT	CONT	0.000
VARIOUS	WR	VARIOUS	47.169	0.000		0.000		0.000		0.000	47.169	0.000
PASSIVE SIGNAL PROCESSING/SONAR	CPFF	APL / GDAIS	2.202	0.000		0.000		0.000		0.000	2.202	0.000
ARRAY IMPROVEMENTS	CPFF/WR	APL / SSC / VARIOUS	3.554	0.500	NOV-06	1.800	NOV-07	1.800	NOV-08	CONT	CONT	0.000
TASK FORCE ASW		VARIOUS	7.000	0.000		0.000		0.000			7.000	0.000
ISS COMMON PROCESSOR AUTOMATION	CPFF/AF	LM/GDAIS/VARIOUS	0.000	8.169	APR-07	0.000		0.000		0.000	8.169	0.000
Subtotal Product Development			257.292	21.311		9.020		7.213		CONT	CONT	0.000
Remarks:												
IUSS COMMON ARCHITECTURE	WR	VARIOUS	1.500	0.200	NOV-06	0.400	NOV-07	0.600	NOV-08	CONT	CONT	0.000
ACTIVE IMPROVEMENTS/CLFA/LFA	CPFF	NGC/VARIOUS	6.120	0.600	NOV-06	0.400	NOV-07	0.200	NOV-08	CONT	CONT	0.000
C4ISR INTEGRATION	CPFF	NGC/VARIOUS	1.819	0.000		0.000		0.000		0.000	1.819	0.000
PASSIVE SIGNAL PROCESSING/SONAR	VAR / WR	VARIOUS	0.600	0.000		0.000		0.000		0.000	0.600	0.000
ARRAY IMPROVEMENTS	VAR / WR	VARIOUS	0.820	0.000		0.000		0.000		0.000	0.820	0.000
VARIOUS	VAR / WR	VARIOUS	1.216	0.000		0.000		0.000		0.000	1.216	0.000
Subtotal Support Costs			12.075	0.800		0.800		0.800		CONT	CONT	0.000
Remarks:												
IUSS COMMON ARCHITECTURE	VAR / WR	VARIOUS	2.337	0.500	NOV-06	0.500	NOV-07	0.500	NOV-08	CONT	CONT	0.000
ACTIVE IMPROVEMENTS/CLFA/LFA	VAR / WR	VARIOUS	11.719	3.000	NOV-06	4.685	NOV-07	4.859	NOV-08	CONT	CONT	0.000
PASSIVE SIGNAL PROCESSING	VAR / WR	VARIOUS	1.300	0.000		0.000		0.000		0.000	1.300	0.000
ARRAY IMPROVEMENTS	VAR / WR	VARIOUS	1.690	0.500	NOV-06	0.200	NOV-07	0.200	NOV-08	CONT	CONT	0.000
Subtotal Test and Evaluation			17.046	4.000		5.385		5.559		CONT	CONT	0.000
Remarks:												

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204311N/INTEGRATED SURVEILLANCE SYSTEM					PROJECT NUMBER AND NAME 0766/IUSS Detect/Classif System					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
ACTIVE IMPROVEMENTS/CLFA/LFA *FY 2008 does not include Congressional add of \$1.2M under technical adjustment review	VAR / WR	VARIOUS	2.817	0.400	NOV-06	0.400	NOV-07	0.400	NOV-08	CONT	CONT	0.000
PASSIVE SIGNAL PROCESSING	VAR / WR	VARIOUS	0.250	0.000		0.000		0.000		0.000	0.250	0.000
ARRAY IMPROVEMENTS	VAR / WR	VARIOUS	0.600	0.000		0.000		0.000		0.000	0.600	0.000
Subtotal Management Services			3.667	0.400		0.400		0.400		CONT	CONT	0.000
Remarks:												
Total Cost (less classified effort)			290.080	26.511		15.605		13.972		CONT	CONT	0.000

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204311N/INTEGRATED SURVEILLANCE SYSTEM	PROJECT NUMBER AND NAME 0766/IUSS Detect/Classif System	
<p>*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review</p>			

CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL						DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204311N/INTEGRATED SURVEILLANCE SYSTEM			PROJECT NUMBER AND NAME 0766/IUSS Detect/Classif System			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
TB29A TL SYSTEM INSTALLATION / TEST		1Q						
FOT & E (TB29A TL / ICP / LFA)				1Q - 2Q				
CLFA DEVELOPMENT TEST SHAKEDOWN			4Q	1Q				
*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review								
CLFA DEVELOPMENT EVALUATION				1Q - 2Q				
ICP PRODUCTION SYSTEMS		1Q - 3Q						
CLFA PRODUCTION SYSTEMS				1Q - 4Q	1Q - 4Q	1Q		
TECH INSERTION					1Q - 4Q			1Q - 4Q

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204311N/INTEGRATED SURVEILLANCE SYSTEM	PROJECT NUMBER AND NAME 9999/CONGRESSIONAL ADDS	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
9A71N/High Channel Count Interrogator For Sensor Arrays	1.445	0.000	0.000
RDT&E Articles Quantity	0	0	0
*FY 2008 does not include Congressional add of \$1.2M under technical adjustment review Funding for development of a universal fiber sensor interrogator that is required for deploying next generation advanced towed arrays in support of multiple Navy undersea surveillance programs.			
	FY 2007	FY 2008	FY 2009
9A72N/Tunable Laser and Laser Array	1.395	0.000	0.000
RDT&E Articles Quantity	0	0	0
Funding for development of a low cost, non-microphonic, Tunable Laser and Laser Array suitable for driving the interferometric fiber sensor interrogators that are required for deploying next generation advanced towed arrays.			
	FY 2007	FY 2008	FY 2009
Autonomous Anti-Submarine Vertical Beam Array	0.000	0.994	0.000
RDT&E Articles Quantity	0	0	0
Funds will be used to investigate incorporation of vertical beam arrays into existing fixed surveillance system hardware designs to provide a volumetric array capability for increased detection and system performance.			
	FY 2007	FY 2008	FY 2009
Low-Cost, Expendable, Fiber Optic Sensor Array	0.000	0.994	0.000
RDT&E Articles Quantity	0	0	0
Funding for continued development of a low cost, expendable, ultra-thin fiber-optic array with applications to littoral, high fishing density OPAREAs.			
	FY 2007	FY 2008	FY 2009
Distributed Maritime Surveillance System	0.000	1.589	0.000
RDT&E Articles Quantity	0	0	0
Funding for anchored buoy-based underwater acoustic system.			

CLASSIFICATION:		UNCLASSIFIED							
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7			R-1 ITEM NOMENCLATURE 0204413N/AMPHIBIOUS TACTICAL SUPPORT UNITS						
COST (In Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost			1.758	1.805	2.325	2.357	2.402	2.463	2.501
2231 / LCU Replacement and DMFD			1.758	1.805	2.325	2.357	2.402	2.463	2.501
A. MISSION DESCRIPTION:									
FY07 - FY09 TECHNOLOGY TRANSITION: Provides for research efforts on LCAC Future Naval Capabilities (FNC) to transfer technologies to functional uses on current LCACs: Current S&T initiatives include the ONR Expeditionary Logistics (EXLOG), LCAC Cargo Gripping Lashings System (Small Business Technology Transfer (STTR) Program), Self Contained Rudder Actuator System (STTR), Advanced structural design for LCAC ramps (Small Business Innovative Research) SBIR), Personnel Transport Module (SBIR), Enhanced Skirt Finger Material (Foreign Comparative Testing (FCT) Program, the Lube Oil Cooler (FCT), and the Composite Shroud (FCT). The Advanced Skirt System being developed in FY 06 through 09 will be incorporated in LCACs beginning in FY10.									
B. PROGRAM CHANGE SUMMARY:									
Funding:			FY 2007	FY 2008	FY 2009				
FY 2008 President's Budget			1.805	1.845	2.331				
FY 2009 President's Budget			1.758	1.805	2.325				
Total Adjustments			- 0.047	-0.040	-0.006				
Undistributed/General Reductions			-0.047	-0.040	-0.006				
C. OTHER PROGRAM FUNDING SUMMARY:									
Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN Line 0981 HM&E < 5,000 (Material)	10.637	6.255	6.413					CONT	CONT
OPN Line 0981 HM&E < 5,000 (Install)	6.812	14.413	14.012					CONT	CONT

CLASSIFICATION:		UNCLASSIFIED
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	R-1 ITEM NOMENCLATURE 0204413N/AMPHIBIOUS TACTICAL SUPPORT UNITS	
D. ACQUISITION STRATEGY:		
<p>TECHNOLOGY TRANSFER - RDT&E efforts commenced in FY06. Multiple contracts and Field Activities will be involved through FY13 to complete the various projects. The Advanced Skirt System being developed in FY 06 through 09 will be incorporated in LCACs beginning in FY10.</p>		

CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204413N/AMPHIBIOUS TACTICAL SUPPORT UNITS			PROJECT NUMBER AND NAME 2231/LCU Replacement and DMFD		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	1.758	1.805	2.325	2.357	2.402	2.463	2.501
RDT&E Articles Qty	0	0	0	0	0	0	0
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: FY07-FY09 TECHNOLOGY TRANSITION: Provides for research efforts on LCAC Future Naval Capabilities (FNC): Current S&T initiatives include the ONR Expeditionary Logistics (EXLOG), LCAC Cargo Gripping Lashings System (STTR), Self Contained Rudder Actuator System (STTR), Advanced structural design for LCAC ramps (SBIR), Personal Transport Module (SBIR), Enhanced Skirt Finger Material (FCT), the Lube Oil Cooler (FCT), and the Composite Shroud (FCT). The Advanced Skirt System being developed in FY 06 through 09 will be incorporated in LCACs beginning in FY10.							

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204413N/AMPHIBIOUS TACTICAL SUPPORT UNITS	PROJECT NUMBER AND NAME 2231/LCU Replacement and DMFD	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.758	1.805	2.325
RDT&E Articles Quantity	0	0	0
TECHNOLOGY TRANSFER - Current S&T initiatives include the ONR Expeditionary Logistics (EXLOG), LCAC Cargo Gripping Lashings System (STTR), Self Contained Rudder Actuator System (STTR), Advanced structural design for LCAC ramps (SBIR), Personnel Transport Module (SBIR), Enhanced Skirt Finger Material (FCT), the Lube Oil Cooler (FCT) and the Composite Shroud (FCT).			

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204413N/AMPHIBIOUS TACTICAL SUPPORT UNITS					PROJECT NUMBER AND NAME 2231/LCU Replacement and DMFD					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
Component Development	WR/FFP	Various	0.159	0.779	JAN-07	0.792	JAN-08	1.031	JAN-09	4.308	7.069	0.000
Systems Engineering	FFP	Various	0.877	0.140	JAN-07	0.145	JAN-08	0.191	JAN-09	0.796	2.149	0.000
Subtotal Product Development			1.036	0.919		0.937		1.222		5.104	9.218	0.000
Remarks:												
Development Support	WR	Various	0.318	0.280		0.280		0.369		1.531	2.778	0.000
Studies & Analyses	WR	ONR	0.000	0.000		0.000		0.000		0.000	0.000	0.000
			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Subtotal Support Costs			0.318	0.280		0.280		0.369		1.531	2.778	0.000
Remarks:												
Developmental T & E	WR	Various	0.099	0.080		0.098		0.115		0.477	0.869	0.000
Operational T & E	WR	Various	0.060	0.045		0.050		0.069		0.286	0.510	0.000
Test Assets	WR	Various	0.100	0.100		0.100		0.115		0.477	0.892	0.000
Subtotal Test and Evaluation			0.259	0.225		0.248		0.299		1.240	2.271	0.000
Remarks:												
Contractor Engineering Support	FFP	Various	0.219	0.183	OCT-06	0.189	JAN-08	0.251	JAN-09	1.069	1.911	0.000
Gov't Engineering Support	WR	Various	0.000	0.000		0.000		0.000			0.000	0.000
Program Management Support	CPFF	Various	0.100	0.096	OCT-06	0.096	JAN-08	0.115	JAN-09	0.483	0.890	0.000
Travel	TO's	NAVSEA	0.029	0.055		0.055		0.069		0.296	0.504	0.000
Subtotal Management Services			0.348	0.334		0.340		0.435		1.848	3.305	0.000
Remarks:												
Total Cost			1.961	1.758		1.805		2.325		9.723	17.572	0.000

CLASSIFICATION:

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EXHIBIT R-4, SCHEDULE PROFILE

DATE

February 2008

APPROPRIATION/BUDGET ACTIVITY
RDTEN/BA 7

PROGRAM ELEMENT NUMBER AND NAME
0204413N/AMPHIBIOUS TACTICAL SUPPORT UNITS

PROJECT NUMBER AND NAME
2231/LCU Replacement and DMFD

Fiscal Year	2007				2008				2009				2010				2011				2012				2013							
	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																																
LCAC S&T Initiatives	▲																															▲

CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL						DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204413N/AMPHIBIOUS TACTICAL SUPPORT UNITS			PROJECT NUMBER AND NAME 2231/LCU Replacement and DMFD			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
LCAC S & T Initiatives		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7			R-1 ITEM NOMENCLATURE 0204571N, CONSOLIDATED TRAINING SYSTEMS				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	20.296	9.620	28.017	22.149	25.357	25.809	26.315
0604 TRNG RANGE & INST DEV (TRID)	2.930	1.284	3.869	4.313	4.109	4.185	4.265
1427 SURFACE TACTICAL TEAM TRAINER (STTT)	5.298	0.393	5.875	5.875	5.980	6.041	6.144
2124 AIR WARFARE TRAINING DEVEP	1.643	1.698	1.769	1.798	1.836	1.876	1.917
3087 CURRICULUM & TRAINER DEVELOPMENT	2.861	0.000	13.475	4.749	4.266	4.364	4.465
3093 TACTICAL COMBAT TRAINING SYSTEM (TCTS).	7.564	3.462	3.029	5.414	9.166	9.343	9.524
9999 / CONGRESSIONAL ADDS	0.000	2.783	0.000	0.000	0.000	0.000	0.000

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

0604 - The Training Range and Instrumentation Development Systems (TRIDS) program provides development of range systems including a range electronic warfare simulator, advanced weapons training systems, laser training systems, Tactical Aircrew Combat Training System (TACTS), Large Area Tracking Range (LATR), and Training Enabling Architecture (TENA) interoperability, combat training system improvements, and undersea warfare range technology (previously called shallow water range technology).

1427/3087/3087C - The Surface Tactical Team Trainer (STTT) develops Battle Force Tactical Training (BFTT) system capabilities and interfaces to provide realistic combat system coordinated Team, Unit, and collective Strike Group/Force level training events using Distributed Interactive Simulation (DIS) protocols. The Total Ship Training System (TSTS) is a Pre-Planned Program Improvement (P3I) to the BFTT system that facilitates evolving combat system interfaces, implements High Level Architecture (HLA) and common modeling for future interoperability and integrates advanced technology and open design required for future combat systems. TSTS supports the future readiness elements of Sea Power 21 addressed in the Naval Transformation Roadmap dated October 2002. FY06 and FY07 Congressional Adds provided to analyze requirements, design, develop, and deliver functional Training Management System prototypes with related documentation for elements of TSTS.

2124 - The Air Warfare Training Development (AWTD) program provides technology development and risk mitigation for aviation training systems, including mission rehearsal simulation technologies and the Aviation Training Technology Integration Facility (ATTIF). The ATTIF provides for incremental development, prototype evaluation, and final fleet T&E prior to technology transition.

3093 - The Tactical Combat Training System (TCTS) will provide the Navy a replacement for the TACTS and LATR systems. TCTS will also provide fleet deployable instrumentation 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. Initial fielding of a Non-Developmental Item (NDI) Pod system at NAS Key West is complete. The program incorporates evolutionary development (incremental) towards a system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation, open architecture, and a high capacity/long range secure datalink.

EXHIBIT R-2, RDT&E Budget Item Justification				DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		0204571N, CONSOLIDATED TRAINING SYSTEMS		
B. PROGRAM CHANGE SUMMARY				
Funding:		FY 2007	FY 2008	FY 2009
Previous President's Budget:		19.085	6.987	19.971
Current BES/President's Budget:		20.296	9.620	28.017
Total Adjustments		<u>1.211</u>	<u>2.633</u>	<u>8.046</u>
Summary of Adjustments				
Congressional Undistributed Reductions		-0.382	-0.062	
Congressional Increases			2.800	0.000
Economic Assumptions				-0.040
Miscellaneous Adjustments		1.593	-0.105	8.086
Subtotal		<u>1.211</u>	<u>2.633</u>	<u>8.046</u>
Schedule:				
TRIDS CHANGES: NONE				
AWTD Changes:				
<p>The R-4 was revised to more clearly show: 1. The overall requirement of AWTD across the FYDP for Risk Mitigation, and Technology Transition(top row). 2. Transitions to major programs such as NASMP, MH-60R, and MMA (second row). 3. Major project categories to be prototyped and tested in the ATTIF (third row). 4. The two major task performance areas are specification and government software development (rows 4 and 5). 5. Test and Evaluation of the prototype technologies. Some intermediate milestones/activities from the previous Schedule R-4 have been included in the roll-up for clarity.</p>				
Transition Milestones				
FM:	TO:			
ATTIF MOD Architecture Products changed to "ATTIF Modular Product Type"				
FY07 3Q-4Q		4Q		
FY08 3Q-4Q		1Q-4Q		
NO OTHER CHANGES				

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204571N, CONSOLIDATED TRAINING SYSTEMS	
<p>Software (specifications & GOTS) Weapons Server software (F/A 18C) changed to "Weapons Server and Network Technologies" FY09 1Q-2Q FY09 2Q FY10 BLANK FY10 1Q-4Q*** FY11 BLANK FY11 1Q-4Q*** FY12 BLANK FY12 1Q-4Q***</p> <p>Int to ATTIF (NGTS GUI), Int to ATTIF (C-DMTS) (4) & Int Trng Supp Tools, (ITST) MARITIME replaced with Instructor/Human Systems Integration and Intelligent Workload Reduction Tools (I2WRT) NO CHANGES</p> <p>Test and Evaluation (Prototypes) replaced with Test and Evaluation (Prototypes, GOTS) - WEAPS server (TACAIR & MARITIME) – changed to "TACAIR/MARITIME Net Ready Technologies" FY09 BLANK FY09 1Q-4Q FY10 BLANK FY10 1Q-4Q*** FY11 BLANK FY11 1Q-4Q*** FY12 BLANK FY12 1Q-4Q***</p> <p>CDMTS Spec/Demo changed to CDMTS & AARS Specifications/ Demos – OTHER CHANGES</p> <p>ITST/AAR toolset DEMO was deleted</p> <p>Sensor Stimulation (3)/ Sensor Fusion – more accurate description FY13 BLANK FY13 1Q-4Q***</p>		

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204571N, CONSOLIDATED TRAINING SYSTEMS	
Acquisition Phase		
Rack-Mount Subsystem Dev FY07 1Q-3Q	Rack-Mount Subsystem Dev FY07 1Q-4Q	Schedule updated to reflect Aircraft Integration delays
Ground Subsystem Dev FY06 3Q - FY07 2Q	Ground Subsystem Dev FY06 3Q - FY07 4Q	Schedule updated to reflect Cross Domain Solution delays
Advanced Datalink Dev FY06 1Q - FY10 3Q	Schedule updated to include Advanced datalink Development Test & Evaluation Milestones	
Fixed Range DTD2-6, DTD 2-7 FY08 1Q	Fixed Range DTD1-5 2-6/7 FY08 1Q	Updated to include DTD1-5
Production Milestones		

EXHIBIT R-2a, RDT&E Project Justification							DATE:																																																							
							February 2008																																																							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME																																																								
RDT&E,N / BA-7			0204571N, CONSOLIDATED TRAINING SYSTEMS			0604, TRNG RANGE & INST DEV (TRID)																																																								
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012																																																						
0604 TRNG RANGE & INST DEV (TRID)			2.930	1.284	3.869	4.313	4.109	4.185																																																						
RDT&E Articles Qty																																																														
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project develops specialized instrumentation systems for fleet readiness training while minimizing life cycle costs. Tasks include development of the following: electronic warfare simulators and associated subsystems, target control systems, Tactical Aircrew Combat Training System (TACTS), Large Area Tracking Range (LATR) improvements, Test and Training Enabling Architecture (TENA) interoperability, combat training systems improvements, underwater technology, ranges interoperability and information architecture, and assorted Advanced Weapons Training Systems (AWTS), such as Imaging Weapons Training Systems (IWTS), Remote Strafe Scoring System (RSSS), and weapon and countermeasure simulations for use with various range training systems.</p> <p>B. ACCOMPLISHMENTS / PLANNED PROGRAM:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: left;">Designed, Integrated and tested modules</td> <td style="text-align: center;">FY 2007</td> <td style="text-align: center;">FY 2008</td> <td style="text-align: center;">FY 2009</td> </tr> <tr> <td>Accomplishments / Effort / Sub-total Cost</td> <td style="text-align: center;">1.568</td> <td style="text-align: center;">.835</td> <td style="text-align: center;">2.976</td> </tr> <tr> <td>RDT&E Articles Qty</td> <td></td> <td></td> <td></td> </tr> </table> <p>LATR: Designed, integrated and tested modules to eliminate obsolete components in the LATR Pod. Completed design, integration and test of LATR software 5.0 baseline upgrade. Complete design, integration, and test of 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 Rehost. Conduct and complete security testing and assessment for LATR system certification and accreditation for Ground System Rehost. Complete development, test and integration of software and hardware modifications to system test sets. Develop interface software using Test and Training Enabling Architecture (TENA) to increase Tactical Training Range systems interoperability with other services training instrumentation. Continue development of LATR rotary wing re-size and LATR Datalink emulator.</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: left;">Developed additional Training capabilities</td> <td style="text-align: center;">FY 2007</td> <td style="text-align: center;">FY 2008</td> <td style="text-align: center;">FY 2009</td> </tr> <tr> <td>Accomplishments / Effort / Sub-total Cost</td> <td style="text-align: center;">1.362</td> <td style="text-align: center;">.449</td> <td style="text-align: center;">.893</td> </tr> <tr> <td>RDT&E Articles Qty</td> <td></td> <td></td> <td></td> </tr> </table> <p>TACTS: Developed additional training capabilities for the personal computer based Joint Display Subsystem (JDS) and the Electronic Warfare Processor (EW PROC). Enhance capability for Advanced Systems Operator console (ASOC), enhanced Radar Display Subsystem (RADS), and ancillary systems interfaces. Continued development and deployment of LINK 16 interface for TTR applications. Complete Semi-annual CCS Block upgrades.</p> <p>C. OTHER PROGRAM FUNDING SUMMARY:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">FY 2007</td> <td style="text-align: center;">FY 2008</td> <td style="text-align: center;">FY 2009</td> <td style="text-align: center;">FY 2010</td> <td style="text-align: center;">FY 2011</td> <td style="text-align: center;">FY 2012</td> <td style="text-align: center;">FY 2013</td> <td style="text-align: center;">To Complete</td> <td style="text-align: center;">Total Cost</td> </tr> <tr> <td>Related OPN (LATR)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Weapons Range Support Equipment LI 420400</td> <td style="text-align: center;">0.237</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">0.237</td> </tr> </table> <p>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.</p>									Designed, Integrated and tested modules	FY 2007	FY 2008	FY 2009	Accomplishments / Effort / Sub-total Cost	1.568	.835	2.976	RDT&E Articles Qty				Developed additional Training capabilities	FY 2007	FY 2008	FY 2009	Accomplishments / Effort / Sub-total Cost	1.362	.449	.893	RDT&E Articles Qty					FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost	Related OPN (LATR)										Weapons Range Support Equipment LI 420400	0.237								0.237
Designed, Integrated and tested modules	FY 2007	FY 2008	FY 2009																																																											
Accomplishments / Effort / Sub-total Cost	1.568	.835	2.976																																																											
RDT&E Articles Qty																																																														
Developed additional Training capabilities	FY 2007	FY 2008	FY 2009																																																											
Accomplishments / Effort / Sub-total Cost	1.362	.449	.893																																																											
RDT&E Articles Qty																																																														
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost																																																					
Related OPN (LATR)																																																														
Weapons Range Support Equipment LI 420400	0.237								0.237																																																					

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0204571N, CONSOLIDATED TRAINING SYSTEMS				0604, TRNG RANGE & INST DEV (TRID)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Sys Eng/Software/Hardware Develop.	VARIOUS	VARIOUS	86.226	1.362	VARIOUS	.459	VARIOUS	.893	VARIOUS		88.940	
Systems Eng	VARIOUS	NAWCAD, PATUXENT RIVER MD	1.334	.676	VARIOUS	.203	VARIOUS	1.152	VARIOUS		3.365	
Systems Eng	VARIOUS	VARIOUS	.400	.692	VARIOUS	.175	VARIOUS	.265	VARIOUS		1.532	
Systems Eng	SS FFP	TYBRIN Corp, Ridgecrest, CA				.275	TBD	1.345	TBD		1.620	1.620
SUBTOTAL PRODUCT DEVELOPMENT			87.960	2.730		1.112		3.655			95.457	
Remarks:												
SUPPORT												
Develop Support Equip		TBD										
Software Development	VARIOUS	VARIOUS	10.451								10.451	
Software Development	VARIOUS	NAWCWD, PT MUGU CA	.100	.025	VARIOUS			.007	VARIOUS		.132	
SUBTOTAL SUPPORT			10.551	.025	VARIOUS			.007	VARIOUS		10.583	
Remarks:												
TEST & EVALUATION												
TEST & EVALUATION	VARIOUS		5.299								5.299	
SUBTOTAL TEST & EVALUATION			5.299								5.299	
Remarks:												
MANAGEMENT												
Management	VARIOUS	TBD	2.166	.175	VARIOUS	.172	VARIOUS	.207	VARIOUS	16.872	19.592	
SUBTOTAL MANAGEMENT			2.166	.175		.172		.207		16.872	19.592	
Remarks:												
Total Cost			105.976	2.930		1.284		3.869		16.872	130.931	
Remarks:												

EXHIBIT R4, Schedule Profile																			DATE: February 2008									
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME														
RDT&E,N / BA-7					0204571N, CONSOLIDATED TRAINING SYSTEMS									0604, TRNG RANGE & INST DEV (TRID)														
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	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
TACTS Acquisition Milestones EW Processor																												
PDR																												
CDR																												
DEV																												
T&E																												
IOC																												
FOC																												
RADS Upgrades																												
PDR																												
CDR																												
DEV																												
T&E																												
Semi-Annual Blk Upgrades																												
Link 16 TACTS Dev																												
PDR																												
CDR																												
DEV																												
T&E																												
IOC																												
ASOC Upgrades																												
PDR																												
CDR																												
DEV																												
T&E																												
Semi-Annual Blk Upgrades																												
JDS Upgrades																												
PDR																												
CDR																												
DEV																												
T&E																												
Semi-Annual Blk Upgrades																												

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Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7				PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
TACTS							
EW Processor							
PDR	4Q						
CDR		1Q					
DEV	1Q-3Q	2Q-3Q					
T&E	3Q	3Q					
IOC	4Q						
FOC		4Q					
RADS Upgrades							
PDR	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q				
CDR	2Q, 4Q	2Q, 4Q	2Q, 4Q				
DEV	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q			
T&E	1Q, 3Q	1Q, 3Q	1Q, 3Q	1Q			
Semi-Annual Blk Upgrades	1Q-4Q	1Q-4Q	1Q-4Q	1Q			
Link 16 TACTS Dev							
PDR							
CDR	1Q						
DEV	1Q-4Q	1Q-4Q					
T&E		4Q	1Q				
IOC			1Q				
ASOC Upgrades							
PDR	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q				
CDR	2Q, 4Q	2Q, 4Q	2Q, 4Q				
DEV	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q			
T&E	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q			
Semi-Annual Blk Upgrades	1Q-4Q	1Q-4Q	1Q-4Q	1Q			
JDS Upgrades							
PDR	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q					
CDR	2Q, 4Q	2Q, 4Q					
DEV	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q				
T&E	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q				
Semi-Annual Blk Upgrades	1Q-4Q	1Q-4Q	1Q				

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Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7				PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
LATR							
LATR GPS UPGRADE							
LATR ADIU UPGRADE							
LATR LRWS REHOST	1Q-2Q						
LATR RECERTIFICATION	1Q-4Q	1Q-2Q					
LATR RW RESIZE	1Q-4Q						
LATR R-3 EMULATOR	1Q-4Q						
BLOCK 5.1 UPGRADE							
BLOCK 6.0	1Q-4Q						
BLOCK 6.3			1Q-4Q				
LATR/TCTS TECH XFER	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		

CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME 1427/Surface Tactical Team Trainer (STTT)		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	5.298	0.393	5.875	5.875	5.980	6.041	6.144
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Battle Force Tactical Training (BFTT) Program provides realistic joint warfare training across the spectrum of armed conflict; realistic unit level team training in all warfare areas; a means to link ships together which are in different homeports for coordinated training; external stimulation of shipboard training systems; and simulation of non-shipboard forces. BFTT uses a distributed architecture, integrating existing training systems, and uses Distributed Interactive Simulation (DIS) 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 Organizations, the Tactical Training Groups and C2F/C3F Fleet Synthetic Training Exercises (FSTs). BFTT provides a baseline capability/system that meets the Operational Requirements Document (ORD).

CLASSIFICATION:		UNCLASSIFIED								
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION								DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPM				PROJECT NUMBER AND NAME 1427/Surface Tactical Team Trainer (STTT)				
B. ACCOMPLISHMENTS/PLANNED PROGRAM:										
		FY 2007		FY 2008		FY 2009				
Accomplishments/Effort/Subtotal Cost		5.298		0.393		5.875				
RDT&E Articles Quantity		0		0		0				
<p>K1427:</p> <p>Funds develop critical Battle Force Tactical Training (BFTT) System improvements and interface upgrades required to preserve training capability in response to evolving combat system capabilities (e.g. AEGIS Modernization) and to Fleet prioritized Training Systems capabilities in multiple mission areas including Anti-Submarine Warfare, Electronic Warfare, Air Warfare, Strike Warfare, Ballistic Missile Defense, Anti-Surface Warfare, and Amphibious Warfare.</p> <p>Efforts include architecture migration, model database improvement, scenario development, system/software engineering, program management, security/safety assessment, software design, software development, and system integration, test and evaluation, logistics support and life cycle sustainment planning.</p> <p>FY07 Accomplishments include: Software design, Government Acceptance Test (GAT) and certification of BFTT Build 3.3.1A for AEGIS 7ph1 & 7.1.2; Software design, Government Acceptance Test (GAT) and certification of BFTT Build 3.3.2 Phase I for CG Mod.</p> <p>FY08 Planned Accomplishments include: Initialize GAT for BFTT Build 3.3.2 Phase II.</p> <p>FY09 Planned Accomplishments include: Completion of GAT for BFTT Build 3.3.2; and scope and define BFTT T46D Build.</p>										
C. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. and Name		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN 276200 (Surface (N86) BFTT/TSTS portion only)		14.567	12.931	21.115	25.503	20.793	20.852	20.654		136.415
D. ACQUISITION STRATEGY:										
The BFTT acquisition strategy for system development utilizes the spiral development model, as mandated by OSD. Incremental acquisition and fielding, utilizing commercial off-the-shelf technology to the extent possible, is in accordance with the BFTT ACAT IVM Milestone III approved documentation.										

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE			
									February 2008			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDTEN/BA 7		0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT					1427/Surface Tactical Team Trainer (STTT)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
Hardware Development		NAVSEA 02/CDSA	1.599	0.916	JUN-07	0.000		2.235	DEC-08		4.750	0.000
Systems Engineering	WR/REQN	CDSA/NSWC PHD/NUWC Newport/NSWC Dahlgren/NAVSEA 02	1.413	1.269	MAR-07	0.000		1.273	DEC-08	0.000	3.955	0.000
Subtotal Product Development			3.012	2.185		0.000		3.508		0.000	8.705	0.000
Remarks:												
Software Development	WR/REQN	CDSA/NAWC TSD/NAVSSSES/NAVSEA 02	1.200	1.854	MAR-07	0.217	NOV-07	1.171	DEC-08	0.000	4.442	0.000
Subtotal Support Costs			1.200	1.854		0.217		1.171		0.000	4.442	0.000
Remarks:												
Developmental Test & Evaluation	WR/REQN	NSWC PHD/CDSA/NAWC TSD/NAVSSSES/NAVSEA 02	0.400	0.350	DEC-06	0.176	OCT-07	0.424	DEC-08	0.000	1.350	0.000
Subtotal Test and Evaluation			0.400	0.350		0.176		0.424		0.000	1.350	0.000
Remarks:												
Government Engineering Support	WR/REQN	CDSA/NAVSSSES	1.070	0.909	JUN-07	0.000		0.772	DEC-08	0.000	2.751	0.000
Subtotal Management Services			1.070	0.909		0.000		0.772		0.000	2.751	0.000
Remarks:												
Total Cost			5.682	5.298		0.393		5.875		0.000	17.248	0.000

EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS	PROJECT NUMBER AND NAME 2124, AIR WARFARE TRAINING DEVEP							
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2124 AIR WARFARE TRAINING DEVEP			1.643	1.698	1.769	1.798	1.836	1.876	1.917
RDT&E Articles Qty									

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 and Marine Corps Aviation Simulation Master Plans (\$479M), the MH-60R/S master plan, the Multi-Mission Maritime Aircraft (MVA) program, and will support the development and design of future naval aviation training/mission rehearsal systems. Tasks include: 1) Advanced training systems specification development to provide for modular, High Level Architecture (HLA) compliant, high fidelity Distributed Mission Training (DMT) and mission rehearsal capabilities, ashore and afloat. Mission rehearsal is defined as the practice of planned tasks and functions critical to mission success using a true-to-life, interactive representation of the expected operating environment. Technologies to be developed and integrated include: 1) DMT weapons server, weather server, common mission training stations, high-resolution helmet mounted, and/or flat panel displays, photographic quality image generation, portable source initiative (PSI) database reuse, advanced environmental effects modeling, fused radar/infra-red/electro-optic and acoustic sensor simulations, physics-based IR stimulations; and 2) the Aviation Training Technology Integration Facility (ATTIF), which is a man-in-the-loop test bed for the integration of software, hardware, and networked systems. New technologies will include intelligent computer generated forces (CGFs) as virtual and constructive entities for threat or friendly interaction. Additionally, "man-in-the-loop" intelligent agents will be integrated to the ATTIF, including an HLA node for participation and benchmarking fleet exercises in the synthetic battle space. This ATTIF capability provides a window to fleet aviators for critical comment, evaluation, and fine tuning of new and innovative technologies before final transition to the Fleet. Debrief/AAR and intelligent training support tools are focused on human performance enhancements for Fleet readiness and distributed mission training exercises.

Metrics - These technology transitions will both lower total ownership costs (TOC) of the training systems, and life-cycle costs, including: visual system database 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/MCSMP readiness improvements are conservatively forecast at 14-28% following associated technology upgrades to stand alone, or networked simulators. Individual technology transition investments have exceeded 300+% Return on Investment (ROI).

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Provided upgrades	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.707	.744	.812
RDT&E Articles Qty			

HUMAN SYSTEMS INTEGRATION: Provide for upgraded and modular Mission Training Station (MTS) designs to lower NASMP/platform simulator life-cycle costs, improve instructor effectiveness and provide for multi-SAF exercise utilization. Analyze, develop, and integrate ATTIF modular architecture components for FA-18 cockpit avionics, MH-60R avionics, intelligent instructor operator agents, small footprint E-2C, TACAIR/MVA common GUI initiatives, threat system (NGTS) compatibility, MCSMP TEN compatibility, and JSAF compatibility, performance measurement, and after-action review (AAF) / debrief, thereby maximizing ROI for mission training station-related technology investments for multi-platform services.

Integrated IR (NVG and FLIR)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.321	.294	.250
RDT&E Articles Qty			

SENSORS: Integrate IR (NVG & Forward Looking Infra-Red (FLIR) sensor simulation) with Sensor Host Government, Off the Shelf Software (GOTS). Perform risk reduction, integration and production of Sensor host for Navy DMT and legacy devices. Demonstrate GOTS capability for cost-effective database materialization, and develop PSI/RSD specifications for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs. Develop texture storage, PSI material reference processes/standards, and automated applications for R/T publishing, R/T shadows, R/T combat effects, and very high-resolution visuals.

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS	PROJECT NUMBER AND NAME 2124, AIR WARFARE TRAINING DEVEP
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Integrated ATTIF	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.554	.331	.407
RDT&E Articles Qty			

SYSTEMS ENGINEERING AND INTEGRATION: Integrate ATTIF modular architecture components for Navy DMT, deployable E-2C/D crew stations, intelligent sythetic forces, and tactical scenario control. Demonstrate low-cost DMT configurations, while maintaining or increasing fidelity. Demonstrate low cost training and mission rehearsal configurations, and evaluate variable fidelity cockpits. Demonstrate instructor support technology including advanced scenario generation, multi-SAF control, automated measures of performance (MOP), and debrief/AAR products for NASMP. Analyze GOTS/COTS alternatives for network centric warfare connectivity in the simulated battlespace, while reducing training system life cycle costs.

Provided risk mitigation	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.061	.329	.300
RDT&E Articles Qty			

VISUALS: AWTd visual engineering provides for risk mitigation and next generation visual system prototype test & evaluation for both stand-alone and small footprint/deployable devices. Supporting the NASMP and T/M/S platform programs, advanced visual system display configuration are assessed, and developed to include: next generation helmet mounted displays (HMDs), laser visual systems, and associated database technologies.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN Line 19-BA-7 BLI 0705									
USMC Federation Simulators	26.735	75.329	41.129	32.993	31.723	32.389	33.069		273.367
APN Line 15-BA-7 BLI 0705									
Fleet Aircrew Simulator Training (FAST)	50.210	51.375	51.922	54.972	47.039	42.754	43.862		342.134

Related RDT&E
PE 0604245N, Project #H2279, Sub-Project Title: USMC H-1 Upgrades

D. ACQUISITION STRATEGY: Air Warfare Training Development (AWTD) is a 6.4 RDT&E joint technology transition program tied to the Naval Aviation Simulation Master Plan (NASMP) and the various platform simulation master plans with the purpose of transitioning advanced training and mission rehearsal technologies. AWTD provides risk mitigation, test & evaluation, and prototype development for stand-alone, distributed, and deployed training systems for the warfighter utilizing an IPT approach and a combination of reimbursable and direct cite T&M contracts.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0204571N, CONSOLIDATED TRAINING SYSTEMS				2124, AIR WARFARE TRAINING DEVEP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Sys Engr (AFRL, Advance Sensor Dev)	VARIOUS	VARIOUS	8.440	.321	VARIOUS	.300	VARIOUS	.250	VARIOUS		9.311	
Sys Engr (NAWCTSD, ITST)	VARIOUS	VARIOUS	2.094	.707	VARIOUS	.722	VARIOUS	.806	VARIOUS	7.457	11.786	
Sys Engr (NAWCTSD, Visuals)	VARIOUS	VARIOUS		.060	VARIOUS	.100	VARIOUS	.150	VARIOUS		.310	
Sys Engr (NAWCTSD, Visuals)	VARIOUS	TBD	.396			.238	VARIOUS	.154	VARIOUS		.788	
SUBTOTAL PRODUCT DEVELOPMENT			10.930	1.089		1.360		1.360		7.457	22.196	
Remarks: Dollars may not add due to rounding.												
SUPPORT												
Develop Support Equipment	VARIOUS	TBD	.410	.212	VARIOUS	.165	VARIOUS	.167	VARIOUS		.954	
Develop Support Equipment	VARIOUS	TBD	.742								.742	
SUBTOTAL SUPPORT			1.152	.212		.165		.167			1.696	
Remarks:												
TEST & EVALUATION												
Developmental Test and Evaluation	VARIOUS	VARIOUS	.565	.320	VARIOUS	.150	VARIOUS	.220	VARIOUS		1.255	
Developmental Test and Evaluation	VARIOUS	TBD	4.508								4.508	
SUBTOTAL TEST & EVALUATION			5.073	.320		.150		.220			5.763	
Remarks:												
MANAGEMENT												
Travel	VARIOUS	VARIOUS	.024	.022	VARIOUS	.023	VARIOUS	.022	VARIOUS		.091	
Travel	VARIOUS	TBD	.374								.374	
SUBTOTAL MANAGEMENT			.398	.022		.023		.022			.465	
Remarks:												
Total Cost			17.553	1.643		1.698		1.769		7.457	30.120	
Remarks:												

EXHIBIT R4, Schedule Profile																	DATE: February 2008											
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																
RDT&E,N / BA-7				0204571N, CONSOLIDATED TRAINING SYSTEMS								2124, AIR WARFARE TRAINING DEVEP																
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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
<p>AWTD Support of NAVAL Aviation Sim. Master Plan (NASMP)</p> <p style="text-align: center;">RISK MITIGATION and TECHNOLOGY TRANSITION TO NASMP, PLATFORM, DISTRIBUTED, and DEPLOYED SYSTEMS</p>																												
<p>Acquisition 6.4 RDT&E Milestones</p> <p style="text-align: center;">TRANS. TO NASMP TRANS. TO NASMP E-2D TRANS. TO MMA TRANS. TO NASMP TRANS. TO NCTE TRANS. TO NASMP TRANS. TO FFC - JNTC</p>																												
<p>ATTIF Modular Product type ATTIF Integr., testing, prototyping</p> <p style="text-align: center;">AARS - Visuals CDMTS - AARS - Sensors Auto-PM - Visuals - Sensors Visuals/Models DMRT NET SIMS NET SIMS</p>																												
<p>Software (specifications & GOTS) Weapons Server and Network Technologies Instructor/Human Systems Integration and intell. workload reduction (I2WRT) support tools</p> <p style="text-align: center;">MH-60R/S E-2C/D & MMA NASMP common LVC Net Ready</p>																												
<p>Test & Evaluation Milestones TACAIR / MARITIME Net Ready Technologies</p> <p style="text-align: center;">NASMP/4-ship MARITIME Final TACAIR/Maritime LVC T&E</p>																												
<p>CDMTS & AARS Spec/Demos</p> <p style="text-align: center;">MH-60R MH-60R/S CDMTS final AARS NASMP AARS NASMP - DMRTs AARS NCTE - Joint / JNTC INTEG to JLVC</p>																												
<p>Sensor stimulation (3) / Sensor Fusion</p> <p style="text-align: center;">MH-60S LITENING Pod F/A-18D JHMCS w/NVD HMCS - Cobra NXT gen HMDS F-35 HMDS FST-J 3rd Fleet INTEG</p>																												
<p>AARS w/ automated Performance Meas. (PM)</p> <p style="text-align: center;">AARS Demo PM - Maritime PM-MMA</p>																												
<p>VISUALS/Helmet-mounted Systems Common Sensor Models/Environments Super resolution IGs w/sensor capability</p> <p style="text-align: center;">EO Data Prep Spec. CSM FLIR NXT gen Environ Upgrade</p>																												
<p>Deployed SIMS (DMT/Sensor capable)</p> <p style="text-align: center;">DMRT Specs TRANSITION MARITIME</p>																												
<p>Production Milestones N/A See above transitions to NASMP/Platforms</p> <p style="text-align: center;">PM - JNTC - N. Air GOTS upg. LV Enhanced TACAIR</p>																												

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Exhibit R-4a, Schedule Detail					DATE: FEBRUARY 2008		
APPROPRIATION/BUDGET ACTIVITY RDT& BA-7				PROJECT NUMBER AND NAME 2124/Air Warfare Training Development			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AWTD Support of Naval Aviation Sim. Master Plan (NASMP)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Acquisition 6.4 RDT&E Milestones	4Q	1Q, 4Q	1Q, 4Q	1Q, 4Q	1Q, 4Q	1Q, 4Q	1Q, 4Q
ATTIF Modular Product Type							
ATTIF Integ. Testing, Prototyping	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Software (specifications & GOTS)							
Weapons Server and Network Technologies	1Q-4Q	1Q-4Q	1Q-2Q, 3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Instructor/Human Systems Integration and intell. workloac reduction (I2WRT) support tools	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Test & Evaluation Milestones							
TACAIR/MARITIME Net Ready Technologies	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
CDMTS & AARS Spec/Demos	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Sensor stimulation (3) / Sensor Fusion	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
AARS w/ automated Performance Meas. (PM)	4Q	4Q	4Q			4Q	3Q-4Q
VISUALS/Helmet-mounted Systems							
Common Sensor Models/Environments							
Super resolution IGs w/sensor capability	3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		4Q	
Deployed SIMS (DMT/Sensor capable)							
Production Milestones					1Q, 4Q		4Q
N/A see above							

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME 3087C/Curriculum & Trainer Development		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	2.861	0.000	13.475	4.749	4.266	4.364	4.465
RDT&E Articles Qty	0	0	0	0	0	0	0
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>Total Ship Training System (TSTS) 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 inport CONUS to in-theater mission rehearsal. TSTS Spiral 1 is the cornerstone of shipboard embedded training and critical to accomplishing Training Transformation Governance Board (T2GB) strategy and objectives for warfighting performance improvements in the areas of Anti-Submarine Warfare (ASW), Ballistic Missile Defense (BMD), and Surface Warfare and Information Warfare improvements. The TSTS Combat System Trainer (CST) enhancement to BFTT 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. TSTS will improve upon the current BFTT DIS 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 TSTS is required to ensure continued, persistent Fleet Synthetic Training (FST) interoperability. TSTS 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 interoperable with NCTE through On-Demand, Just In Time (JIT), scenario-driven, Objective Based Training (OBT), and mission rehearsal capabilities initially available in port, and ultimately underway and in-theater.</p>							

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPM	PROJECT NUMBER AND NAME 3087C/Curriculum & Trainer Development	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.861	0.000	13.475
RDT&E Articles Quantity	0	0	0
<p>K3087C:</p> <p>Funds develop of the Total Ship Training System (TSTS) Baselines 1.0, 1.1 and 2.0 as well as the completely redesigned, re-architected, and enhanced Combat System Trainer (CST) enhancement to BFTT. TSTS training elements include Navigation Seamanship & Shiphandling, Engineering, Damage Control Training & Management, Naval Gunfire Support, Augmented Reality Fire Fighting, Anti-Submarine Warfare, Command and Control, Air Warfare, Strike Warfare, Ballistic Missile Defense, Anti-Surface Warfare, Amphibious Warfare and the Scalable Shore Based Trainer (SSBT) LCS component. TSTS 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 TSTS hardware and software subsystems, including the LCS Simulators, will be designed and documented in a design specification. Reductions in FY07 and FY08 considerably delayed the development of TSTS Baseline 1.0. Current funds will focus primarily upon the initial planning and requirements definition documentation of the first combat system spiral (TSTS Baseline 1.0). FY09 and out funds will focus on development of TSTS Baseline 1.0 and the initial planning/requirements definition of the second and third spirals (Baseline 1.1 and 2.0). FY07 Congressional Add was provided to analyze requirements, design, develop, and deliver functional Training Management System (TMS) prototypes with related documentation for elements of TSTS.</p> <p>FY07 Accomplishments include: Analyze requirements, design, develop, and deliver functional Training Management System (TMS) prototypes with related documentation for elements of TSTS; and develop, integrate, test, and deliver the TSTS/BFTT/Battle Force Electronic Warfare Trainer (BEWT) interface update required to support the Surface Electronic Warfare Improvement Program (SEWIP) spiral development plan.</p> <p>FY08 Planned Accomplishments include: N/A</p> <p>FY09 Planned Accomplishments include: Restarts development of TSTS Baseline 1.0 (Spiral 1) identified by the Total Ship Training Capability (TSTC) Initial Capabilities Document (ICD). The TSTC ICD defines TSTS as the Combat Systems Training program targeted to meet COMNAVSURFOR's requirements for synthetic combat systems crew training for AEGIS Modernization, CVN-72 CAPSTONE, CVN-78, and all subsequent ships after FY12. TSTS 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 inport CONUS to in-theater mission rehearsal. TSTS Spiral 1 is the cornerstone of shipboard embedded training and critical to accomplishing Training Transformation Governance Board (T2GB) strategy and objectives for warfighting performance improvements in the areas of Anti-Submarine Warfare (ASW), Ballistic Missile Defense (BMD), and Surface Warfare and Information Warfare improvements within the Open Architecture (OA) and COTS modernization standards for shipboard systems in FY12. Efforts will include EDM/prototype development of the completely redesigned, re-architected, and enhanced Combat System Trainer (CST) with the following characteristics: decoupled models and entity database; Fleet Synthetic Training (FST) High Level Architecture (HLA) compatibility; FST filtering improved training</p>			

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)	DATE February 2008
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APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPM	PROJECT NUMBER AND NAME 3087C/Curriculum & Trainer Development
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system usability; readiness based assessment objective based planning, high band width encryption. CST must be fielded by FY12 to address the BFTT technology obsolescence window and preserve training capability in support of AEGIS Modernization.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN 276200 (Surface (N86) BFTT/TSTS portion only)	14.567	12.931	21.115	25.503	20.793	20.852	20.654		136.415

D. ACQUISITION STRATEGY:

The TSTS 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.

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE		
										February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDTE/BA 7		0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT					3087C/Curriculum & Trainer Development					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
Hardware Development		NAVSEA 02	8.940	2.861	JUN-07	0.000		3.130	DEC-08	0.000	14.931	0.000
Ship Integration			1.725	0.000		0.000		0.000		0.000	1.725	0.000
Systems Engineering	WR/REQN	NSWC PHD/CDSA/NUWC Newport/NSWC Dahlgren/NAVSSSES/NAVSEA 02	1.292	0.000		0.000		1.239	DEC-08	0.000	2.531	0.000
Subtotal Product Development			11.957	2.861		0.000		4.369		0.000	19.187	0.000
Remarks:												
Software Development			4.435	0.000	JUN-07	0.000		4.802	DEC-08	0.000	9.237	0.000
Technical Documentation			1.100	0.000		0.000		1.500	DEC-08	0.000	2.600	0.000
Subtotal Support Costs			5.535	0.000		0.000		6.302		0.000	11.837	0.000
Remarks:												
Developmental Test & Evaluation	WR/REQN	NSWC PHD/NAWC TSD/CDSA/NAVSSSES/NAVSEA 02	2.800	0.000		0.000		1.990	DEC-08	0.000	4.790	0.000
Subtotal Test and Evaluation			2.800	0.000		0.000		1.990		0.000	4.790	0.000
Remarks:												
Government Engineering Services	WR/REQN	CDSA/NAVSSSES	0.165	0.000		0.000		0.814	DEC-08	0.000	0.979	0.000
Subtotal Management Services			0.165	0.000		0.000		0.814		0.000	0.979	0.000
Remarks:												
Total Cost			20.457	2.861		0.000		13.475		0.000	36.793	0.000

EXHIBIT R-2a, RDT&E Project Justification							DATE:																																																															
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7							PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS		PROJECT NUMBER AND NAME 3093, TACTICAL COMBAT TRAINING SYSTEM (TCTS).																																																													
COST (\$ in Millions)							FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013																																																									
3093 TACTICAL COMBAT TRAINING SYSTEM (TCTS).							7.564	3.462	3.029	5.414	9.166	9.343	9.524																																																									
RDT&E Articles Qty							6																																																															
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Tactical Combat Training System (TCTS) will provide the navy a replacement for major portions of the Tactical Aircrew Combat Training System (TACTS) and Large Area Tracking Range (LATR). 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. Initial fielding of a Non-Developmental Item (NDI) Pod system was at NAS Key West. The program incorporates an evolutionary development (incremental) towards a system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation, open architecture and a high capacity/long range secure data link. The milestone Decision Authority (MDA) approved program rebaseline on May 23, 2005. The MDA approved acquisition streamlining February 2006, which included additional R,D,T&E test articles to support Operational Test.</p> <p>B. ACCOMPLISHMENTS / PLANNED PROGRAM: Qualified and completed the NDI Rangeless Pod Sys FY 2007 FY 2008 FY 2009</p> <table border="1"> <thead> <tr> <th>Accomplishments / Effort / Sub-total Cost</th> <th>FY 2007</th> <th>FY 2008</th> <th>FY 2009</th> </tr> </thead> <tbody> <tr> <td>RDT&E Articles Qty</td> <td>6</td> <td></td> <td></td> </tr> </tbody> </table> <p>TCTS: Qualified and completed the NDI Rangeless Pod system fielded at NAS Key West, including the complete Integrated Logistics products and training. Developed and implemented track exchange interface between TCTS live monitor and TACTS Control and Computation Subsystem (CCS). Defined Test and Training Enabled Architecture (TENA) compliant interface between TCTS and an Advance Display System. Developed F/A-18 (C/D/E/F) and AV-8B Internal Subsystem (IS) and began qualification testing. Initiated development of the Fixed Ground Subsystem and data link uplink control for fielding at larger Navy training ranges. Develop and deliver Integrated Logistics products for the IS and for fielding the TCTS system for deployed and fixed Range applications. Initiated the development of a Rack-Mounted Subsystem for use on rotary wing and transport aircraft. Continue development of the Advanced Data link waveform and the Joint Tactical Radio System (JTRS) advance data link. Develop shipboard ground subsystem and related training range integration.</p> <p>C. OTHER PROGRAM FUNDING SUMMARY:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 2007</th> <th>FY 2008</th> <th>FY 2009</th> <th>FY 2010</th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013</th> <th>To Complete</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td>Related OPN:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Weapons Range Support Equipment, LI 420400</td> <td>7.847</td> <td>5.640</td> <td>7.643</td> <td>5.507</td> <td>5.313</td> <td>5.463</td> <td>5.620</td> <td></td> <td>43.033</td> </tr> <tr> <td>Related APN:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Production Charges, LI 072500</td> <td>19.888</td> <td>20.491</td> <td>27.870</td> <td>27.879</td> <td>22.604</td> <td>23.007</td> <td>23.465</td> <td></td> <td>165.204</td> </tr> </tbody> </table> <p>D. ACQUISITION STRATEGY: TCTS will employ an evolutionary incremental acquisition strategy to procure a base Non-Developmental Item Systems and development of the system to meet the full ORD requirements. TCTS is a cooperative program with the USAF P5 CTS program. The USAF awarded a 10-year contract in June 2003.</p>													Accomplishments / Effort / Sub-total Cost	FY 2007	FY 2008	FY 2009	RDT&E Articles Qty	6				FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost	Related OPN:										Weapons Range Support Equipment, LI 420400	7.847	5.640	7.643	5.507	5.313	5.463	5.620		43.033	Related APN:										Other Production Charges, LI 072500	19.888	20.491	27.870	27.879	22.604	23.007	23.465		165.204
Accomplishments / Effort / Sub-total Cost	FY 2007	FY 2008	FY 2009																																																																			
RDT&E Articles Qty	6																																																																					
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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0204571N, CONSOLIDATED TRAINING SYSTEMS				3093, TACTICAL COMBAT TRAINING SYSTEM (TCTS).						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Dev	SS CPAF	CUBIC DEFENSE APPLICATIONS, INC, SAN DIEGO, CA	9.165	1.336	11/06	.400	11/07				10.901	10.901
SUBTOTAL PRODUCT DEVELOPMENT			9.165	1.336		.400					10.901	
Remarks:												
SUPPORT												
Contractor Eng Sup	SS CPAF	CUBIC DEFENSE APPLICATIONS, INC, SAN DIEGO, CA	.200	.614	11/06	.100	11/07	.100	11/08		1.014	1.014
Integrated Logistics Sup	VARIOUS	VARIOUS	.243	.210	VARIOUS	.050	VARIOUS	.045	VARIOUS		.548	
Software Development	SS CPAF	CUBIC DEFENSE APPLICATIONS, INC, SAN DIEGO, CA	9.455	1.221	11/06	.100	11/07	.645	11/08		11.422	11.422
Software Development	SS CPAF	ROCKWELL COLLINS SER., CO., CEDAR RAPIDS, IA		2.300	11/06	2.224	11/07	1.500	11/08		6.024	3.100
SUBTOTAL SUPPORT			9.899	4.346		2.474		2.290			19.008	
Remarks: Dollars may not add due to rounding.												
TEST & EVALUATION												
DT&E - ETS	VARIOUS	VARIOUS	.244	.025	11/06						.269	
DT&E - Reimb Fld Spt	VARIOUS	VARIOUS	2.179	.300	11/06	.200	11/07	.100	11/08		2.779	
OT&E - Military Travel	WR	OPER T & E FOR CD 30, NORFOLK VA	.023	.010	VARIOUS	.010	VARIOUS		VARIOUS		.043	
SUBTOTAL TEST & EVALUATION			2.446	.335		.210		.100			3.091	
Remarks:												
MANAGEMENT												
Contractor Eng Sup - ETS	VARIOUS	VARIOUS	.352	.425	11/06	.050	11/07	.050	11/08		.877	
Government Eng Sup	VARIOUS	VARIOUS	2.786	1.120	11/06	.326	11/07	.586	11/08		4.818	
NATEC Travel	VARIOUS	NAV AIR TEC EN SV CMD, SAN DIEGO CA	.008	.002	VARIOUS	.002	VARIOUS	.003	VARIOUS		.015	
SUBTOTAL MANAGEMENT			3.145	1.547		.378		.639			5.709	
Remarks: Dollars may not add due to rounding.												
Total Cost			24.655	7.564		3.462		3.029			38.710	
Remarks:												

EXHIBIT R4, Schedule Profile																				DATE: February 2008												
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME																	
RDT&E,N / BA-7					0204571N, CONSOLIDATED TRAINING SYSTEMS										3093, TACTICAL COMBAT TRAINING SYSTEM (TCTS).																	
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013							
	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					Phase 2 MS C ▲				Phase 5 MS B ▲				Phase 4 MS C ▲																			
Acquisition Phase					Phase 1 NDI - Transportable (GS, AS) Phase 2 Internal Subsystem (IS) Rack-Mount Subsystem (RS) Phase 4 Advanced Datalink Phase 5 Battle Group																											
Internal Subsystem Dev					[Bar]																											
Rack-Mount Subsystem Dev					[Bar]																											
Ground Subsystem Dev					[Bar]																											
Advanced Datalink Dev					[Bar]																											
Test & Evaluation Milestones					Phase 1 (NDI) Phase 2: Internal Subsystem (IS) Rack-Mount Subsystem (RS) System: CVW-5 Fixed Range																											
					DTB2-1, 2-2A, 2B OTD2-1 DTD2-3 DTD2-5 DTD2-4 DTD1-5, 2-6/7																											
Production Milestones					Phase 1 NDI - Transportable (GS, AS) Phase 2 Internal Subsystem (IS) Rack Mounted Subsystem (RS) Phase 4 Advanced Datalink Phase 5 Battle Group																											
					FRP ▲ LRIP ▲ FRP ▲ FRP ▲ LRIP ▲																											
Deliveries IOC					▼ Yuma CVW-5																											

UNCLASSIFIED

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT			PROJECT NUMBER AND NAME				
RDT&E,N / BA-7	0204571N, CONSOLIDATED TRAINING SYSTEMS			3093, TACTICAL COMBAT TRAINING SYSTEM (TCTS).				
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones								
Phase 2 MS C		3Q						
Phase 5 MS B				4Q				
Phase 4 MS C						3Q		
Acquisition Phase								
Phase 1 NDI - Transportable (GS, AS)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 2 Internal Subsystem (IS)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Rack-Mount Subsystem (RS)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 4 Advanced Datalink		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 5 Battle Group					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Internal Subsystem Dev		1Q-3Q						
Rack-Mount Subsystem Dev		1Q-4Q						
Ground Subsystem Dev		1Q-4Q						
Advanced Datalink Dev		1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q			
Test & Evaluation Milestones								
Phase 1 (NDI)								
Phase 2 Internal Subsystem (IS)		1Q-2Q						
Rack-Mount Subsystem (RS)		4Q	1Q					
System: CVW-5			1Q					
Fixed Range			1Q					
Production Milestones								
Phase 1 NDI - Transportable (GS, AS)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 2 Internal Subsystem (IS)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Rack-Mount Subsystem (RS)			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 4 Advanced Datalink					4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 5 Battle Group							1Q-4Q	1Q-4Q
Deliveries IOC			1Q-2Q					

CLASSIFICATION:**UNCLASSIFIED****EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION**

DATE

February 2008

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NUMBER AND NAME

PROJECT NUMBER AND NAME

RDTEN/BA 7**0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT****9999/CONGRESSIONAL ADDS**

COST (\$ in Millions)

FY 2007

FY 2008

FY 2009

FY 2010

FY 2011

FY 2012

FY 2013

9999 CONGRESSIONAL ADDS

2.783

RDT&E Articles Qty

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.590	0.000
RDT&E Articles Quantity	0	0	0

3087C: FY08 Congressional Plus up provided for Total Ship Training System (TSTS) (Issue 70866) to migrate audio capture, screen capture, and video capture capabilities into TSTS

Efforts include requirements analysis, systems engineering, hardware/software prototype production, testing, safety analysis and logistics. These efforts are required to meet the technical, performance and schedule goals of the TSTS program.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.193	0.000
RDT&E Articles Quantity	0	0	0

9999 (K3087): FY08 Congressional Plus up provided for set up of an acoustic simulator stimulator test bed for P-3, H-60F, H-60B, H-60R, and P-8.

CLASSIFICATION:							
EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /				R-1 ITEM NOMENCLATURE PE 0204574N Cryptologic Direct Support			
				BA 7			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	1.420	1.434	1.441	1.630	1.644	1.697	2.059
3091 / Advanced Cryptologic Systems Engineering	1.420	1.434	1.441	1.630	1.644	1.697	2.059
Quantity of RDT&E Articles							
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Advanced Cryptologic Systems Engineering 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 100 cryptologic capable surface ships in the current Navy inventory. Each of these ships 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 some level of 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 LANs, and tested relative to interoperability requirements. This RDT&E will 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.</p>							

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008																																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME PE 0204574N Cryptologic Direct Support	PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering																																				
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%; text-align: right;">FY 2007</th> <th style="width: 10%; text-align: right;">FY 2008</th> <th style="width: 10%; text-align: right;">FY 2009</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY08/09 President's Budget</td> <td style="text-align: right;">1.420</td> <td style="text-align: right;">1.443</td> <td style="text-align: right;">1.435</td> </tr> <tr> <td>FY09 President's Budget Submit</td> <td style="text-align: right;">1.420</td> <td style="text-align: right;">1.434</td> <td style="text-align: right;">1.441</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.009</td> <td style="text-align: right; border-top: 1px solid black;">0.006</td> </tr> <tr> <td colspan="4">Summary of Adjustments</td> </tr> <tr> <td> Misc. Adjustments</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.006</td> </tr> <tr> <td> Congressional Adjustments</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">-0.009</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.009</td> <td style="text-align: right; border-top: 1px solid black;">0.006</td> </tr> </tbody> </table> <p>(U) Schedule: Not Applicable</p> <p>(U) Technical: Not Applicable</p>				FY 2007	FY 2008	FY 2009	(U) Funding:				FY08/09 President's Budget	1.420	1.443	1.435	FY09 President's Budget Submit	1.420	1.434	1.441	Total Adjustments	0.000	-0.009	0.006	Summary of Adjustments				Misc. Adjustments	0.000	0.000	0.006	Congressional Adjustments	0.000	-0.009	0.000	Subtotal	0.000	-0.009	0.006
	FY 2007	FY 2008	FY 2009																																			
(U) Funding:																																						
FY08/09 President's Budget	1.420	1.443	1.435																																			
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Summary of Adjustments																																						
Misc. Adjustments	0.000	0.000	0.006																																			
Congressional Adjustments	0.000	-0.009	0.000																																			
Subtotal	0.000	-0.009	0.006																																			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME PE 0204574N Cryptologic Direct Support	PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering	
(U) B. Accomplishments/Planned Program			
Cryptologic Carry-On Equipment	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.420	1.434	1.441
RDT&E Articles Quantity			
<p>FY07 - Continued to integrate, test, and document identified Commercial and Government off-the-shelf technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the FY07 Signals of Interest and Target Threat list. Continued with developing upgrades to existing systems and subsystems according to Fleet requirements.</p> <p>FY 08 - Continue to integrate, test, and document identified Commercial and Government off-the-shelf technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the FY08 Signals of Interest and Target Threat list. Continue with developing upgrades to existing systems and subsystems according to Fleet requirements.</p> <p>FY 09 - Continue to integrate, test, and document identified Commercial and Government off-the-shelf technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the FY09 Signals of Interest and Target Threat list. Continue with developing upgrades to existing systems and subsystems according to Fleet requirements.</p>			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7		PROGRAM ELEMENT NUMBER AND NAME PE 0204574N Cryptologic Direct Support			PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering		
(U) C. OTHER PROGRAM FUNDING SUMMARY:							
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
OPN Line 3501, Cryptologic Equipment	21.655	15.958	16.716	17.608	18.928	18.651	19.241
(U) 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 (SSCs) Charleston and San Diego, and miscellaneous contractors, with management oversight by SPAWAR.							
(U) E. MAJOR PERFORMERS:							
N/A							
(U) F. METRICS:							
Earned Value Management (EVM) is used for metrics reporting and risk management.							

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7			PROGRAM ELEMENT PE 0204574N Cryptologic Direct Support			PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Systems Engineering	Various	Various	1.380	0.164	12/06	0.167	12/07	0.172	12/08	Continuing	Continuing	Continuing
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			1.380	0.164		0.167		0.172		Continuing	Continuing	Continuing
Remarks:												
Development Support												
Software Development	Various	Various	2.986	1.002	12/06	1.006	12/07	1.009	12/08	Continuing	Continuing	Continuing
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			2.986	1.002		1.006		1.009		Continuing	Continuing	Continuing
Remarks:												

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA 7			PE 0204574N Cryptologic Direct Support				3091 / Advanced Cryptologic Systems Engineering					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation			0.156	0.055	12/06	0.056	12/07	0.056	12/08	Continuing	Continuing	Continuing
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Subtotal T&E			0.156	0.055		0.056		0.056		Continuing	Continuing	Continuing
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support			0.457	0.155		0.161		0.160		Continuing	Continuing	Continuing
Travel			0.129	0.044		0.044		0.044		Continuing	Continuing	Continuing
Subtotal Management			0.586	0.199		0.205		0.204		Continuing	Continuing	Continuing
Remarks:												
Total Cost			5.108	1.420		1.434	Various	1.441	Various	Continuing	Continuing	Continuing
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2008																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7								PROGRAM ELEMENT NUMBER AND NAME PE 0204574N Cryptologic Direct Support								PROJECT NUMBER AND NAME 3091 / Advanced Cryptologic Systems Engineering																				
Fiscal Year	2006				2007				2008				2009				2010				2011				2012				2013							
	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	1	2	3	4				
Acquisition Milestones																																				
Prototype Phase	■				■				□				□				□				□				□				□							
System Development (e.g., Radar System dev.)	▲				▲				△				△				△				△				△				△				△			
Equipment Delivery (e.g., EDM Radar Delivery)			▲				▲				△				△				△				△				△				△				△	
Test & Evaluation Milestones																																				
Operational Assessment			OA				OA				OA				OA				OA				OA				OA				OA				OA	
Production Milestones																																				
LRIP I																																				
LRIP II																																				
FRP																																				
Deliveries																																				

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT PE 0204574N Cryptologic Direct Support				PROJECT NUMBER AND NAME 3091/ Advanced Cryptologic Systems Engineering			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Prototype Phase	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
System Design Review (SDR)	2Q	2Q	2Q	2Q	2Q	2Q	2Q	2Q
Operational Assessment (OA)	3Q	3Q	3Q	3Q	3Q	3Q	3Q	3Q
HW/SW Delivery	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q

CLASSIFICATION:							
EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /			0204575N Electronic Warfare (EW) Readiness Support				
COST (\$ in Millions)			BA 7				
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	26.441	33.779	24.276	29.552	30.861	32.196	33.146
2263 Information Warfare Systems	21.501	33.779	24.276	29.552	30.861	32.196	33.146
2462 Retract Barley	4.940	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>(U) The Navy Information Operations Command Suitland (NIOC) serves as the Program Management Office of the Offensive Information Warfare (IW) program. As such, NIOC Suitland is tasked as the Navy's principal technical agent to research, assess, and develop IW capabilities. The key focus areas include Information Operations (IO) Mission Management, Electronic Attack (EA), and Computer Network Operations.</p> <p>(U) IO Mission Mangement: Develops software to account for antenna modeling, weather calculations, Radio Frequency (RF) modeling, signals mapping and terrain modeling for warfighter use in configuring optimal Electronic Attacks from afloat. Develops command and control mechanism for remote use of Electronic Attack assets to include frequency, antenna alignment and weapon firing data transfer. 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>(U) Electronic Attack (EA): Develops and fields spiral EA capabilities against Fleet Forces Command prioritized signals 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 SSEE-Inc E/ F.)</p> <p>(U) Computer Network Operations (CNO): Funds development and testing of adversary target networks for modeling, simulation, and tailoring of CNO capabilities. Develops specific CNO capabilities to be used against adversary networks. Supports Electronic Target Folder database which provides a means of sharing and storing common CNO data. Studies unique adversary CNO vulnerabilities for exploitation.</p> <p>(U) This program differs greatly between FY07 - FY08 and out due to the designation of NIOC Suitland as the Information Operations Research and Development Innovation Center. This caused a realignment of funds from an existing program (details are held at a higher classification level) and a reappropriation of funds to all RTD&E. Specific variances in FY08 funding will be discussed at the project level.</p>							

CLASSIFICATION:			
EXHIBIT R-2, RDT&E Budget Item Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /		BA 7	0204575N Electronic Warfare (EW) Readiness Support
(U) B. Program Change Summary			
(U) Funding:	<u>FY07</u>	<u>FY08</u>	<u>FY09</u>
FY08/09 President's Budget	20.595	34.340	29.576
FY09 President's Submit	<u>26.441</u>	<u>33.779</u>	<u>24.276</u>
Total Adjustments	5.846	-0.561	-5.300
Summary of Adjustments			
Small Business Innovation Research (SBIR) Tax	-0.154	0	0
Miscellaneous Adjustments	6.000	-0.343	-5.300
Congressional Adjustments	<u>0</u>	<u>-0.218</u>	<u>0</u>
	6.154	-0.343	-5.300
(U) Schedule: N/A			
(U) Technical: N/A			

CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204575N Electronic Warfare (EW) Readiness Support			PROJECT NUMBER AND NAME Information Warfare/ 2263			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost- IO Mission Management		2.598	4.830	4.878	4.932	5.033	5.134	5.235
RDT&E Articles Qty		N/A	N/A	N/A	N/A	N/A	N/A	N/A
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>FY2007 Accomplishments (0.9) – RF modeling development (0.2) – IO Mission Management Remote Control (0.1) – Antenna Modeling (Continued level of effort) (0.1) – Terrain Modeling (Continued level of effort) (1.3) – Modeling & Simulation Lab (Continued level of effort)</p> <p>FY2008 Plans (2.5) – RF modeling architecture integration (0.9) – IO Mission Management Remote Control (0.1) – Antenna Modeling (Applied/projected level of effort) (0.2) – Terrain Modeling (Applied/projected level of effort) (1.1) – Modeling & Simulation Lab (Applied/projected level of effort)</p> <p>In FY08 IO Mission management will fund integration onto a new, web-based architecture, reflecting an increase in funding.</p> <p>FY2009 Plans (2.5) – RF modeling architecture integration (0.9) – IO Mission Management Remote Control (0.1) – Antenna Modeling (Applied/projected level of effort) (0.2) – Terrain Modeling (Applied/projected level of effort) (1.2) – Modeling & Simulation Lab (Applied/projected level of effort)</p>								

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:							
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204575N Electronic Warfare (EW) Readiness Support				PROJECT NUMBER AND NAME Information Warfare/ 2263		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost- Electronic Attack	3.429	10.153	10.287	12.798	12.878	13.854	14.439
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>FY2007 Accomplishments (0.1) – Completed development of prototype combined DF/ES/EA antenna (3.1) – IW/IO EA capability development (Details held at higher classification level) (0.2) – Testing</p> <p>FY2008 Plans (5.5) – EA Systems Development (Details held at higher classification level) (0.8) – EA antenna development - Continue development work on Photonics antenna (3.0) – IW/IO EA capability development (Details held at higher classification level) (0.9) – Testing</p> <p>FY2009 Plans (5.7) – EA Systems Development (Details held at higher classification level) (0.8) – EA antenna development - Continue development work on Photonics antenna (3.1) – IW/IO EA capability development (Details held at higher classification level) (0.7) – Testing</p>							

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:							
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204575N Electronic Warfare (EW) Readiness Support				PROJECT NUMBER AND NAME Information Warfare/ 2263		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost- Computer Network Operations	11.821	15.057	5.271	7.907	8.971	9.149	9.333
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>FY2007 Accomplishments (0.6) – Navy IO Architecture (1.8) – Counter Anti-Ship Missile (0.8) – Tactical IO Initiatives (0.5) – Electronic Target Folder Development (0.3) – CNO for boarding teams (6.0) – CNO Project Liberty development (Details held at higher classification level) (1.8) – Computer Network Attack Capabilities Development</p> <p>FY2008 Plans (0.6) – Navy IO Architecture (3.6) – Complete Counter Anti-Ship Missile (1.0) – Tactical IO Initiatives - Complete assessments initial prototypes (0.6) – Electronic Target Folder Development (0.2) – CNO for boarding teams - (Transition Operations) (8.8) – Computer Network Attack Capabilities Development (0.3) – CNO for Maritime Domain Awareness</p> <p>FY2009 Plans (0.6) – Navy IO Architecture (0.4) – Electronic Target Folder Development (4.0) – Computer Network Attack Capabilities Development (0.3) – CNO for Maritime Domain Awareness</p>							

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:							
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204575N Electronic Warfare (EW) Readiness Support				PROJECT NUMBER AND NAME Information Warfare/ 2263		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost: NVACM/Computer Network Defense	2.753	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>FY2007 Accomplishments (2.4) – Computer Network Defense (0.4) - Secure Infrastructure Technology</p> <p>The NVACM program was terminated beginning FY08.</p>							

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:							
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204575N Electronic Warfare (EW) Readiness Support				PROJECT NUMBER AND NAME Information Warfare/ 2263		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost: Research & Analysis	0.900	3.739	3.840	3.915	3.979	4.059	4.139
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>FY2007 Accomplishments (0.9) – Systems Engineering</p> <p>FY2008 Plans (.9) – Systems Engineering (2.8) – *Continue Research & Analysis (Details held at higher classification level)</p> <p>FY2009 Plans (1.0) – Contractor Engineering Support (2.8) –*Continue Research & Analysis (Details held at higher classification level)</p>							

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N / BA-7		0204575N Electronic Warfare (EW) Readiness Support		Information Warfare/ 2263	

(U) B. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
OMN Line 4B7N	4.1	0	.0	0	0	0	0
OPN 234000	5.0	0	0	0	0	0	0
0604270N/Z1742	0.7	7.7	5.5	6.1	6.2	6.3	6.4
OMN Line 4A1M	0	4.5	3.7	3.4	4.7	4.8	4.9

(U) C. ACQUISITION STRATEGY:

NIOC Suitland programs are designated non-ACAT and operate under streamlined acquisition as designated by the ASN(RDA). This designation supports a streamlined acquisition process using the Advanced Concept Technology Demonstration (ACTD) documentation of the Defense Acquisition Guidance.

(U) D. MAJOR PERFORMERS:

<u>Name</u>	<u>Location</u>	<u>Description of Work Performed</u>	<u>FY07</u>	<u>Award Date</u> <u>FY08</u>	<u>FY09</u>
Argon ST	Fairfax, VA	EA Systems Development	1Q-2Q FY07	1Q FY08	1Q FY09
L3 Communications	Reston, VA	Mission Management Development	1Q FY07	1Q FY08	1Q FY09
		Modeling & Simulation	2Q FY07	1Q FY08	1Q FY09
ARL Penn State University	State College, PA	Modeling & Simulation	2Q FY07	1Q FY08	1Q FY09
Naval Research Laboratory	Washington, DC	Research & Analysis	1Q FY07	1Q FY08	1Q FY09
		EA Systems Development	1Q FY07	1Q FY08	1Q FY09
NAWC/WD	China Lake, CA	IO Test Development & Support	1Q FY07	1Q FY08	1Q FY09

CLASSIFICATION:											DATE: February 2008	
Exhibit R-3 Cost Analysis (page 1)												
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0204575N				Information Warfare/ 2263					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	10.353	0.000	Various	1.910	Various	1.915	Various	Continuing	Continuing	
Ancillary Hardware Development	Various	Various	3.500	1.500	Various	3.750	Various	2.167	Various	Continuing	Continuing	
Systems Engineering												
Systems Engineering												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			13.853	1.500	Various	5.660	Various	4.082	Various	Continuing	Continuing	
Development Support	Various	Various	6.237	0.000	Various	1.511	Various	2.050	Various	Continuing	Continuing	
Software Development	Various	Various	14.954	18.901	Various	22.057	Various	13.692	Various	Continuing	Continuing	
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			21.191	18.901		23.568		15.742		Continuing	Continuing	
Remarks: Development support for Mission Management starts in FY07 since the first prototype software model was deployed.												

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0204575N				Information Warfare/ 2263					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	3.100	0.200	Various	0.851	Various	0.652	Various	Continuing	Continuing	
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Subtotal T&E	Various	Various	3.100	0.200	Various	0.851	Various	0.652	Various	Continuing	Continuing	
Remarks:												
Research, Studies and Vul Anal	Various	Various	0.350	0.900	N/A	3.700	10/07	3.800	10/08	Continuing	Continuing	
Subtotal Management	Various	Various	0.350	0.900	Various	3.700	Various	3.800	Various	Continuing	Continuing	
Remarks:												
Total Cost	Various	Various	38.494	21.501	Various	33.779	Various	24.276	Various	Continuing	Continuing	

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification			DATE: February 2008																																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204575N - Electronic Warfare (EW) Readiness	PROJECT NUMBER AND NAME 2462 - Retract Barley																																					
<p>B. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Funding:</th> <th style="text-align: right; padding: 5px;"><u>FY 2007</u></th> <th style="text-align: right; padding: 5px;"><u>FY 2008</u></th> <th style="text-align: right; padding: 5px;"><u>FY 2009</u></th> <th style="text-align: right; padding: 5px;"><u>FY 2010</u></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">FY08 President's Budget:</td> <td style="text-align: right; padding: 5px;">4.983</td> <td style="text-align: right; padding: 5px;">0.000</td> <td style="text-align: right; padding: 5px;">0.000</td> <td style="text-align: right; padding: 5px;">0.000</td> </tr> <tr> <td style="padding: 5px;">FY09 President's Budget:</td> <td style="text-align: right; padding: 5px;">4.940</td> <td style="text-align: right; padding: 5px;">0.000</td> <td style="text-align: right; padding: 5px;">0.000</td> <td style="text-align: right; padding: 5px;">0.000</td> </tr> <tr> <td style="padding: 5px;">Total Adjustments</td> <td style="text-align: right; padding: 5px; border-top: 1px solid black;">-0.043</td> <td style="text-align: right; padding: 5px; border-top: 1px solid black;">0.000</td> <td style="text-align: right; padding: 5px; border-top: 1px solid black;">0.000</td> <td style="text-align: right; padding: 5px; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding: 10px 0 0 20px;">Summary of Adjustments</td> </tr> <tr> <td style="padding: 5px;">Miscellaneous Adjustments</td> <td style="text-align: right; padding: 5px;">-0.043</td> <td style="text-align: right; padding: 5px;">0.000</td> <td style="text-align: right; padding: 5px;">0.000</td> <td style="text-align: right; padding: 5px;">0.000</td> </tr> <tr> <td style="padding: 5px;">Subtotal</td> <td style="text-align: right; padding: 5px; border-top: 1px solid black;">-0.043</td> <td style="text-align: right; padding: 5px; border-top: 1px solid black;">0.000</td> <td style="text-align: right; padding: 5px; border-top: 1px solid black;">0.000</td> <td style="text-align: right; padding: 5px; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p>Schedule: Not Applicable.</p> <p>Technical: Not Applicable.</p>					Funding:	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	FY08 President's Budget:	4.983	0.000	0.000	0.000	FY09 President's Budget:	4.940	0.000	0.000	0.000	Total Adjustments	-0.043	0.000	0.000	0.000	Summary of Adjustments					Miscellaneous Adjustments	-0.043	0.000	0.000	0.000	Subtotal	-0.043	0.000	0.000	0.000
Funding:	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>																																			
FY08 President's Budget:	4.983	0.000	0.000	0.000																																			
FY09 President's Budget:	4.940	0.000	0.000	0.000																																			
Total Adjustments	-0.043	0.000	0.000	0.000																																			
Summary of Adjustments																																							
Miscellaneous Adjustments	-0.043	0.000	0.000	0.000																																			
Subtotal	-0.043	0.000	0.000	0.000																																			

Exhibit R-2, RDTEN Budget Item Justification

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification						DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204575N - Electronic Warfare (EW) Readiness			PROJECT NUMBER AND NAME 2462 - Retract Barley				
C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
0603925N - Congressional Plus Ups	27.197								45.09
0601108F - JTO ***									
0602890F - JTO ***									
0601108F - JTO ***									
0602114N - ONR ***									
0603114N - ONR ***									
Notes *** Funding from these other sources varies from year to year based on the development efforts required/funded.									
D. ACQUISITION STRATEGY:									
Not Applicable (R&D effort only)									
E. MAJOR PERFORMERS:									
Government Field Activities: NRL; NSWC CD; NSWC Crane; NSWC DD.									
Contractors: SAIC; Envisioneering; SYS.									

Exhibit R-2, RDTEN Budget Item Justification

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204575N - Electronic Warfare (EW) Readiness	PROJECT NUMBER AND NAME 2462 - Retract Barley		
B. Accomplishments/Planned Program				
Retract Barley - 2462	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	4.940	0.000	0.000	0.000
RDT&E Articles Quantity	N/A	N/A	N/A	N/A
<div style="border: 1px solid black; padding: 10px; min-height: 300px;"> <p>Retract Barley is a program to develop/determine the viability of a unique Information Operations concept based on utilizing high power RF technology. The purpose is electronic attack of military and/or civilian infrastructure systems to achieve graded effects on targets, ranging from operational disruption to permanent damage. The potential capability would be useful in scenarios for which kinetic attack is now allowed based on possible collateral damage or rules-of-engagement restrictions.</p> </div>				

Exhibit R-2a, RDTEN Project Justification

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0204575N - Electronic Warfare (EW) Readiness			PROJECT NUMBER AND NAME 2462 - Retract Barley						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Retract Barley	Various	Various		4.940	06/07						4.940	
Total			0.000	4.940		0.000		0.000			4.94	
<p>Remarks: Multiple funding documents and contract vehicles were utilized to obtain the services of the government field activities, academia, and contractors listed on the R-2a Page(s) 7-10. Costs shown reflect all expenses (management, engineering, cost of doing business, travel, etc.).</p>												

Exhibit R-3, Project Cost Analysis

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0205601N, HARM IMPROVEMENT		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	97.825	43.565	31.427	5.364	5.102	5.204	5.303	
1780 HARM IMPROVEMENT	1.876	1.947	1.954	1.937	1.873	1.906	1.939	
2185 AARGM	89.991	32.178	16.373	3.427	3.229	3.298	3.364	
3056 APKWS			13.100					
9999 CONGRESSIONAL ADDS	5.958	9.440						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) HIGH-SPEED ANTI-RADIATION (HARM) IMPROVEMENT: The High-speed Anti-Radiation Missile (HARM) is a joint service program with the Air Force (NAVY lead). 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 III & AGM-88C, Block IV) as Engineering Change Proposals (ECPs). Another ECP software program (Block IIIA & V) was developed (FY 1996 through FY 1999) to modify HARM software in order to meet operational requirements. The Block V tactical software upgrade gives HARM improved geographic specificity and improved capability against advanced waveforms. HARM Block IIIA/V software was distributed to the Fleet in FY 2000. 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.

(U) ADVANCED ANTI-RADIATION GUIDED MISSILE (AARGM): AARGM is an ACAT-1C acquisition program in System Development & Demonstration (SD&D) to upgrade the AGM-88 HARM missile with multi-mode / multi-spectral guidance and targeting capability. It also incorporates the capability to receive national broadcast data and transmit weapon impact assessments (demonstrated in Quick Bolt Advanced Concept Technology Demonstration (ACTD)). An AARGM System Development and Demonstration (SD&D) commenced in FY 2003. The AARGM program plans production of 1,871 missiles: 68 Low Rate Initial Production (LRIP) and 1,803 Full Rate Production modification kits.

(U) ADVANCED PRECISION KILL WEAPON SYSTEM (APKWS): APKWS is an Army SD&D program to develop a low cost Semi Active Laser (SAL) precision guidance section for existing 2.75 inch unguided rockets. Department of Navy participation began in FY 2004. APKWS will provide an inexpensive, small, lightweight, precision-guided weapon that is effective against soft and lightly armored targets and which enhances crew survivability with increased standoff range. APKWS 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 motor) and can be fired from existing rocket launchers. Army, Marine Corps, and recent Navy Anti-Surface Warfare (ASUW) Mission Need Statements highlighted the requirement for a weapon system capable of employment from the SH-60 to counter a swarm threat of small attack boats.

FY2008 funding totals do not include \$4.330M previously requested for current FY2008 GWOT requirements.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	99.829	34.762	7.993
Current President's Budget:	<u>97.825</u>	<u>43.565</u>	<u>31.427</u>
Total Adjustments	-2.004	8.803	23.434

Summary of Adjustments

	FY 2007	FY 2008	FY 2009
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-1.463	-0.281	
Congressional Increases		9.500	
Economic Assumptions			-0.020
Miscellaneous Adjustments	<u>-0.541</u>	<u>-0.416</u>	<u>23.454</u>
Subtotal	-2.004	8.803	23.434

Schedule:
HARM IMPROVEMENT- Not Applicable

AARGM- MSC has been moved from 2Q FY 2008 to 3Q FY 2008. DT-B1 and DT-B2 have been extended by two quarters. OA start has been moved from 4Q FY 2007 to 2Q FY 2008. FCA has been moved from 2Q FY 2008 to 4Q FY 2008. These schedule changes will better support MS-C and readiness for Operational Evaluation (OPEVAL). OPEVAL start has moved from 3Q FY 2008 to 1Q FY2009. PCA has been moved from 2Q FY 2008 to 3Q FY 2009 to utilize production units. LRIP 1 deliveries will begin in 3Q FY 2009 vice 2Q FY2009 to allow 12 months lead time from contract award to first delivery. IOC has subsequently been moved from 4Q FY 2009 to 1Q FY 2010 to accommodate the delivery schedule.

APKWS- R-4 Schedule reflects restart of SD&D activities with FY 2008 Congressional Add funding and continues through FY 2009.

Technical:
HARM IMPROVEMENT-Not Applicable
AARGM-Not Applicable
APKWS- Not Applicable

EXHIBIT R-2a, RDT&E Project Justification

DATE:
February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N, HARM IMPROVEMENT	PROJECT NUMBER AND NAME 1780, HARM IMPROVEMENT					
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1780 HARM IMPROVEMENT	1.876	1.947	1.954	1.937	1.873	1.906	1.939
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

HIGH-SPEED ANTI-RADIATION (HARM) IMPROVEMENT: The High-speed Anti-Radiation Missile (HARM) is a joint service program with the Air Force (NAVY lead). 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 III & AGM-88C, Block IV) as Engineering Change Proposals (ECPs). Another ECP software program (Block IIIA & V) was developed (FY 1996 through FY 1999) to modify HARM software in order to meet operational requirements. The Block V tactical software upgrade gives HARM improved geographic specificity and improved capability against advanced waveforms. HARM Block IIIA/V software was distributed to the Fleet in FY 2000.

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 PROGRAM:

HARM FME	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.876	1.947	1.954
RDT&E Articles Qty			

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.

C. OTHER PROGRAM FUNDING SUMMARY:

Not Applicable

D. ACQUISITION STRATEGY:

Not Applicable

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0205601N, HARM IMPROVEMENT				PROJECT NUMBER AND NAME 1780, HARM IMPROVEMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY's Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
SUBTOTAL PRODUCT DEVELOPMENT												

Remarks:

SUPPORT												
Studies & Analyses	VARIOUS	VARIOUS	.680								.680	
SUBTOTAL SUPPORT			.680								.680	

Remarks:

TEST & EVALUATION												
Oper Test & Eval	WX	NAWCWD, CHINA LAKE CA	10.029	1.866	Oct 2006	1.927	Oct 2007	1.934	Oct 2008	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			10.029	1.866		1.927		1.934		Continuing	Continuing	

Remarks:

MANAGEMENT												
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD	.311			.010	Oct 2007	.010	Oct 2008	Continuing	Continuing	
Travel	TO	NAVAIR, PAXTUXENT RIVER MD	.383	.010	Oct 2006	.010	Oct 2007	.010	Oct 2008	Continuing	Continuing	
SUBTOTAL MANAGEMENT			.694	.010		.020		.020		Continuing	Continuing	

Remarks:

Total Cost			11.402	1.876		1.947		1.954		Continuing	Continuing	
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Remarks:Numbers may not add due to rounding.

EXHIBIT R4, Schedule Profile																								DATE: February 2008									
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E,N / BA-7										0205601N, HARM IMPROVEMENT										1780, HARM IMPROVEMENT													
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013								
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
Acquisition Milestones																																	
Test & Evaluation Milestones																																	
Operational Test																																	
Foreign Military Assessment (FMA) - continuing																																	
Production Milestones																																	
Deliveries																																	

EXHIBIT R-2a, RDT&E Project Justification

DATE:
February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N, HARM IMPROVEMENT	PROJECT NUMBER AND NAME 2185, AARGM					
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2185 AARGM	89.991	32.178	16.373	3.427	3.229	3.298	3.364
RDT&E Articles Qty*	8	17					

*Qty reflects test article delivery.

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 (SBIR) program to develop and demonstrate a multi-mode guidance section on a HARM airframe to System Development and Demonstration (SD&D) in FY2003. 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/Inertial Navigation System (GPS/INS)) on the HARM AGM-88 missile. AARGM weapon system capabilities include: active Millimeter Wave terminal guidance, counter shutdown, expanded threat coverage, enhanced anti-radiation homing receiver, 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.

The AARGM program transitioned the Quick Bolt Advanced Concept Technology Demonstration (ACTD) to SD&D. Quick Bolt added the capabilities to receive threat data from national assets, enlarging the target set and increasing aircrew situational awareness, and to transmit a Weapon Impact Assessment (WIA) message to assist in the critical area of Battle Damage Assessment (BDA). The Quick Bolt ACTD was completed in FY03. Quick Bolt demonstration testing successfully used Impact Avoidance Zone (IAZ) logic to distinguish between the proscribed and original target, demonstrating the ability to greatly reduce friendly fire incidents and collateral damage.

In June 2003, a successful Milestone B transitioned AARGM to a System Development and Demonstration (SD&D) Acquisition Category 1C (ACAT 1C) program. ATK Missile Systems Company (AMSC) was awarded the AARGM SD&D NAVAIR Contract N00019-03-C-0353, valued at \$222.6M. In May 2004, the contract 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. The AARGM program includes 31 test articles and 1,871 missiles (68 Low Rate Initial Production (LRIP) missiles and 1,803 Full Rate AGM-88Es).

In FY2009-2013, the AGM-88E AARGM program plans to develop and demonstrate the capability to engage and destroy non-traditional suppression of enemy air defenses (SEAD) and GWOT targets. These developments continue Future Naval Capability (FNC) Science and Technology (S&T) investments by the Office of Naval Research (ONR) initiated in FY2006.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

AARGM SD&D	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	89.991	32.178	16.373
RDT&E Articles Qty*	8	17	

*Qty reflects test article delivery.

Milestone B System Development and Demonstration (SD&D) activities, and post-Milestone B SD&D efforts. Contractor to update the Advanced Technology Demonstration (ATD)/Advanced Concept Technology Demonstration (ACTD) subsystem designs to the SD&D System Performance Specification and prepare for/conduct System Design Review, Preliminary Design Review, Critical Design Review, Contractor build-up and laboratory and field testing of the AGM-88E seeker. Field activities to support System Engineering, aircraft integration (including Software Configuration Set support), test assets, and test and evaluation requirements analysis, and developmental logistics support. Live fire testing began in FY2007 and will continue into FY2008. In FY2008, DT-B1 will be completed with integration and captive carry of AARGM on F/A-18C/D. OPEVAL will be conducted in FY2009. Development of capability to attack non-traditional SEAD and GWOT targets will continue in FY2009.

EXHIBIT R-2a, RDT&E Project Justification

DATE:
February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N, HARM IMPROVEMENT	PROJECT NUMBER AND NAME 2185, AARGM
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C. OTHER PROGRAM FUNDING SUMMARY:	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
WPN Budget Line Item No. 232700, HARM MODS	0.000	41.023	42.735	54.864	64.419	95.739	139.603	686.200	1,124.583
RD TEN PE 0604269N EA-18G, 3063 EA-18G Development			2.200						

D. ACQUISITION STRATEGY:

The AARGM program started as a Phase I Small Business Innovative Research (SBIR), Advanced Technology Program (ATD), evolved into a Phase III SBIR program, and transitioned into a System Development and Demonstration (SD&D) ACAT 1C program in June 2003. The AARGM SD&D will fulfill U.S. Navy operational requirements and incorporates AARGM ATD and Quick Bolt ACTD-demonstrated system requirements. Government responsibilities for SD&D include monitoring, technical assessment, and validation of contractor technology development and testing.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME									
RDT&E,N / BA-7		0205601N, HARM IMPROVEMENT				2185, AARGM									
Cost Categories	Contract Method & Type	Performing Activity & Location				Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT															
Aircraft Integration	WX	NAWCWD, CHINA LAKE CA				5.329	1.868	Oct 2006	.106	Oct 2007				7.303	
Aircraft Integration	WX	NAWCAD, PATUXENT RIVER MD					.050	Oct 2006						.050	
Primary Hdw Development - SD&D	C-CPIF	ALLIANT TECHSYSTEMS INC, WOODLAND HILLS, CA				169.624	64.365	Oct 2006	17.666	Oct 2007	5.226	Oct 2008		256.881	231.900
Primary Hdw Development - SD&D	WX	NAVY SYST MGT ACT, ARLINGTON VA				1.084					3.033	Oct 2008	10.361	14.478	
Primary Hdw Development - SD&D	MIPR	HQ SEC OF AF-FMB, WASHINGTON DC					.088	Oct 2006						.088	
Systems Eng	MIPR	HQ SEC OF AF-FMB, WASHINGTON DC					.150	Dec 2006						.150	
Systems Eng	WX	NAWCWD, CHINA LAKE CA				30.611	10.375	Oct 2006	7.365	Oct 2007	.700	Oct 2008	1.195	50.246	
Prior Years Product Development	VARIOUS	VARIOUS				199.589								199.589	
SUBTOTAL PRODUCT DEVELOPMENT					406.237	76.896		25.137		8.959		11.556	528.785		

Remarks: Total PYs costs for Primary Hdw Development-SD&D adjusted to add FY05 funding put on contract in FY06 and to reflect AARGM Quick Bolt PYs costs in Prior Years Product Development. Additional Primary Hardware Development-SD&D line splits out funding for follow-on development, including FY 2006 Congressional Add. Difference between Total Cost and Target Value of Contract represents contract variance to date. Numbers may not add due to rounding.

SUPPORT															
Integrated Logistics Sup	WX	NAWCWD, CHINA LAKE CA				2.123	1.280	Oct 2006						3.403	
Integrated Logistics Sup	VARIOUS	VARIOUS				.012	.178	Oct 2006						.190	
Studies & Analyses	VARIOUS	VARIOUS				.711			.100	Oct 2007	.200	Oct 2008	.050	1.061	
Prior Years Support	VARIOUS	VARIOUS				.012								.012	
SUBTOTAL SUPPORT					2.858	1.458		.100		.200		.050	4.666		

Remarks: Numbers may not add due to rounding.

TEST & EVALUATION															
Dev Test & Eval	WX	NAWCWD, CHINA LAKE CA				6.067	5.226	Oct 2006	3.193	Oct 2007	.400	Oct 2008	.796	15.682	
Oper Test & Eval	WX	OPER T & E FOR CD 30, NORFOLK VA				.090	.590	Oct 2006	.569	Oct 2007	6.589	Oct 2008	.250	8.088	
Test Assets	WX	NAWCWD, CHINA LAKE CA				1.960	3.334	Feb 2007	1.245	Oct 2007				6.539	
SUBTOTAL TEST & EVALUATION					8.117	9.150		5.007		6.989		1.046	30.310		

Remarks: Numbers may not add due to rounding.

MANAGEMENT															
Contractor Eng Supt - Other	VARIOUS	VARIOUS				6.759					.020	Oct 2008	.080	6.859	
ENGINEERING & TECH SRVC	VARIOUS	VARIOUS					1.932	Oct 2006	.782	Oct 2007				2.714	
Program Mgmt Sup	VARIOUS	VARIOUS				2.316	.355	Oct 2006	1.052	Oct 2007	.195	Oct 2008	.546	4.464	
Travel	TO	NAVAIR, PAXTUXENT RIVER MD				1.068	.200	Oct 2006	.100	Oct 2007	.010	Oct 2008	.040	1.418	
SUBTOTAL MANAGEMENT					10.143	2.487		1.934		.225		.666	15.455		

Remarks: Numbers may not add due to rounding.

Total Cost			427.356	89.991		32.178		16.373		13.318		579.216		
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Remarks: Total PYs Cost includes FY05 funds realigned internally in FY06 and not previously reflected. Numbers may not add due to rounding.

EXHIBIT R4, Schedule Profile																				DATE: February 2008									
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME														
RDT&E,N / BA-7					0205601N, HARM IMPROVEMENT										2185, AARGM														
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				
	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							MSC	△																					
Development Preliminary Design Review Critical Design Review Functional Configuration Audit Production Readiness Review Physical Configuration Audit							PRR	△			FCA	△				PCA	△												
Testing & Evaluation Milestones Development Testing Development Testing Operational Assessment Operational Testing (OTC)																													
Production Milestones Low-Rate Initial Production LRIP 1 Low-Rate Initial Production LRIP 2 Full Rate Production							LRIP 1	△			LRIP 2	△				FRP Lot 1	△				FRP Lot 2	△							
Deliveries Low-Rate Initial Production LRIP 1 Low-Rate Initial Production LRIP 2 Full Rate											LRIP 1 Deliveries										LRIP 2 Deliveries								
																					FRP Deliveries								
Initial Operational Capability (IOC)																					IOC	△							

EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N, HARM IMPROVEMENT	PROJECT NUMBER AND NAME 3056, ADVANCED PRECISION KILL WEAPON SYSTEM (APKWS)						
COST (\$ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	
3056 ADVANCED PRECISION KILL WEAPON SYSTEM			13.100					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Formerly known as the Advanced Precision Kill Weapons System (APKWS), APKWS is an Army System Development & Demonstration (SD&D) program to develop a low cost Semi Active Laster (SAL) precision guidance section for existing 2.75 inch unguided rockets. APKWS 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 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 rockets motor) and can be fired from existing rocket launchers.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY2007	FY2008	FY2009	FY2010
Accomplishments / Effort / Sub-total Cost			13.100	
RDT&E Articles Qty				

APKWS System Development and Demonstration (SD&D) program to develop a low cost Semi Active Laser (SAL) precision guidance section for existing 2.75 inch unguided rockets. FY 2009 funds will be used for the completion of the United States Marine Corps (USMC) led APKWS program. It will include prime contractor hardware development, engineering support, testing and evaluation, and logistic support.

C. OTHER PROGRAM FUNDING SUMMARY:

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
PANMC Budget Line Item No. 015000 Airborne Rockets	0.000	0.000	0.000	9.000	11.200	15.500	15.600	CONT	CONT

D. ACQUISITION STRATEGY:

Not Applicable

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N / BA 7		0205601N, HARM IMPROVEMENT				3056, ADVANCED PRECISION KILL WEAPON SYSTEM (APKWS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Aircraft Integration	WX	VARIOUS										
Primary Hdw Development	C/CPFF	BAE SYSTEMS, INC., NASUA, NH						7.000	Nov 2008		7.000	7.000
Primary Hdw Development	TBD	TBD										
Systems Eng	WX	NAWCWD, CHINA LAKE, CA						1.500	Nov 2008		1.500	
Systems Eng	WX	NSWC INDIAN HEAD, MD										
SUBTOTAL PRODUCT DEVELOPMENT								8.500			8.500	
Remarks:												
SUPPORT												
Integrated Logistics Sup	WX	VARIOUS						.200	Nov 2008		.200	
SUBTOTAL SUPPORT								.200			.200	
Remarks:												
TEST & EVALUATION												
Dev Test & Eval	WX	VARIOUS						2.500	Nov 2008		2.500	
Oper Test & Eval	WX	OPTEVFOR						.800	Nov 2008		.800	
Test Assets	TBD	TBD										
SUBTOTAL TEST & EVALUATION								3.300			3.300	
Remarks:												
MANAGEMENT												
Government Eng Sup	WX	NAWCWD, CHINA LAKE, CA						.500	Nov 2008		.500	
Program Mgmt Sup	VARIOUS	VARIOUS						.500	Nov 2008		.500	
Travel	TO	NAVAIR-HQ, PATUXENT RIVER, MD						.100	Nov 2008		.100	
SUBTOTAL MANAGEMENT								1.100			1.100	
Remarks:												
Total Cost								13.100			13.100	
Remarks:												

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205601N, HARM IMPROVEMENT			PROJECT NUMBER AND NAME 9999, Congressional Adds			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		5.958	9.440					
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional Adds								

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CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N, HARM IMPROVEMENT	PROJECT NUMBER AND NAME 9999, Congressional Adds	
B. Accomplishments/Planned Program			
9855C Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 07 4.981	FY 08	FY 09
<p>Joint Common Missile (JCM) Development Funding continues JCM Technology Maturation of critical technologies (multi-mode seeker, multi-purpose warhead, and combination FW/RW rocket motor.</p>			
9999 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 07	FY 08 9.440	FY 09
<p>Advanced Anti-Radiation Guided Missile (AARGM) Funding continues AARGM SD&D program leading to IOC and AARGM Derivative Program (ADP).</p> <p>Advanced Precision Kill Weapons Systems (APKWS) Funds APKWS System Development and Demonstration (SD&D) program to develop a low cost Semi Active Laser (SAL) precision guidance section for existing 2.75 inch unguided rockets.</p>			
9A74N Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 07 0.977	FY 08	FY 09
<p>Aircraft Composite Rocket Launcher Improvement Program Funds the design, fabrication, and demonstration of a composite rocket launcher. The composite launcher structure will incorporate an existing electronic digital fire control system to provide a lighter, more capable launcher. Increased capabilities include the ability to carry "mixed loads" of rockets and the ability to remotely set fuses from the cockpit.</p>			

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7			R-1 ITEM NOMENCLATURE 0205604N TACTICAL DATA LINKS				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	32.158	5.408	4.247	4.827	8.261	15.396	14.459
1743 Link-16 Improvements	1.584						
2126 ATDLS Integration	30.574	5.408	4.247	4.827	8.261	15.396	14.459
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
(U) This program element (PE) develops and improves the Navy's tactical data link (TDL) systems. It includes the Link-16 Improvements and Advanced Tactical Data Link Systems (ATDLS) Integration Programs.							
(U) Link-16 Improvements extend Link-16 technological improvements to existing and new United States (US) Navy TDL systems. Link-16 Joint Range Extension (JRE) transfers Link-16 data via satellite communications and other non-radio frequency (RF) paths. This project allows more effective employment of fleet units by increasing timeliness, accuracy, and content of tactical data transfer by improving communications beyond line of sight, thereby improving operational flexibility. The Common Data Link Monitoring System (CDLMS) will be upgraded to Next Generation Command and Control Processor (NGC2P) with advanced processors required to support critical data link functions including Link-16 JRE.							
(U) ATDLS Integration Program develops new and improved capabilities for Navy Link-16 users. Development of new capabilities in ATDLS includes the Joint Interface Control Officer (JICO) Support System (JSS), Common Link Integration Processing (CLIP) and Dynamic Network Management (DNM). JSS will be the standard joint service toolset to monitor and control Multi-TDL network architectures. The Common Link Integration Processing (CLIP) concept will introduce open system software required to reduce life cycle support costs and commercial off-the-shelf (COTS) technology refresh objectives. The CLIP development concept addresses fundamental interoperability and affordability of tactical data link capabilities through cooperative development program under both U. S. Navy (USN) and U.S. Air Force (USAF) sponsorship. The principal goal of CLIP is to develop a multi-TDL software capability that can be utilized by multiple platforms (aircraft, ships, and ground) for all services. Dynamic Network Management (DNM) will provide automatic reconfiguration of Link-16 networks that respond instantly to emergent warfighter requirements in the field. DNM consists of different capabilities including Network Control Technologies (NCT), new terminal protocols (time slot reallocation (TSR) receipt compliance (RC) (TSR RC) and Stochastic Unified Multiple Access (SHUMA)) and has been significantly expanded to include a more robust TSR and adaptive multi-netting. The DNM capability will be used in the JSS host system and also Joint Tactical Information Distribution System (JTIDS), Multifunctional Information Distribution System (MIDS), MIDS on Ship (MOS), and Joint Tactical Radio System (JTRS) terminals.							
(U) This program element also funds: (1) the development required to accommodate expanded Link-16 operational capabilities for additional warfare areas, (2) development of automated network management aids, and (3) related systems engineering and contractor support efforts.							
(U) 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.							

Exhibit R-2, RDTEN Budget Item Justification

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	0205604N TACTICAL DATA LINKS		
(U) B. PROGRAM CHANGE SUMMARY:			
(U) Funding:	FY 2007	FY 2008	FY 2009
FY08 President's Budget	41.798	5.534	6.165
FY09 President's Budget	32.158	5.408	4.247
Total Adjustments	-9.640	-0.126	-1.918
Summary of Adjustments			
Congressional Adjustments		-0.045	
Miscellaneous Adjustments	-8.78		-1.918
Small Business Innovative Research (SBIR) Tax	-0.860	-0.081	
Subtotal	-9.640	-0.126	-1.918
 (U) Schedule:			
Link 16 (project 1743) - Next Generation Command and Control Processor (NGC2P) LRIP-3 Program Review (PR) moved from 2nd quarter FY07 to 3rd quarter FY07.			
ATDLS (project 2126) - CLIP Increment 1 Milestone (MS) C moves from 2nd quarter FY08 to 4th quarter FY08. CLIP Acceptance Testing (CAT) of Increment 1 software capabilities and functionality moves from 4th quarter FY07 to 2nd quarter FY08. CLIP OT renamed CLIP OA. Prior to Increment 1 MS C, CLIP development transitions to the U.S. Air Force. CLIP increment 2 (Air Force only) events removed from schedule.			
JSS milestone C/FRP renamed to JSS MS C/LRIP. JSS FRP slipped from 4th quarter FY08 to 4th quarter FY09. JSS DT2/OT renamed JSS DT2/OA. JSS OT scheduled for 2nd quarter FY09.			
 (U) Technical: Not applicable.			

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E.N/BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205604N TACTICAL DATA LINKS			PROJECT NUMBER AND NAME 1743 LINK-16 IMPROVEMENTS		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	1.584						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Link-16 Improvements extend Link-16 technological improvements to existing and new United States (US) Navy TDL systems. Link-16 Joint Range Extension (JRE) transfers Link-16 data via satellite communications and other non-radio frequency (RF) paths. High Throughput Link-16 provides improved data transmission rates by altering the modulation characteristics of Link-16. This project allows more effective employment of fleet units by increasing timeliness, accuracy, and content of tactical data transfer by improving communications beyond line of sight, thereby improving operational flexibility. The Common Data Link Monitoring System (CDLMS) will be upgraded to Next Generation Command and Control Processor (NGC2P) to provide higher Central Processing Unit (CPU) speeds, update rate and memory capacity required for advanced multi-TDL processing functions. NGC2P will update CDLMS with advanced processors required to support critical data link functions including Link-16 JRE.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205604N TACTICAL DATA LINKS	PROJECT NUMBER AND NAME 1743 LINK-16 IMPROVEMENTS
(U) B. Accomplishments/Planned Program		
NGC2P CAPABILITY	FY 07	FY 08
Accomplishments/Effort/Subtotal Cost	1.584	
RDT&E Articles Quantity		
<p>FY07: Conducted technical evaluation (TECHEVAL) and operational evaluation (OPEVAL) of Next Generation Command and Control Processor (NGC2P) Joint Range Extension (JRE) capability. NGC2P software deficiencies found during developmental testing (DT) were corrected, tested and evaluated in preparation for OPEVAL. Prepared test procedures and NGC2P equipment for the Military Standard -901-D shock and vibration testing. Achieved full rate production (FRP) decision for NGC2P.</p>		

Exhibit R-2a, RD TEN Project Justification

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E,N/BA-7	0205604N TACTICAL DATA LINKS				1743 LINK-16 IMPROVEMENTS					
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Complete</u>	<u>To Cost</u>	<u>Total</u>
OPN Line 2614 ATDLS	11.960	3.835	14.206	13.497	0.000	0.000	0.000	0.000	0.000	43.498
(U) D. ACQUISITION STRATEGY:										
Next Generation Command and Control Processor (NGC2P) software development utilized an existing Northrop Grumman Defense Mission Systems, Inc. cost plus contract.										
(U) E. MAJOR PERFORMERS:										
Northrop Grumman Defense Mission Systems, Inc., Reston, Virginia. Performed as prime hardware and software development contractor for NGC2P. Technical Direction Letter awarded 18 July 2003.										
Space & Naval Warfare Systems Command Systems Center (SPAWARSYSCEN), San Diego, California. Performs as lead laboratory for NGC2P development, systems engineering, integration and test and evaluation.										

Exhibit R-2a, RDTEN Project Justification

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7			PROGRAM ELEMENT 0205604N TACTICAL DATA LINKS			PROJECT NUMBER AND NAME 1743 LINK-16 IMPROVEMENTS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
NILE Subphase 2	CPIF	Logicon, San Diego, CA	3.171								3.171	3.171
NILE LLC Dev	CPIF	VIASAT, Carlsbad, CA	0.500								0.500	0.500
Link-22 Engineering/Integration	WX	SPAWARSSYSCEN, San Diego, CA	3.547								3.547	3.547
Link-22 Integration	CPFF	Logicon, San Diego, CA	0.116								0.116	0.116
Link-22 Network Design	WX	NCTSI, San Diego, CA	0.690								0.690	0.690
Command and Control Processor (C2P)	Various	Various	2.377								2.377	2.377
Multi-TADIL Capability MTC	Various	Various	1.696								1.696	1.696
Next Generation C2P Engineering/Integration	WX	SPAWARSSYSCEN, San Diego, CA	9.952								9.952	9.952
Next Generation C2P Engineering/Integration	Various	Various	2.010								2.010	2.010
Next Generation C2P GFE	Various	Various	0.796								0.796	0.796
Next Generation C2P Design/Dev	CPFF	APC, Austin, TX	8.013								8.013	8.013
Next Generation C2P Design/Dev TDA	CPFF	APL/JHU, Laurel, MD	11.038								11.038	11.038
Next Generation C2P Design/Dev	CPFF	Northrop Grumman DMS, Reston, VA	9.315								9.315	9.315
Subtotal Product Development			53.221	0.000		0.000		0.000			53.221	53.221
Remarks:												

Exhibit R-3 Cost Analysis (page 3)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E,N/BA-7			0205604N TACTICAL DATA LINKS			1743 LINK-16 IMPROVEMENTS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
NGC2P Test & Evaluation	WX	SPAWARSYSCEN, San Diego, CA	6.131	1.132	11/06						7.263	7.263
NGC2P Test & Evaluation	WX	NCTSI, San Diego, CA	0.724								0.724	0.724
NGC2P Test & Evaluation	WX	OPTEVFOR, Norfolk, VA	0.140	0.209	11/06						0.349	0.349
Subtotal T&E			6.995	1.341		0.000		0.000			8.336	8.336
Remarks:												
Engineering Support and Travel	Various	Various	5.239	0.243	Various						5.482	5.482
Subtotal Management			5.239	0.243		0.000		0.000			5.482	5.482
Remarks:												
Total Cost			65.455	1.584		0.000		0.000			67.039	67.039
Remarks:												

Exhibit R-3, Project Cost Analysis

EXHIBIT R4, Schedule Profile																							DATE: February 2008													
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7					PROJ R-1 ITEM NOMENCLATURE 0205604N TACTICAL DATA LINKS										PROJ PROJECT NUMBER AND NAME 1743 LINK-16 IMPROVEMENTS																					
Fiscal Year	2005				2006				2007				2008				2009				2010				2011				2012							
	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	1	2	3	4				
Program Milestones	EGIS BMD MS C LRIP				LRIP-2 Program Review (PR)										LRIP-3 Program Review (PR)				FRP																	
		△					△					△				△																				
NGC2P																																				
Engineering Milestones																																				
NGC2P																																				
Test & Evaluation Milestones																																				
		DT				DT/CSIT/LINK CERT				OA				DT / TECHEVAL				OPEVAL																		
		△				△				△				△				△																		
NGC2P - JRE																																				
Production Milestones																																				
	AEGIS BMD LRIP				LRIP-2										LRIP-3				FRP																	
			△					△				△				△				△																
NGC2P																																				

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205604N TACTICAL DATA LINKS		PROJECT NUMBER AND NAME 2126 ATDLS INTEGRATION				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		30.574	5.408	4.247	4.827	8.261	15.396	14.459

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) ATDLS Integration Program develops new and improved capabilities for Navy Link-16 users. Development of new capabilities in ATDLS includes the Joint Interface Control Officer (JICO) Support System (JSS), Common Link Integration Processing (CLIP) and Dynamic Network Management (DNM). JSS will be the standard joint service toolset to monitor and control Multi-TDL network architectures. The Common Link Integration Processing (CLIP) concept will introduce open system software required to reduce life cycle support costs and commercial off-the-shelf (COTS) technology refresh objectives and high throughput Link-16. The CLIP development concept addresses fundamental interoperability and affordability of tactical data link capabilities through cooperative development program under both US Navy (USN) and US Air Force (USAF) sponsorship. The principal goal of CLIP is to develop a Multi-TDL software capability that can be utilized by multiple platforms (aircraft, ships, and ground) for all services. Dynamic Network Management (DNM) will provide automatic reconfiguration of Link-16 networks that respond instantly to emergent warfighter requirements in the field. DNM consists of different capabilities including Network Control Technologies (NCT), new terminal protocols (Time Slot Reallocation (TSR) receipt compliance (RC) (TSR RC) and Stochastic Unified Multiple Access (SHUMA)) and has been significantly expanded to include a more robust TSR and adaptive multi-netting. The DNM capability will be used in the JSS host system and also Joint Tactical Information Distribution System (JTIDS), Multifunctional Information Distribution System (MIDS), MIDS on Ship (MOS) and Joint Tactical Radio System (JTRS) terminals. The Dynamic Network Management (DNM) Time Slot Reallocation (TSR) Receipt compliance (RC) will be incorporated into Next Generation Command and Control Processor (NGC2P).

(U) This project also funds: (1) the development required to accommodate expanded Link-16 operational capabilities for additional warfare areas, (2) development of automated network management aids, and (3) related systems engineering and contractor support efforts.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205604N TACTICAL DATA LINKS	PROJECT NUMBER AND NAME 2126 ATDLS INTEGRATION

(U) B. Accomplishments/Planned Program

Joint Interface Control Officer Spt Sys (JSS)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	10.850	0.374	0.000

This funding includes the Navy's contribution to the Joint Interface Control Officer (JICO) Support System (JSS) joint development initiative with the US Air Force (USAF).

FY07: Continued software development to include the implementation of remote JICO database repository (JDR); dynamic network management and reconfiguration lists in Link-16 message standards; gateways to be interfaced to variable message format (VMF) and Intelligent Broadcast System (IBS); on-line and off-line training mode via simulation and computer based training; and system security administration/profile management to ensure data security integrity. Conducted early operational assessment (EOA) on JSS software capabilities and functionalities developed and to demonstrate system maturity and readiness. Conducted the security and vulnerability for system approval to operate (ATO). Prepared and updated all required documents for MS C decision.

FY08 Plan: Conduct development test 2 (DT 2) and operational assessment (OA) on all software and hardware developed. Conduct the Joint Interoperability Certification Testing. Achieve Joint MS C Decision and full rate production (FRP). Conduct operational test (OT).

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205604N TACTICAL DATA LINKS	PROJECT NUMBER AND NAME 2126 ATDLS INTEGRATION

(U) B. Accomplishments/Planned Program

Common Link Integration Processing (CLIP)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	9.732	0.000	0.000

FY07: Continued development of software. Conducted CLIP V & V of Increment 1 software capabilities. Developed plans for platform integration and testing of Increment 1 software on lead platform. Prepared for US Navy and US Air Force CLIP increment 1 Milestone C decision (3rd/FY09). Prior to Increment 1 MS C, CLIP development transitions to USAF. Navy participation in development phase ends.

Dynamic Network Management (DNM)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	9.992	5.034	4.247

FY07: Continued development of multi-netting capabilities. Commenced development of Multi-netting Phase II capability. Continued platform integration and testing of Time Slot Reallocation (TSR) receipt compliance (RC) (TSR RC) (Aegis Baselines). Continued shipboard and aircraft integration of the DNM capabilities including the expanded Time Slot Reallocation (TSR) Receipt Compliance TSR RC. Continued support on DNM integrated logistic support products. Implemented Link-16 frequency re-mapping enhancements.

FY08: Continue development of Multi-netting Phase II capabilities. Conduct Multi-netting Phase I operational test. Conduct TSR RC/Stochastic Unified Multiple Access (SHUMA) operational test. Continue platform integration testing for TSR RC (Aegis Baselines). Continue support on DNM integrated logistic support products.

FY09: Conduct Multi-netting Phase II CDR. Achieve TSR RC Initial Operating Capability (IOC). Continue support on DNM integrated logistic support products. Test and evaluate DNM capabilities in the Next Generation Command & Control Processor (NGC2P), Multifunctional Information Distribution System (MIDS) on Ship (MOS), and Joint Tactical Information Distribution System (JTIDS).

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205604N TACTICAL DATA LINKS			PROJECT NUMBER AND NAME 2126 ATDLS INTEGRATION				
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN LI 2614 ATDLS	11.960	3.835	14.206	13.497	0.000	0.000	0.000	0.000	43.498
RDT&E,AF 0207434F/5050	184.100	151.289	155.710	159.298	162.024	165.427	168.900	Continuing	Continuing
SCN - Funding for ATDLS hardware is not separately identified in the SCN budget exhibits.									
RELATED RDT&E: PE 0207434F/5050 - TDL System Integration									
(U) D. ACQUISITION STRATEGY:									
<p>The Air Force was designated as the acquisition executive for the Joint Interface Control Officer (JICO) Support System (JSS). For JSS Phase I, the government competed and awarded three firm fixed price contracts to Northrop Grumman Defense Mission Systems, Inc.; Lockheed Martin Corporation and Advanced Information Engineering Services, Inc. for Engineering Development Models (EDMs) system development and demonstration. For JSS Phase II, there was a down select to Northrop Grumman Defense Mission Systems, Inc. to complete Phase II development, integration and test utilizing cost plus award fee, firm fixed price, time and material and cost reimbursable contract options. For Common Link Integration Processing (CLIP), a competitive cost plus award fee/incentive fee contract was awarded by the Navy to Northrop Grumman Defense Mission Systems, Inc. to develop a single common data link integration solution that can be configured to satisfy a broad-range of platforms. The Dynamic Network Management (DNM) Network Controller Technology will be incorporated into JSS Block 1 and will utilize the contract for JSS. The Dynamic Network Management (DNM) Time Slot Reallocation (TSR) Receipt compliance (RC) (TSR RC) will be incorporated into NGC2P and will utilize the contract for NGC2P. Remaining DNM development efforts will utilize an existing development contract with BAE Systems.</p>									
(U) E: MAJOR PERFORMERS:									
<p>Northrop Grumman Defense Mission Systems, Inc., Reston, Virginia (VA). Performs as prime hardware and software development contractor for JSS. Contract awarded 27 May 2005. Northrop Grumman Defense Mission Systems, Inc., Reston, VA. Performs as prime software development contractor for CLIP. Contract awarded 9 June 2005. BAE Systems Inc., Wayne, NJ. Major performer for DNM development. Space & Naval Warfare Systems Command Systems Center (SPAWARSSYSCEN), San Diego, California. Performs as lead laboratory for CLIP, JSS and DNM development, systems engineering, integration and test and evaluation.</p>									
(U) F: METRICS:									
Earned Value Management is used for metrics reporting and risk management.									

Exhibit R-3 Cost Analysis											DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E,N/BA-7			0205604N TACTICAL DATA LINKS			2126 ATDLS INTEGRATION						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MIDS F/A-18 Integration	WX	Various	153.119								153.119	153.119
TADIL-J System Engineering	WX	SPAWARSYSCEN, San Diego, CA	28.233								28.233	28.233
TADIL-J System Engineering	Various	Various	4.654								4.654	4.654
MIDS on Ship	CPIF	BAE Systems, Wayne, NJ (DLS)	15.944								15.944	15.944
MIDS on Ship	Various	Various	44.331								44.331	44.331
Performance Upgrades	WX	SPAWARSYSCEN, San Diego, CA	14.213								14.213	14.213
Performance Upgrades	Various	Various	5.236								5.236	5.236
Air Defense System Integrator	CPFF	APC, Austin, TX	2.059								2.059	2.059
Dual Net Link-11	WX	Various	1.866								1.866	1.866
Korean Air Defense Sys Impr	CPFF	JHU/APL, Laurel, MD	0.900								0.900	0.900
DNMFL Prototypes	Various	Various	2.127								2.127	2.127
JSS Software Dev and Integration	FFP	Various	8.778								8.778	8.778
JSS Software Dev and Integration	CPAF/FFP	Northrop Grumman DMS, Reston, VA	22.322	10.700	07/07						33	33
JSS Systems Engineering	CPFF	Galaxy Scientific, Arlington, VA	0.769								0.769	0.769
JSS Systems Engineering	WX	SPAWARSYSCEN, San Diego, CA	2.619	0.100	03/07	0.119	02/08				2.838	2.838
JSS Systems Engineering	Various	Various	0.333	0.050	Various	0.098	Various				0.481	0.481
CLIP Dev	WX	SPAWARSYSCEN, San Diego, CA	2.918	1.185	06/07						4.103	4.103
CLIP Dev	Various	Various	8.090	0.646	Various						8.736	8.736
CLIP SW Dev	CPAF/IF	Northrop Grumman DMS, Reston, VA	27.794	2.567	07/07						30.361	30.361
CLIP Lead Platform Integration	CPFF	Lockheed Martin Corp, Moorestown, NJ	0.000								0.000	0.000
TDL Training SW Dev	WX	NAVAIR Training Sys Div, Orlando, FL	1.605								1.605	1.605
DNM System Engineering & Integration	WX	SPAWARSYSCEN, San Diego, CA	14.474	1.419	11/06	1.413	11/07	1.496	11/08	Continuing	Continuing	Continuing
DNM Development	CPFF	Northrop Grumman DMS, Reston, VA	3.747								3.747	3.747
DNM Development	MIPR	Warner Robbins AFB, GA	1.485			0.100	02/08	0.102	11/08	Continuing	Continuing	Continuing
DNM Development	CPIF	BAE Systems, Wayne, NJ (DLS)	2.327	1.400		0.200	02/08				3.927	3.927
DNM Host Platform Integration Sys Eng	CPFF	SeaPort-E/TBD	0.550			0.450	11/07	0.100	11/08	Continuing	Continuing	Continuing
DNM Systems Engineering	Various	Various	2.971	1.054	Various	0.450	Various	0.250	Various	Continuing	Continuing	Continuing
Subtotal Product Development			373.464	19.121		2.830		1.948				
Remarks:												

Exhibit R-3 Cost Analysis										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E.N/BA-7			0205604N TACTICAL DATA LINKS			2126 ATDLS INTEGRATION						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation	Various	Various	4.025								4.025	4.025
MIDS F/A-18 T&E	WX	SPAWARSYSCEN, San Diego, CA	12.774								12.774	12.774
MIDS F/A-18 T&E	Various	Various	11.706								11.706	11.706
MIDS on Ship T&E	PD	OPTEVFOR, Norfolk, VA	0.092								0.092	0.092
MIDS on Ship T&E	WX	SPAWARSYSCEN, San Diego, CA	1.340								1.340	1.340
MIDS Test Assets	SS/CPAF/IF	MIDSCO, Fairfield, NJ	6.594								6.594	6.594
JSS T&E	WX	SPAWARSYSCEN, San Diego, CA	0.553								0.553	0.553
JSS T&E	WX	OPTEVFOR, Norfolk, VA	0.442			0.105	02/08				0.442	0.442
JSS T&E	WX	NCTSI, San Diego, CA	0.131			0.052	02/08				0.183	0.183
JSS Test Articles	CPAF/FFP	Northrop Grumman DMS, Reston, VA	3.536								3.536	3.536
JSS Test Articles	WX	SPAWARSYSCEN, San Diego, CA	0.553								0.553	0.553
CLIP T&E	WX	OPTEVFOR, Norfolk, VA	0.126	0.060	01/07						0.186	0.186
CLIP T&E	WX	SPAWARSYSCEN, San Diego, CA	3.179	3.135	01/07						6.314	6.314
CLIP T&E	CPFF	AMSEC LLC, Virginia Beach, VA		0.730	07/07							
Dynamic Network Management T&E	WX	SPAWARSYSCEN, San Diego, CA	7.216	1.670	11/06	0.550	11/07	0.384	11/08	Continuing	Continuing	Continuing
Dynamic Network Management T&E	WX	OPTEVFOR, Norfolk, VA	0.214					0.100	11/08	Continuing	Continuing	Continuing
Dynamic Network Management T&E	WX	Various	1.310	0.576	Various	0.324	Various	0.261	Various	Continuing	Continuing	Continuing
Dynamic Network Management T&E	CPFF	AMSEC LLC, Virginia Beach, VA		1.198	07/07							
Dynamic Network Management T&E	CPAF/FFP	ViaSat, Carlsbad, CA		0.900	08/07							
ATDLS T&E Support	CPFF	AMSEC LLC, Virginia Beach, VA	0.539	0.375	11/06	0.286	11/07	0.292	11/08	Continuing	Continuing	Continuing
Subtotal T&E			54.330	8.644		1.317		1.037				
Engineering Support and Travel	Various	Various	14.876	2.809	Various	1.261	Various	1.262	Various	Continuing	Continuing	Continuing
Subtotal Management			14.876	2.809		1.261		1.262				
Remarks:												
Total Cost			442.670	30.574		5.408		4.247				

Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205604N TACTICAL DATA LINKS				PROJECT NUMBER AND NAME 2126 ATDLS INTEGRATION		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
JSS EOA	1Q						
JSS CDR	2Q						
DNM Platform Integration	3Q						
DNM Platform Integration Test		1Q					
JSS DT2/OA		2Q					
CLIP Increment 1 CAT		2Q					
CLIP Increment 1 Platform Integ		3Q					
DNM Platform Integration		3Q					
CLIP Increment 1 OT		4Q					
DNM TSR RC OT		4Q					
DNM Multinetting Phase I OT		4Q					
JSS MS C/LRIP		4Q					
DNM TSR RC IOC			1Q				
JSS OT			2Q				
DNM Multinetting Phase II CDR			3Q				
CLIP Increment 1 MS C			3Q				
JSS FRP			4Q				
JSS FRP Contract Award				1Q			
DNM Multinetting Phase I IOC				2Q			
DNM Multinetting Phase II DT				3Q			
SHUMA OT				3Q			
DNM Multinetting Phase II Platform DT				4Q			
DNM SHUMA IOC				4Q			
DNM Multinetting Phase II OA					3Q		
DNM Multinetting Phase II OT						3Q	
DNM Multinetting Phase II IOC							3Q

Exhibit R-4a, Schedule Detail

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EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION	DATE February 2008
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APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7	R-1 ITEM NOMENCLATURE 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION						
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	16.221	18.117	21.720	28.455	28.936	28.387	29.602
0896 / AN/SQQ-89 Modification	3.678	0.000	0.000	0.000	0.000	0.000	0.000
1916 / Surface ASW System Improvement	11.547	10.963	21.720	28.455	28.936	28.387	29.602
9999 / Congressional Adds	0.996	7.154	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

The objective of this Program Element (PE) is to significantly improve existing surface ship sonar system capabilities through quick and affordable development and integration of emergent transformational technologies.

Project 0896's mission is to focus on the identification, development, test, and integration of the most promising Anti-Submarine Warfare (ASW) technologies into the AN/SQQ-89(V) Surface Undersea Warfare (USW) Combat System. This project will provide a clear transition path for emergent transformational ASW technologies to be quickly and affordably developed and incorporated into the AN/SQQ-89(V). This project promotes commonality across Navy ASW platforms by leveraging the activities of other ASW/USW programs. This project will take technologies developed by the Program Executive Office for Integrated Warfare Systems (PEO IWS), Office of Naval Research (ONR), Defense Advanced Research Planning Agency (DARPA), and the Oceanographer of the Navy. This project will capitalize on a Rapid Technology Transition (RTT) process, enabling the aggressive pursuit of improvements to system portability, extension of interoperability with multiple platforms, and opportunity to export these capabilities Navy wide. Time phased insertion of ASW Commercial-Off-The-Shelf (COTS) improvements will address the entire combat system, including new sensor integration, acoustics, fire control, contact management, performance prediction, operator productivity, and on-board training. New capabilities are evaluated by the respective RTT/Peer Review Process (PRP) working groups consisting of selected technical domain experts and then tested in an at-sea environment through the Improved Performance Sonar (IPS) testbed.

Note: All FY08-13 PE 0205620N Project 0896 effort/funding transferred into Project 1916 for consolidation purposes.

Project 1916's primary mission is to improve AN/SQQ-89(V) Measures Of Performance (MOP) by enhancing detection, tracking, classification, active and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth. This project takes advantage of the AN/SQQ-89(V) Open System Architecture (OSA) and Acoustic Rapid COTS Insertion (ARCI) initiatives to develop and integrate a Multi-Function Towed Array (MFTA) with active sonar bistatics (Echo Tracker Classifier - ETC), an ARCI passive ASW processor, and torpedo defense capabilities (Forward and Aft sector coverage with Wake Homer protection). This COTS-based surface USW 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 (DDG51-112 FLT I/II/IIA) class ships. The Open Architecture (OA) (level 3 compliant) AN/SQQ-89A(V)15 system drives the 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 (such as, those developed under Project 0896) delivered to the AN/SQQ-89(V) prime integrator every two to three years.

CLASSIFICATION:		UNCLASSIFIED
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7	R-1 ITEM NOMENCLATURE 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION	
<p>Project 1916 includes funding FY08-13 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.</p> <p>Project 1916 includes funding FY09-13 for the ASW Fleet Synthetic Training (FST) program, including the development of a high fidelity acoustic simulation of a surface ship sonar based on the Improved Performance Sonar (IPS) baseline. It will build from the submarine force's Submarine Multi-Mission Team Trainer (SMMTT3) baseline for high fidelity passive simulation, improves active acoustics, develops a rapid acoustic reconstruction capability, ensures Fleet FST interoperability via the On-Board Trainer (OBT)/Battle Force Tactical Trainer (BFTT). ASW FST capability will be fielded throughout the force, while spiraling in additional ASW sensors, as well as full High Level Architecture (HLA)/ Navy Continuous Training Environment (NCTE) interoperability.</p> <p>Project 1916 included FY 2007 Congressional Add funding for 'Surface Ship ASW Research and Development (R&D) Improvements'. Funding was used to continue the development of promising technologies for at-sea tests in representative war fighting environments. Project 1916 also included FY 2007 Congressional Add funding for 'Surface Ship Sonar Integrated Data Fusion Initiative'. Funding was used to support the development, test, and evaluation of an integrated sonar data fusion and display capability for Surface Ship USW Combat Systems.</p> <p>Project 9A75 included FY 2007/2008 Congressional Add funding for 'Advanced Materials for Acoustic Window Applications'. Funding will be used to study the feasibility of replacing existing sonar window materials with a material that has the potential to provide a Total Ownership Cost (TOC) reduction of three (3) to five (5) times for acoustic windows used on Navy surface combatants such as the DDG 51 and DDG 1000 Class vessels, while improving mission readiness and acoustic performance. A full-scale, prototype composite AN/SQS-53C sonar window is currently being built as a first-article window. Based on the lessons learned from the first-article window produced, a second-article window is planned to be installed on a decommissioned (test-ship) Surface Combatant. After subsequent at-sea testing, data analysis, and refined modeling & simulation, a third-article window will be installed, tested, and analyzed, on an in-service Surface Combatant (DDG51 Class).</p> <p>PE 0205620N also included FY 2008 Congressional Add funding for 'Long Range Synthetic Aperture Sonar for ASW' (Project number to be determined). Funding will be used to initiate processor prototype system architecture, requirements modeling, and performance predictions for an ASW Synthetic Aperture Sonar system utilizing the current Navy sonar assets of an AN/SQS-53 hull mounted sonar and the MFTA.</p>		

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EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)

DATE
February 2008

APPROPRIATION/BUDGET ACTIVITY
RD TEN/BA 7

R-1 ITEM NOMENCLATURE
0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget	18.546	11.200	14.421
FY 2009 President's Budget	16.221	18.117	21.720
Total Adjustments	- 2.325	6.917	7.299
Summary of Adjustments:	FY 2007	FY 2008	FY 2009
Congressional Adds/Undistributed Adjustments/Rescissions	- 0.012	6.917	
Reprogrammings	- 1.880		
Program Adjustments			7.306
Pricing Adjustments			-0.007
Small Business Innovative Research (SBIR) Tax Assessment	-0.433		
Subtotal	- 2.325	6.917	7.299

CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION				PROJECT NUMBER AND NAME 0896/AN/SQQ-89 MODIFICATIONS		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost	3.678	0.000	0.000	0.000	0.000	0.000	0.000	
RDT&E Articles Qty	0	0	0	0	0	0	0	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The AN/SQQ-89 Modifications Project will focus on the identification, development, test, integration and delivery of the most promising ASW technologies to the AN/SQQ-89(V) Surface USW Combat System. This project will provide a clear transition path for emergent transformational ASW technologies (i.e., through ASW Cross Functional Board initiatives) to be quickly and affordably developed and incorporated. This project promotes commonality across Navy ASW platforms by leveraging the activities of other ASW/USW programs. This project will capitalize on a RTT process, enabling the aggressive pursuit of improvements to system portability, extension of interoperability with multiple platforms, and opportunity to export these capabilities Navy wide. Time phased insertion of ASW COTS improvements will address the entire combat system, including new sensor integration, acoustics, fire control, contact management, performance prediction, operator productivity, and on-board training. New capabilities are evaluated by the respective RTT/PRP working groups consisting of selected technical domain experts and then tested in an at-sea environment through the IPS testbed.

This project will take technologies developed by PEO IWS, ONR, DARPA, and the Oceanographer of the Navy, that achieve significant improvements in ASW effectiveness and integrate them into the AN/SQQ-89(V) Surface USW Combat System. The following improvements have been considered in the near term: develop and integrate the Low Frequency Array's (LFA) low frequency coherent multi-static processing capability for the AN/SQR-19 towed array group; leverage ARCI's Sparsely Populated Volumetric Array (SPVA) technology to increase bandwidth and incorporate acoustic intercept capability for the surface community; develop a Data Fusion capability that will integrate ASW, radar and other non-acoustic sensors into an integrated display environment thereby improving operator efficiency; develop/improve Marine Mammal Detection and Mitigation (MMDM) algorithm enhancements; and develop an effective and affordable underwater Acoustic Communications (ACOMMS) system for seamless communications between ASW platforms. Additional improvements will be developed and integrated as new, promising technologies are identified.

Note: All FY08-13 PE 0205620N Project 0896 effort/funding transferred into Project 1916 for consolidation purposes.

CLASSIFICATION:		UNCLASSIFIED							
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION								DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION				PROJECT NUMBER AND NAME 0896/AN/SQQ-89 MODIFICATIONS			
B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
		FY 2007		FY 2008		FY 2009			
Identify/Develop/Integrate ASW Technologies Into AN/SQQ-89(V) Systems		3.428		0.000		0.000			
RDT&E Articles Quantity		0		0		0			
FY07: Identify technologies developed by PEO IWS 5, ONR, DARPA, and the Oceanographer of the Navy that may achieve significant improvements in ASW effectiveness if integrated into the AN/SQQ-89(V) Surface USW Combat System. Selected promising technologies will be sufficiently integrated into adjunct systems installed in the AN/SQQ-89(V), such as the IPS and Scaled Improved Performance Sonar (SIPS), so that at-sea tests can be conducted and performance assessed. Integration of successful technologies will be completed for installation on CG47 and DDG51 class ships as part of IPS and SIPS software updates. Successful software improvements will also be passed on to the AN/SQQ-89(V) prime integrator as part of the spiral development build process under Project 1916, for fielding in the OSA AN/SQQ-89A(V)15 USW Combat System that is being installed on CGs 59-73 and DDGs 51-112.									
		FY 2007		FY 2008		FY 2009			
At-Sea Testing of Select ASW Technologies		0.250		0.000		0.000			
RDT&E Articles Quantity		0		0		0			
FY07: Coordinate and conduct at-sea test of select emergent, significant ASW technologies on ships equipped with AN/SQQ-89(V) adjunct IPS and SIPS systems. Assess results.									
C. OTHER PROGRAM FUNDING SUMMARY:									
Related RDT&EN:									
PE 0205620N Surface ASW Combat System Integration, Project 1916 Surface ASW Systems Improvements, and PE 0603553N Surface ASW, Project 1704 Undersea Warfare.									
Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN BLI 2136/AN/SQQ-89 Surface ASW Combat System	37.378	30.774	117.685	120.895	96.030	106.206	100.210	CONT.	CONT.
D. ACQUISITION STRATEGY:									
- Identify and test promising evolutionary and transformational technologies via incorporation on adjunct IPS and SIPS systems; and deliver successful technologies in the form of software updates to AN/SQQ-89(V) prime system integrator for integration into the AN/SQQ-89A(V)15 USW Combat System via spiral development build process.									
- Awarded new, competitive contract for AN/SQQ-89(V) prime system integrator in FY 2007.									

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RD TEN/BA 7	0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION	0896/AN/SQQ-89 MODIFICATIONS	
E. MAJOR PERFORMERS: - Advanced Acoustic Concepts (AAC), NY - Small Business Innovative Research (SBIR) Phase III contract for common acoustic processor, acoustic intercept, and prime contractor for adjunct AN/SQQ-89(V) IPS and SIPS programs. - Adaptive Methods (AM), VA - SBIR Phase III contract for engineering services in support of hardware/software integration, and test of advanced sensor interfaces and sensor processing improvements including Data Fusion (DF), Adaptive Beamforming (ABF), and Calibrated Reference Hydrophone (CRH) sensor interface. - Johns Hopkins University Applied Physics Laboratory (JHU/APL), MD - Development of emerging active sonar technologies. - Naval Sea Systems Command, Newport, RI - AN/SQQ-89(V) Technical Design Agent support. - University of Texas Applied Research Laboratory (UT/ARL), TX - Sonar Performance Prediction Functional Segment (SPPFS) software development.			

CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION			PROJECT NUMBER AND NAME 1916/Surface ASW System Improvement		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	11.547	10.963	21.720	28.455	28.936	28.387	29.602
RDT&E Articles Qty	0	0	0	0	0	0	0
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>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 and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth.</p> <p>This project will take advantage of the AN/SQQ-89(V) OSA and ARCI initiatives to develop and integrate a MFTA with active sonar bistatics (ETC), an ARCI passive ASW processor, and torpedo defense capabilities (Forward and Aft sector coverage with Wake Homer protection). This COTS-based Surface USW 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 (DDG51-112 FLTI/III/IIA) class ships. This project has delivered the AN/SQQ-89A(V)15 Build 0 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).</p> <p>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 (as developed under Project 0896) that were previously unachievable. The USW suites on these ships will require periodic upgrades to remain effective well into the 21st century. To achieve this, this project will package and deliver incremental upgrades every two years to the AN/SQQ-89A(V)15 production program via a spiral development build process by inserting maturing USW technologies, such as enhancements to improve USW performance in the littoral, and via reduced manning on AN/SQQ-89(V) equipped ships, active classification sonar upgrades, 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), and beamformer improvements. A rigorous testing program is also required to ensure that these performance enhancements are operationally effective and suitable.</p> <p>Project 1916 includes an FY08-13 OSD/OMB-08 budget based transfer of the Surface Ship Enhanced Measurement Program (SSEMP) from PE 0603553N, Project 1704, beginning in FY 2008. SSEMP measures 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.</p> <p>Project 1916 includes funding FY09-13 for the ASW Fleet Synthetic Training (FST) program, including the development of a high fidelity acoustic simulation of a surface ship sonar based on the Improved Performance Sonar (IPS) baseline. It will build from the submarine force's Submarine Multi-Mission Team Trainer (SMMTT3) baseline for high fidelity passive simulation, improves active acoustics, develops a rapid acoustic reconstruction capability, ensures Fleet FST interoperability via the On-Board Trainer</p>							

CLASSIFICATION:		UNCLASSIFIED
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION	PROJECT NUMBER AND NAME 1916/Surface ASW System Improvement
<p>(OBT)/Battle Force Tactical Trainer (BFTT). ASW FST capability will be fielded throughout the force, while spiraling in additional ASW sensors, as well as full High Level Architecture (HLA)/ Navy Continuous Training Environment (NCTE) interoperability.</p> <p>Project 1916 included FY 2007 Congressional Add funding for 'Surface Ship ASW Research and Development (R&D) Improvements'. Funding was used to continue the development of promising technologies for at-sea tests in representative war fighting environments. Project 1916 also included FY 2007 Congressional Add funding for 'Surface Ship Sonar Integrated Data Fusion Initiative'. Funding was used to support the development, test, and evaluation of an integrated sonar data fusion and display capability for Surface Ship USW Combat Systems.</p> <p>Note: All FY08-13 PE 0205620N Project 0896 effort/funding transferred into Project 1916 for consolidation purposes.</p>		

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION	PROJECT NUMBER AND NAME 1916/Surface ASW System Improvement	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
Surface Ship ASW R&D Improvements (Cong Add)	6.058	0.000	0.000
RDT&E Articles Quantity	0	0	0
FY07: (Congressional Add) Continued the development of Surface Ship ASW improvements that increased capability in passive/active sonar detection and in own ship torpedo self defense. This was through the use of portable, modular software to ease transition to new families of COTS hardware, and the low cost incorporation of improved processing algorithms. This program addressed critical surface sonar capability shortfalls, such as: passive/active ASW in difficult littoral areas, torpedo defense detection and response times in all areas, and automation technology for reduced manning. Funding addressed these shortfalls by using the Advanced Processing Builds (APB) model that has rapidly delivered transformational modernization through exploitation of application reuse and low cost incorporation of improved processing algorithms.			
	FY 2007	FY 2008	FY 2009
Surface Ship Sonar Integrated Data Fusion Initiative (Cong Add)	1.800	0.000	0.000
RDT&E Articles Quantity	0	0	0
FY07: (Congressional Add) Developed software to consolidate the display of all surface combatant sonar contacts at a single multi-modal analysis workstation and automatically developed fused target motion solutions for threat assessment and engagement.			
	FY 2007	FY 2008	FY 2009
AN/SQQ-89(V) Test & Evaluation Program	0.450	0.700	0.700
RDT&E Articles Quantity	0	0	0
FY07-09: Provide AN/SQQ-89(V) test and evaluation planning support, System Assessment Team (SAT) analysis, update Test & Evaluation Master Plan (TEMP) to reflect AN/SQQ-89A(V)15 spiral development build program, coordinate and conduct roll-on roll-off tests of AN/SQQ-89(V) systems, provide performance data and environmental analysis, Independent Verification & Validation (IV&V), and modeling and simulation using MOP and Measures Of Effectiveness (MOE) methods.			
	FY 2007	FY 2008	FY 2009
Enhancements via SQQ-89A(V)15 Spiral Development Build Process	3.239	7.263	10.520
RDT&E Articles Quantity	0	0	0
FY07-09: Developing modest enhancements to the AN/SQQ-89A(V)15 OSA via the integration of transformational technologies through a spiral development process. Items include hull-mounted Acoustic Intercept (ACI) sensor, ACI performance predictions and signal injection capabilities, MMDM Capability, hull array adaptive beamformer, towed array shape compensated beamformer, Mid-Frequency Active (MFA) Cooperative Organic Mine Defense (COMID) mine avoidance upgrades, MFA rapid replay and multi-waveform tracker, hull passive functional segment, full bandwidth towed array passive ASW and automated Torpedo Detection, Classification, and Localization (TDCL) algorithm improvements (active/passive) necessary to extend detection ranges and reduce false alert/alarm rates, new sensor Data Fusion Functional Segment (DFFS) to reduce the number of displays required for system operation, Multi-Frequency Acoustic Communications (MF ACOMMS) development, Extended Echo Ranging (EER) "Distant Thunder" integration into the AN/SQQ-89(V) airframe sensor processing suite and active functional segment, explosive source integration with AN/SQQ-89(V) processes, simplification of displays and active processing, incorporation of all IPS and SIPS features, and a Sonar Logger capability to significantly reduce operator data logging requirements. These items will be			

CLASSIFICATION:	UNCLASSIFIED
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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)	DATE February 2008
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APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION	PROJECT NUMBER AND NAME 1916/Surface ASW System Improvement
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integrated and delivered to the CG47 and DDG51 class AN/SQQ-89A(V)15 backfit production programs.

FY07-09: Resolve/troubleshoot issues/deficiencies that arise from AN/SQQ-89(V) 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 (RMS), MFA processing, and adaptive beamforming.

	FY 2007	FY 2008	FY 2009
Surface Ship Enhanced Measurement Program (SSEMP)	0.000	3.000	3.000
RDT&E Articles Quantity	0	0	0

FY08-09: 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. Perform Fleet exercise data reconstruction and post-test analysis each year.

	FY 2007	FY 2008	FY 2009
ASW Fleet Synthetic Training (FST)	0.000	0.000	7.500
RDT&E Articles Quantity	0	0	0

FY09: Begin development of a high fidelity acoustic simulation of a surface ship sonar based on the Improved Performance Sonar (IPS) baseline. It will build from the submarine force's Submarine Multi-Mission Team Trainer (SMMTT3) baseline for high fidelity passive simulation, improves active acoustics, develops a rapid acoustic reconstruction capability, ensures Fleet FST interoperability via the On-Board Trainer (OBT)/Battle Force Tactical Trainer (BFTT). ASW FST capability will be fielded throughout the force, while spiraling in additional ASW sensors, as well as full High Level Architecture (HLA)/ Navy Continuous Training Environment (NCTE) interoperability.

C. OTHER PROGRAM FUNDING SUMMARY:

Related RDT&EN:

PE 0205620N Surface ASW Combat System Integration, Project 0896 AN/SQQ-89 Modifications, and PE 0603553N Surface ASW, Project 1704 Undersea Warfare

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN BLI 2136/AN/SQQ-89 Surface ASW Combat System	37.378	30.774	117.685	120.895	96.030	106.206	100.210	CONT.	CONT.

D. ACQUISITION STRATEGY:

- Completed AN/SQQ-89A(V)15 Build 0 Pre-Production Prototype, performed installation, conducted DT&E, and Initial IOT&E 4Q FY 2005. Via spiral development build process, incorporate evolutionary and transformational technologies into AN/SQQ-89A(V)15 systems at scheduled intervals.

- Awarded new, competitive contract for AN/SQQ-89(V) prime system integrator in FY 2007.

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION	PROJECT NUMBER AND NAME 1916/Surface ASW System Improvement	
<p>E. MAJOR PERFORMERS:</p> <ul style="list-style-type: none"> - AAC, NY - SBIR Phase III contract for common acoustic processor, acoustic intercept, and common surface and air undersea warfare functional segments. - AM, VA - SBIR Phase III contract for common acoustic processor and towed array/beamformer processing improvements to the MFTA functional segment and prime contractor for 'Surface Ship Sonar Integrated Data Fusion Initiative' FY 2007 Congressional Add. - GD-AIS, VA - SBIR Phase III contract for common acoustic processor, prime contractor for 'Surface Ship ASW R&D Improvements' FY 2007 Congressional Adds provided to complete the development of promising technologies for at-sea tests in representative warfighting environments. - JHU/APL, MD - Design, development, and integration of MFTA, Torpedo Detection Classification and Localization (TDCL) improvements, SSEMP participation in experiment planning, conduct, data reconstruction and post-exercise analysis. - UT/ARL, TX - Design, development, and integration of active sonar and Sonar Performance Prediction Functional Segment (SPPFS) improvements, SSEMP participation in experiment planning, conduct, data reconstruction and post-exercise analysis. - Lockheed Martin, NY - Prime AN/SQQ-89(V) System Integrator, Production, and Design Agent. - Naval Sea Systems Command, Newport, RI - AN/SQQ-89(V) Technical Design Agent support. - Naval Sea Systems Command, Dahlgren, VA - AN/SQQ-89(V) Technical Design Agent support. 			

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE			
									February 2008			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RD TEN/BA 7		0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION					1916/Surface ASW System Improvement					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
S/W Development/Integration/Test	C/CPFF	AAC, NY	2.365	0.143	FEB-07	0.000		0.560	NOV-08	CONT	CONT	0.000
S/W Development/Integration/Test	C/CPFF	AM, VA	2.598	3.224	DEC-06	0.979	JAN-08	1.700	NOV-08	CONT	CONT	0.000
S/W Development/Integration/Test	C/CPFF	GD-AIS, VA	3.196	5.014	MAR-07	0.996	JAN-08	0.700	NOV-08	CONT	CONT	0.000
S/W Development/Integration/Test	C/CPFF	LOCKHEED MARTIN, NY	0.000	0.000		1.205	NOV-07	0.750	NOV-08	CONT	CONT	0.000
S/W Development/Integration/Test	C/CPFF	JHU/APL, MD	0.823	0.000		2.812	JAN-08	12.700	DEC-08	CONT	CONT	0.000
S/W Development/Integration/Test	C/CPFF	UT/ARL, TX	0.110	0.905	MAY-07	1.665	JAN-08	1.340	DEC-08	CONT	CONT	0.000
S/W TDA Support	WR	NAVSEA/NEWPORT, RI	0.793	0.565	MAY-07	0.844	NOV-07	1.250	NOV-08	CONT	CONT	0.000
S/W TDA Support	WR	NAVSEA/DAHLGREN, VA	0.203	0.000		0.075	NOV-07	0.200	NOV-08	CONT	CONT	0.000
S/W Development/Integration/Test	WR	VARIOUS	0.465	0.738	NOV-06	1.166	NOV-07	1.286	NOV-08	CONT	CONT	0.000
Subtotal Product Development			10.553	10.589		9.742		20.486		CONT	CONT	0.000
Remarks:												
DT/OT Test Conduct/Support	WR	COMOPTEVFOR, VA	0.004	0.333	JAN-07	0.000		0.000		0.000	0.337	0.000
IV&V/SAT/TEMP Assess./Update	WR	NAVSEA/NEWPORT, RI	0.109	0.117	NOV-06	0.600	NOV-07	0.600	NOV-08	CONT	CONT	0.000
DT/OT/Miscellaneous T&E	WR	VARIOUS	0.088	0.000		0.100	NOV-07	0.100	NOV-08	CONT	CONT	0.000
Subtotal Test and Evaluation			0.201	0.450		0.700		0.700		CONT	CONT	0.000
Remarks:												
Program Management Support	C/CPAF	BAE SYSTEMS, MD	0.346	0.358	FEB-07	0.371	JAN-08	0.384	NOV-08	CONT	CONT	0.000
Program Office Travel	ALLOT	NAVSEA PEO IWS5, DC	0.079	0.150	NOV-06	0.150	NOV-07	0.150	NOV-08	CONT	CONT	0.000
Subtotal Management Services			0.425	0.508		0.521		0.534		CONT	CONT	0.000
Remarks:												
Total Cost			11.179	11.547		10.963		21.720		CONT	CONT	0.000

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-4, SCHEDULE PROFILE

DATE

February 2008

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NUMBER AND NAME

PROJECT NUMBER AND NAME

RDTEN/BA 7

0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION

1916/Surface ASW System Improvement

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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/Contract Milestones/Reviews			▲		New Contract Award - AN/SQQ-89(V) Prime System Integrator																							
AN/SQQ-89A(V)15 Software Segment Development/Integration/Test - Build 2	▲	█	█	█																								
AN/SQQ-89A(V)15 Software Segment Development/Integration/Test - Build 3		█	█	█					▲	█	█	█																
AN/SQQ-89A(V)15 Software Segment Development/Integration/Test - Build 4																	▲	█	█	█								
AN/SQQ-89A(V)15 Software Segment Development/Integration/Test - Build 5																												
ASW Fleet Synthetic Training (FST) Development - Phase 1A/B/C/D, Phase 2A/B/C																												
Test & Evaluation Milestones																												
AN/SQQ-89A(V)15 Developmental Test & Evaluation (DT&E) (Completed FY04)																												
AN/SQQ-89A(V)15 Initial Operational Test & Evaluation (IOT&E) (Completed FY05, 'Operationally Effective' per COMOTEVFOR)																												
Surface Ship Enhanced Measurement Program (SSEMP); Conduct data collection and analysis of selected exercises and real-world opportunities																												
Production Milestones																												
AN/SQQ-89A(V)15 Production Software Delivery to System Integrator via Spiral Development Process																												
AN/SQQ-89A(V)15 Backfit Fielding Plans Install Start Date Shown; System # Shown in ()																												
DDG FLT IIA (OPN BLI 2136)											(1)	(2,3)		(4)		(5)	(6)	(7)	(8)		(9,10,11,12)	(13,14)	(15,16)	(17)	(18,19)	(20)	(21,22)	
CG B/L 3/4 (OPN BLI 0960)																												
DDG FLT I/II (OPN BLI 0900)											(1)	(2)																

CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL						DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION			PROJECT NUMBER AND NAME 1916/Surface ASW System Improvement			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
New Contract Award - AN/SQQ-89(V) Prime System Integrator		3Q						
Build 2 S/W Segment Government Acceptance Test (GAT)		1Q						
Build 2 S/W Segment Integration/Test		2Q-4Q	1Q-2Q					
Build 2 Production S/W Delivery to System Integrator			3Q					
Build 3 S/W Segment Development		2Q-4Q	1Q-4Q	1Q				
Build 3 S/W Segment GAT				1Q				
Build 3 S/W Segment Integration/Test				2Q-4Q	1Q-2Q			
Build 3 Production S/W Delivery to System Integrator					2Q			
Build 4 S/W Segment Development				2Q-4Q	1Q-4Q	1Q		
Build 4 S/W Segment GAT						1Q		
Build 4 S/W Segment Integration/Test						2Q-4Q	1Q	
Build 4 Production S/W Delivery to System Integrator							2Q	
Build 5 S/W Segment Development						2Q-4Q	1Q-4Q	1Q
Build 5 S/W Segment GAT								1Q
Build 5 S/W Segment Integration/Test								2Q-4Q
ASW Fleet Synthetic Training (FST) Phase 1A/B/C/D Development				2Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q	
ASW FST Phase 2A/B/C Development						3Q-4Q	1Q-4Q	1Q-4Q
Surface Ship Enhanced Measurement Program (SSEMP)			2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
DDG51 Class FLT IIA Backfit Install (Ships 1,2,3)				3Q-4Q				
DDG51 Class FLT IIA Backfit Install (Ship 4)					2Q			
DDG51 Class FLT IIA Backfit Install (Ships 5,6,7,8)						1Q-4Q		
DDG51 Class FLT IIA Backfit Install (Ships 9,10,11,12,13,14,15,16)							2Q-4Q	
DDG51 Class FLT IIA Backfit Install (Ships 17,18,19,20,21,22)								1Q-4Q
CG47 Class B/L 3/4 Backfit Install (Ship 1)						4Q		
CG47 Class B/L 3/4 Backfit Install (Ships 2,3,4)							4Q	
CG47 Class B/L 3/4 Backfit Install (Ships 5,6,7)								4Q
DDG51 Class FLT I/II Backfit Install (Ship 1)					2Q			
DDG51 Class FLT I/II Backfit Install (Ship 2)					3Q			
DDG51 Class FLT I/II Backfit Install (Ships 3,4)							4Q	
DDG51 Class FLT I/II Backfit Install (Ship 5,6,7)								4Q

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0205620N/SURFACE ASW COMBAT SYSTEM INTEGRATION	PROJECT NUMBER AND NAME 9999/CONGRESSIONAL ADDS	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
Advanced Materials for Acoustic Window Applications	0.996	6.359	0.000
RDT&E Articles Quantity	0	0	0
FY07/08 Congressional Adds: Study the feasibility of replacing existing sonar window materials with a material that has the potential to provide a Total Ownership Cost (TOC) reduction of three (3) to five (5) times for acoustic windows used on Navy surface combatants such as the DDG 51 and DDG 1000 Class vessels, while improving mission readiness and acoustic performance. A full-scale, prototype composite AN/SQS-53C sonar window is currently being built as a first-article window. Based on the lessons learned from the first-article window produced, a second-article window is planned to be installed on a decommissioned (test-ship) Surface Combatant. After subsequent at-sea testing, data analysis, and refined modeling & simulation, a third-article window will be installed, tested, and analyzed, on an in-service Surface Combatant (DDG51 Class).			
	FY 2007	FY 2008	FY 2009
Long Range Synthetic Aperture Sonar for ASW	0.000	0.795	0.000
RDT&E Articles Quantity	0	0	0
FY08 Congressional Add: Initiate processor prototype system architecture, requirements modeling, and performance predictions for an ASW Synthetic Aperture Sonar system utilizing the current Navy sonar assets of an AN/SQS-53 hull mounted sonar and the MFTA. A Synthetic Aperture Sonar has the potential to significantly reduce false alarms and eliminate clutter from current US Navy ASW sonar systems. The creation of a synthetic longer array will provide acoustically derived images of contacts at extended ranges supporting the initial detection and rapid classification of ASW threats most notably irrespective of Doppler and in environments of high clutter. It does this through the synthetic formation of an aperture that provides narrow beams and constant resolution with range. This allows the formation of an image of the physical shape and aspect of the contact allowing the rejection of non ASW threat shapes as clutter while identifying high probability ASW threats.			

CLASSIFICATION:		UNCLASSIFIED							
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7			R-1 ITEM NOMENCLATURE 0205632N/MK-48 ADCAP						
COST (In Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost			24.214	19.952	15.879	15.560	28.155	28.680	29.218
0366 / MK 48 ADCAP			24.214	17.567	15.879	15.560	28.155	28.680	29.218
9999 / CONGRESSIONAL ADDS			0.000	2.385	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

A. (U) Mission Description and Budget Item Justification:

MK 48 ADCAP (Advanced Capability) Research, Development, Test and Evaluation (RDT&E) program executes spiral 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 PE (0205632N/0366) is tied to development programs that leverage a joint US/Australia, Armaments Cooperative Project to develop MK 48 ADCAP, and Future Naval Capability (FNC) technologies developed by 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 for FY01 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 developed 22 test articles (2 test vehicles and 20 Engineering Development Models (EDMs)). CBASS met Milestone II requirements on 6 March 1998 and received Milestone Decision Authority (MDA) approval to proceed into Engineering and Manufacturing Development (EMD) phase. CBASS Phase I received Full Rate Production (FRP) decision in June 2006. Initial Operational Capability (IOC) occurred during FY06. The Commonwealth of Australia, Royal Australian Navy (RAN) is participating to jointly develop CBASS torpedo and signed an Armaments Cooperative Project (ACP) Agreement March 2003. The intent of the CBASS program was to achieve improvements in shallow water torpedo performance.

(U) The MK 48 ADCAP torpedo R&D program focuses on two specific areas near term: Torpedo APBs and broadband sonar capability. 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. This program also leverages the RAN joint torpedo program and Future Naval Capability (FNC) technologies developed by the Office of Naval Research (ONR) in the areas of torpedo broadband signal processing, tactics processing, and alertment. The Torpedo APB program also will incorporate MK 54 Lightweight Torpedo algorithms and tactics software to create a Common Torpedo Development program. Future APB software builds will utilize the common torpedo software to deliver software and tactics to both the MK 48 ADCAP and MK 54 Lightweight torpedoes.

CLASSIFICATION:		UNCLASSIFIED							
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)								DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7				R-1 ITEM NOMENCLATURE 0205632N/MK-48 ADCAP					
<p>(U) The Torpedo Technology Insertion program will provide for evolutionary torpedo improvements and upgrades (including the transition and testing of advanced technologies from the Research and Development (R&D) community (6.2/6.3) and contractors). This approach will incorporate developmental testing of the Future Naval Capability (FNC) transitioning technologies for Advanced Capability (ADCAP) upgrades in the areas of torpedo 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.</p> <p>(U) Both FNC technologies and MK 54 Lightweight torpedo developments will be transitioned into ADCAP through Tech Insertion packages. Priorities for Tech Insertion are a new array to improve torpedo effectiveness, advanced processing, and advanced counter-countermeasure capability.</p>									
B. PROGRAM CHANGE SUMMARY:									
Funding:				FY 2007	FY 2008	FY 2009			
FY2008 President's Budget				24.870	17.941	18.709			
FY2009 President's Budget Controls				24.214	19.952	15.879			
Total Adjustments				- 0.656	2.011	- 2.830			
Summary of Adjustments									
Program Adjustment				0.000	0.000	-2.800			
Undistributed General Reductions				-0.031	-0.389	0.000			
Small Business Innovation Research (SBIR)				-0.625	0.000	0.000			
Pricing Adjustment				0.000	0.000	-0.030			
Congressional Adds					2.400				
Subtotal				-0.656	2.011	-2.830			
Schedule:									
Technology Insertions: Technology Insertion is being									
delayed two years due to a reduction in CBASS Technology									
Insertion Funding in FY09 and FY10. Aggressive development									
efforts to resume in FY11 to support FY15 delivery.									
C. OTHER PROGRAM FUNDING SUMMARY:									
Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
MK 48 ADCAP MODS WPN/PE0204284N/BA-3/BLI 3225)	64.568	72.858	61.545	68.728	65.557	66.871	76.047		

CLASSIFICATION:		UNCLASSIFIED
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	R-1 ITEM NOMENCLATURE 0205632N/MK-48 ADCAP	
<p>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.</p> <p>Low-Rate Initial Production (LRIP) Contract for CBASS units awarded in FY 2004 and to include RAN units.</p> <p>E. MAJOR PERFORMERS: Naval Undersea Warfare Center (NUWC) Division Newport, Newport, RI - System Integrator and Software Developer. Continued integration and development testing of CBASS hardware and software components and test equipment.</p> <p>Raytheon awarded Sole Source Production Contract for MK 48 ADCAP MODS, Lightweight MK 54 and CBASS kits, including RAN units.</p> <p>Commander Operational Test and Evaluation Force (COTF) - Test Planning, Independent Operational Evaluation.</p>		

CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0205632N/MK-48 ADCAP			PROJECT NUMBER AND NAME 0366/MK 48 ADCAP		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	24.214	17.567	15.879	15.560	28.155	28.680	29.218
RDT&E Articles Qty	0	2	0	1	0	0	1
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
Notes: Articles reflect: FY08: delivery of Advanced Processor Builds (APBs) Spiral 1; FY08:completion of APB Spiral 2/3 development; FY10: delivery of APB-1/Spiral 4 (Common); FY13: delivery of APB/Spiral 5.							
A. (U) Mission Description and Budget Item Justification: MK 48 ADCAP Research, Development ,Test and Evaluation (RDT&E) program executes spiral development of weapon performance improvements in two development product areas: (1)Advanced Processor Builds (APBs), and (2) 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 PE (0205632N/0366) is tied to development programs that leverage a joint US/Australia, Armaments Cooperative Project to develop MK 48 ADCAP, and Future Naval Capability (FNC) technologies being developed by Office of Naval Research (ONR).							

CLASSIFICATION:		UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION				DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0205632N/MK-48 ADCAP	PROJECT NUMBER AND NAME 0366/MK 48 ADCAP		
B. ACCOMPLISHMENTS/PLANNED PROGRAM:				
	FY 2007	FY 2008	FY 2009	
TORPEDO APB	13.976	15.012	15.379	
RDT&E Articles Quantity	0	2	0	
<p>FY07 - Efforts focused on Advance Processor Builds (APBs) Spiral 2/3 development. Tasking included software coding, modeling and simulation and engineering test in water. Steps in the APB process included 1) evaluation, 2) assessment, 3) implementation, and 4) system assessment. Completed operational testing for APB Spiral 1. Improves shallow water performance and increases the probability of kill.</p> <p>FY08 - Spiral 1 torpedo APB software build planned for release in FY08 which provides full Spiral 1 capability and torpedo effectiveness gain. Complete APB Spiral 2/3 development. Continue Spiral 4 development. Improves shallow water performance and increases the probability of kill.</p> <p>FY09 - Continue development of APB Spiral 4 in preparation for software release in FY10. Improves shallow water performance and increases the probability of kill.</p>				
	FY 2007	FY 2008	FY 2009	
OPERATIONAL TEST SUPPORT	0.500	1.000	0.500	
RDT&E Articles Quantity	0	0	0	
<p>FY07- Provided for accreditation requirements and conducted analysis relating to APB Spiral 1 release planned in FY08. Improves shallow water performance and increases probability of kill.</p> <p>FY08 - Conduct analysis and prepare final report for test and evaluation efforts prior to APB Spiral 1 release. Improves shallow water performance and increases probability of kill.</p> <p>FY09 - Provide for accreditation requirements and conduct analysis relating to APB Spiral 4 software release planned in FY10. Improves shallow water performance and increases probability of kill.</p>				
	FY 2007	FY 2008	FY 2009	
TECHNOLOGY INSERTIONS	9.738	1.555	0.000	
RDT&E Articles Quantity	0	0	0	
<p>FY07- Conducted studies to support development of Heavyweight Torpedo Capability Development Document (CDD), Capability Production Document (CPD), and Technology Insertion Package. Began development of Technology Insertion #1 and support plan for Insensitive Munitions (IM) warhead documented in Strategic Plan. Improves shallow water performance and increases probability of kill.</p> <p>FY08 - Continue development of Technology Insertion #1 and support plan for an IM warhead. Improves shallow water performance and increases probability of kill.</p> <p>FY09 - No work being performed due to program adjustments.</p>				

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0205632N/MK-48 ADCAP					PROJECT NUMBER AND NAME 0366/MK 48 ADCAP					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
Primary Hardware Development	WR	NUWC NPT	6.075	4.738	OCT-06	0.778	OCT-07	0.000	N/A	CONT	CONT	0.000
Primary Hardware Development	Various	Various	0.000	5.000	DEC-06	0.777	JAN-08	0.000	N/A	CONT	CONT	0.000
Subtotal Product Development			6.075	9.738		1.555		0.000		CONT	CONT	0.000
Remarks: Remarks: Various - TBD; Primary hardware development activity to be selected after evaluation of technologies from various vendors.												
Software Development	WR	NUWC NPT	3.625	3.622	OCT-06	3.079	OCT-07	1.960	OCT-08	CONT	CONT	0.000
Software Development	Various	Various	16.912	0.727	DEC-06	1.800	DEC-07	1.800	DEC-08	CONT	CONT	0.000
Integrated Logistics Support	WR	NUWC NPT	0.000	0.000	N/A	0.100	OCT-07	0.040	OCT-08	CONT	CONT	0.000
Systems Engineering	WR	NUWC NPT	9.497	6.015	OCT-06	2.903	OCT-07	3.162	OCT-08	CONT	CONT	0.000
Subtotal Support Costs			30.034	10.364		7.882		6.962		CONT	CONT	0.000
Remarks:												
Test & Evaluation	WR	NUWC NPT	1.707	1.258	OCT-06	3.639	OCT-07	4.552	OCT-08	CONT	CONT	0.000
Operational Test & Evaluation	WR	Operational Test Support	0.500	0.500	NOV-06	1.000	NOV-07	0.500	NOV-08	CONT	CONT	0.000
Modeling & Simulation	WR	NUWC NPT	1.450	1.208	OCT-06	2.190	OCT-07	2.564	OCT-08	CONT	CONT	0.000
Modeling & Simulation	C,CPFF	ARL / PSU	0.893	0.650	DEC-06	0.800	DEC-07	0.800	DEC-08	CONT	CONT	0.000
Subtotal Test and Evaluation			4.550	3.616		7.629		8.416		CONT	CONT	0.000
Remarks:												
Program Management Support	Various	Alion Science	0.451	0.451	MAY-07	0.451	OCT-07	0.451	OCT-08	CONT	CONT	0.000
Travel	WR	NAVSEA	0.065	0.045	MAY-07	0.050	OCT-07	0.050	OCT-08	CONT	CONT	0.000
Overhead			0.120	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	0.000
Subtotal Management Services			0.636	0.496		0.501		0.501		CONT	CONT	0.000
Remarks:												
Total Cost			41.295	24.214		17.567		15.879		CONT	CONT	0.000

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-4, SCHEDULE PROFILE

DATE

February 2008

APPROPRIATION/BUDGET ACTIVITY

RD TEN/BA 7

PROGRAM ELEMENT NUMBER AND NAME

0205632N/MK-48 ADCAP

PROJECT NUMBER AND NAME

0366/MK 48 ADCAP

PROGRAM EFFORTS

	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Torpedo Advanced Processor Builds	ADCAP Performance Upgrades based on Fleet Priorities (DT/OT testing scheduled prior to each software						
	APB/Spiral 1 ▲	APB/ Spiral 2/3 ▲		APB Spiral 4 ▲		APB/Spiral 5 ▲	→
CBASS Development							
Torpedo Technology Insertion	Technology Insertion #1 Development ▲						→
	SDR ▲						

CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL						DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0205632N/MK-48 ADCAP			PROJECT NUMBER AND NAME 0366/MK 48 ADCAP			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Torpedo Advanced Processor Build								
Software Development		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Software Delivery			2Q-4Q		4Q			1Q
Torpedo Technology Insertion								
Study Phase/System Development		1Q-4Q	1Q-4Q			1Q-4Q	1Q-4Q	1Q-4Q
System Design Review (SDR)		1Q						
Developmental Testing							3Q-4Q	1Q-2Q
Development/Operating Testing								3Q-4Q

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0205632N/MK-48 ADCAP	PROJECT NUMBER AND NAME 9999/CONGRESSIONAL ADDS	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
9999/Torpedo Post-Launch Communications System	0.000	1.595	0.000
RDT&E Articles Quantity	0	0	0
Torpedo Post-Launch Communications System Congressional add funds the MK-48 Heavyweight Torpedo (HWT) Post-Launch Communication System. This project will include evaluation of innovative flex-hose/guidance wire concepts using hydrodynamic computational simulation models, as well as fabrication, test and evaluation of prototype hardware to demonstrate compliance with Fleet requirements. Higher bandwidth post-launch communication technologies will also be developed, tested and evaluated, and a new flex-hose will be designed. The new flex-hose concept is required to provide high reliability operation over the entire speed and depth operating envelope of the submarine including shallow water, near bottom engagements.			
	FY 2007	FY 2008	FY 2009
9999/Digital Data for Weapons System Readiness	0.000	0.790	0.000
RDT&E Articles Quantity	0	0	0
Digital Data for Weapons System Readiness Congressional add funds for the MK-48 ADCAP Heavyweight Torpedo (HWT). This program will develop secure data sharing, analysis, and collaboration methodologies and tools for Heavyweight Torpedo programs. These funds will be used to organize and facilitate collaborate projects between industry, governmental facilities, and academia in order to improve the use and sharing of digital data in order to increase overall weapon system readiness.			

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						0205633N, AVIATION IMPROVEMENTS	
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	97.012	117.805	122.906	105.116	95.090	75.958	77.469
0601 ACFT HANDLING & SERVICE EQUIPMENT	2.517	2.909	3.236	3.307	3.386	3.457	3.532
0852 CONSOLIDATION AUTOM SPT SYS	7.681	6.670	8.956	9.098	9.289	7.453	7.615
1041 ACFT EQ REPL/MAINT PROG	2.966	2.198	3.750	3.837	3.917	4.001	4.083
1355 A/C ENG COMP IMP (CIP)	57.370	56.379	59.963	59.246	60.410	60.945	62.093
3189 DIGITAL I-TER	10.263	4.277	*	*			
3190 MULTI-PURPOSE BOMB RACKS		26.095	47.001	29.628	18.088	.102	.146
9999 CONGRESSIONAL ADDS	16.215	19.277					

(U) 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 (CASS) is a standardized Automated Test Equipment (ATE) with computer assisted, multi-function capabilities to support the maintenance of aircraft subsystems and missiles. Project 1041 - Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) 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 (CIP) develops reliability and maintainability (R&M) and safety enhancements for in-service Navy aircraft engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, fuel systems, fuels, and lubricants. Project 3189 - Digital I-TER will develop an increased capability to the existing BRU-42 Improved Triple Ejector Rack (ITER) for the AV-8B. Project 3190 is the Multi-Purpose Bomb Rack (MPBR). The MPBR will replace the BRU-41/41/42/33/55 and provide use for both tactical and training stores on one common rack. The MPBR will be integrated on the F/A-18A+/C/D and F/A-18E/F as part of this project. Project 9999 is Congressional Adds.

* FY 2009 and FY 2010 funds realigned to PE 0604214N, Project 2634.
 FY2007 funding total includes \$ 10.9M received in GWOT supplemental.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget:	98.324	100.284	108.840
FY 2009 President's Budget:	97.012	117.805	122.906
Total Adjustments	-1.312	17.521	14.066
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-1.658	-1.879	
Congressional Increases	0.500	19.400	
Economic Assumptions			-0.348
Miscellaneous Adjustments	-0.154		14.414
Subtotal	-1.312	17.521	14.066

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0205633N, AVIATION IMPROVEMENTS	

Schedule: Project 0601 -The Turboprop Engine Instrumentation (TETI) Team conducted a technology assessment of TETI requirements compared to the existing Shaft Engine Test Instrumentation (SETI) Engine Test System capability and determined that the SETI System met all data acquisition, test and measurement requirements of TETI. Therefore the decision was made to utilize the SETI hardware for the TETI Program and develop the Test Program Set (TPS) software for each turboprop engine variant utilizing in-house engineering at NAVAIR Lakehurst. This technology assessment and decision process to use SETI and develop TPS's in-house caused the two quarter slip in the TETI schedule. However, this acquisition strategy is expected to yield cost savings and a reduction in the TETI schedule going forward, by eliminating the contracting process and contractor monitoring required for development of TETI and each TPS.

Project 0601: TETI elimination of Acquisition Milestones B and C, and the change to a developmental ECP. During the TETI requirements technology assessment that was conducted in FY07, it was determined that the existing SETI Engine Test System hardware would meet the data acquisition, test and measurement requirements of TETI. Therefore, an ECP development effort is being conducted to implement TETI. The development of the Test Program Set (TPS) software for each turboprop engine variant and any additional hardware will be accomplished utilizing in-house engineering at NAVAIR Lakehurst.

Due to the anticipated complexity of the Next Generation Munitions Handler (NGMH), and the potential for the production contract award going to a different contractor than the original developer (Foster Miller Corporation), additional time was incorporated into the schedule to require the production contractor to build and successfully performance test several LRIP units before Full Rate Production (FRP) is initiated. This additional schedule time lowers risk to the program and postpones the FRP by one quarter.

Project 0852 - Schedule change to better leverage the Agile Rapid Global Combat Support (ARGCS) ACTD Technology.

Project 1041 - The embedded fire bottle condition sensor project encountered a slight schedule slippage, so the funding/planning was extended two quarters into FY08 to accommodate work that the fleet support teams will accomplish. Other schedule changes due to maturation of several programs and several new start efforts.

Project 1355 - Not Applicable

Project 3189 - Digital-ITER milestone schedule has changed due to the realignment of funds to the AV-8B program (PE 0604214N, Project 2634). The Digital-ITER program funds development efforts to upgrade the bomb rack. Due to the changes in acquisition strategy the funding realigned to the AV-8B program is for hardware development and integration efforts.

Project 3190 - The Multi Purpose Bomb Rack (MPBR) is designated as a "new start" program for FY2008. Due to the delays encountered with the passing of the FY2008 Authorization Bill, the MPBR program was not able to initiate required tasks to meet the previously identified Milestones, the release of the RFI which would evaluate proposals for the selection of a contractor for the development phase of the program. Subsequently, MS B, the start of the development phase and other critical events have been delayed. The program is currently maintaining the timelines for the completion of these phases and MS C as initially indicated.

Technical: Not Applicable

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EXHIBIT R-2a, RDT&E Project Justification							DATE:						
APPROPRIATION/BUDGET ACTIVITY							February 2008						
RDT&E,N / BA-7			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME							
			0205633N, AVIATION IMPROVEMENTS			0601, COMMON GROUND EQUIPMENT							
COST (\$ in Millions)							FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0601 COMMON GROUND EQUIPMENT							2.517	2.909	3.236	3.307	3.386	3.457	3.532
RDT&E Articles Qty							3	2	3	3	3	3	

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.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Next Generation Munitions Handler (NGMH)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.182	1.423	0.507
RDT&E Articles Qty	1	1	1

R&D program to develop robotic weapons loader for both ship and shore with primary focus on targeting future weapons and aircraft. Plan is to support CVN 21 initiatives and to back-fit current CVNs and amphibious ships with technology features developed under NGMH program. One lab prototype will upload/download munitions in support of sea-based aviation, specifically the CVN-21 environment. It will be a self-powered diesel/electric unit with human amplification technology. Newly developed high-torque electric actuator/motors will provide the robotics. Variable geometry lonator wheels will provide the mobility for the vehicle. Self diagnostics for maintenance analysis will be included for the design.

Turboprop Engine Test Instrumentation (TETI)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.835	1.486	2.379
RDT&E Articles Qty	1	1	1

The Turboprop Engine Test Instrumentation (TETI) program objective is to provide an integrated computer based measurement and automation system for Intermediate Maintenance level testing of Navy/Marine Turboprop engines. The acquisition approach is to develop, acquire, validate, deploy and support production configurations of TETI and Test Program Sets (TPS), utilizing the existing Jet Engine Test Initiative (JETI) technology, and integrate this capability into existing land based engine test systems. This enhanced capability will allow for full performance engine testing of the T56 Series Turboprop engines. An ECP will be developed to upgrade the existing engine test systems.

Shipboard Firefighting Vehicle (SFV)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			0.350
RDT&E Articles Qty			1

The Shipboard Firefighting Vehicle (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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 0601, COMMON GROUND EQUIPMENT

Expeditionary Airfields	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	0.500		
RDT&E Articles Qty	1		

Expeditionary Airfields - Per Correlation Forces Land Component Command (CFLCC), Aviation Safety Alert Document Number 06-024 (Aircraft Grounding and Mooring) all aircraft deployed in the (CFLCC) area of responsibility parked outside of a hanger must be grounded and moored. An urgent Universal needs statement has been submitted by forces forward requiring capability to both tie-down and ground aircraft at all bed-down locations in Iraq. Capability to install tie-downs on surfaces other than AM-2 Matting does not exist within the Marine Air Group Task Force. Grounding capabilities do exist. Therefore, there is a requirement to develop an aircraft tie-down and grounding capability in support of Global War on Terror. Aircraft and personnel, and all other deployable aviation units, will be susceptible to damage due to high-winds, microbursts, rotor wash, lightning strikes and static electricity thus potentially resulting in the loss of aircraft and personnel and directly impacting the Marine Expeditionary Airfields' ability to project aviation combat power to its fullest capability.

C. OTHER PROGRAM FUNDING SUMMARY:	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	To <u>Complete</u>	Total <u>Cost</u>
APN 070500 Ground Support Equipment	165.849	167.933	162.389	162.595	163.811	152.991	152.553		1,128.121
Related RDT&E: Not Applicable									

D. ACQUISITION STRATEGY:

This is a non-ACAT program. Field activities propose tentative RDT&E projects. Internal panel merits and selects projects. Field activities develop projects and submit results. Operational Advisory Group (OAG) process selects projects to transition to procurement.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E,N / BA-7			0205633N, AVIATION IMPROVEMENTS				0601, COMMON GROUND EQUIPMENT					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development (AC/SC)	TBD	TBD								5.975	5.975	
Primary Hdw Development-NGMH	C-CPFF	FOSTER-MILLER, INC, WALTHAM, MA	5.323	.800	3/31/2007	1.172	3/31/2008	.250	3/31/2009		7.545	7.545
Primary Hdw Development-SFV	C-CPFF	TBD								5.922	5.922	
Primary Hdw Development-TETI	VARIOUS	VARIOUS		.500	3/31/2007	1.136	3/31/2008	2.020	3/31/2009		3.656	3.656
Primary Hdw Development-TETI	VARIOUS	VARIOUS	.566								.566	.566
Systems Eng (AC/SC)	WX	NAWCAD, LAKEHURST NJ								1.024	1.024	
Systems Eng-SFV	WX	NAWCAD, LAKEHURST NJ						.350	3/31/2009	.761	1.111	1.111
Systems Eng-TETI	WX	NAWCAD, LAKEHURST NJ		.335	3/31/2007	.350	3/31/2008	.359	3/31/2009		1.044	1.044
SUBTOTAL PRODUCT DEVELOPMENT			5.889	1.635		2.658		2.979		13.682	26.843	

Remarks:

SUPPORT												
Develop Support Equip-NGMH	WX	VARIOUS	.069								.069	.0691
Develop Support Equip-NGMH	C-CPFF	NAWCAD, LAKEHURST NJ	7.274	.382	VARIOUS	.251	VARIOUS	.257	VARIOUS		8.164	8.164
SUBTOTAL SUPPORT			7.343	.382		.251		.257			8.233	

Remarks:

TEST & EVALUATION												
TEST & EVALUATION - EA	WX	NAWCAD, LAKEHURST NJ		.500	VARIOUS						.500	.500
SUBTOTAL TEST & EVALUATION				.500							.500	




Remarks:

MANAGEMENT												
SUBTOTAL MANAGEMENT												

Remarks:

Total Cost			13.232	2.517		2.909		3.236		13.682	35.576	
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7												PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS												PROJECT NUMBER AND NAME 0601, COMMON GROUND EQUIPMENT				
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	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 TETI				ECP START 								ECP COMPLETE 				FRP DECISION 												
Prototype Phase				ECP (TPS & Associated HW Development)																								
Radar System Development																												
EDM Radar Delivery																												
Software 1XXSW Delivery 2XXSW Delivery																												
Test & Evaluation Milestones TETI Development Test Operational Test				Developmental Testing											Operational Testing													
Production Milestones TETI																												
FRP																												
Deliveries																												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2008												
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7										PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS										PROJECT NUMBER AND NAME 0601, COMMON GROUND EQUIPMENT																
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013											
	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 NGMH								MS B △												MS C △																
Prototype Phase	LAB Prototype Phase/Component Test																																			
Shipboard Prototype Phase									Shipboard Prototype Phase																											
Test & Evaluation Milestones NGMH																																				
Development Test	Developmental Testing																																			
Operational Test									Operational Testing																											
Production Milestones NGMH																				LRIP △																
FRP FY 12																																				
Deliveries NGMH																																				

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2008								
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7								PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS								PROJECT NUMBER AND NAME 0601, COMMON GROUND EQUIPMENT												
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	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																												
SFV									MS B △												MS C △							
Prototype Phase									Prototype Phase																			
Test & Evaluation Milestones																												
SFV Development Test																												
Operational Test																												
Production Milestones																												
SFV (P-25 REP)																												
FRP																												
Deliveries SPV																												

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE:		
					February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&E,N / BA-7	0205633N, AVIATION IMPROVEMENTS				0601, COMMON GROUND EQUIPMENT		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Schedule Profile - TETI (ECP DEV)							
ECP DEV	4Q	1Q-4Q	1Q-4Q	1Q			
TPS & Hardware	4Q						
Developmental Testing	4Q	1Q-4Q					
Operational Testing		4Q	1Q-4Q				
Full Rate Production Decision				3Q			
Full Rate Production Start				4Q			
Schedule Profile - NGMH							
Prototype Phase	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
Milestone B		2Q					
Developmental Testing	1Q-4Q	1Q-2Q					
Milestone C (MS C)					1Q		
Operational Testing		2Q-4Q	2Q-4Q	1Q-4Q			
Start Low-Rate Initial Production I (LRIP I)					1Q		
Low-Rate Initial Production I Delivery						1Q	
Full Rate Production Decision						3Q	
Full Rate Production Start						3Q	
Schedule Profile - SFV							
Prototype Phase			1Q-4Q	1Q-4Q	1Q-4Q		
Milestone B			1Q				
Developmental Testing				2Q-4Q	1Q-2Q		
Milestone C (MS C)						4Q	
Operational Testing				4Q	1Q-4Q	1Q-3Q	
Start Low-Rate Initial Production I (LRIP I)							1Q
Low-Rate Initial Production I Delivery							
Full Rate Production Decision							
Full Rate Production Start							4Q

EXHIBIT R-2a, RDT&E Project Justification						DATE:		
APPROPRIATION/BUDGET ACTIVITY						February 2008		
RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
		0205633N, AVIATION IMPROVEMENTS			0852, CONSOLIDATION AUTOM SPT SYS			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0852 CONSOLIDATION AUTOM SPT SYS		7.681	6.670	8.956	9.098	9.289	7.453	7.615
RDT&E Articles Qty		3	3	2	2	2	2	2

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Consolidated Automated Support System (CASS) project designs and develops modular automated test equipment with computer-assisted, multi-function test capability, standardized hardware, and standard software elements. CASS responds to Fleet Commanders' expressed requirements to correct serious deficiencies in existing automatic test equipment. Program objectives are: (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 systems.

Technologies being developed include synthetic instruments, new Advanced Targeting Forward Looking Infrared (ATFLIR) electro-optics capability, multi-analog test capability to enable functional testing, and CASS station modernization elements.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

CASS Station Upgrades	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.181	.200	.200
RDT&E Articles Qty	1	1	1

Provides technologies for upgrading CASS station test to test emerging weapon system requirements. Includes development of new test capability and extending existing test range accuracies in the time and frequency domains to support low-frequency analog/digital, electro-optic, and radio frequency (RF) systems.

Electro-Optic Capability	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.756	.319	
RDT&E Articles Qty	1	1	

Develops a downsized electro-optic support system to enable Reconfigurable Transportable CASS (RTCASS) to provide support for Marine Air FLIR and LASER Targeting systems.

CASS Modernization Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	6.744	6.151	8.756
RDT&E Articles Qty	1	1	1

Develops and integrates the technologies that will comprise the Modernization Program for the early lots of CASS stations which will be modernized and updated to current testing technologies while maintaining full compatibility with the legacy test program sets. Technologies include: downsized and scalable packaging techniques, multi-lingal runtime capability, interoperability framework and architectures, diagnostics data handling, virtual/synthetic/next-generation instrument concepts and the Agile Rapid Global Combat Support (ARGCS) Advanced Concept Technologies. (ACTD).

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Complete	Cost
APN 070500 CASS	76.504	81.692	81.789	82.247	84.104	103.758	109.609		619.703
Related RDT&E: Not Applicable									

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.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 0852, CONSOLIDATION AUTOM SPT SYS					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development CASS EO	C-CPFF	BOEING COMPANY, THE, SAINT LOUIS, MO	2.175	.756	3/07	.319	11/07				3.250	3.250
Primary Hdw Development CASS EO	C-CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	2.617								2.617	2.617
Primary Hdw Development CASS Mod	C-CPFF	NORTHROP GRUMMAN SYS CORP, SYKESVILLE, MD		2.278	3/07						2.278	2.278
Primary Hdw Development CASS Mod	TBD	VARIOUS				4.749	3/08	7.349	3/09	24.754	36.852	36.852
Primary Hdw Development CASS Mod	C-CPFF	VARIOUS	6.112								6.112	6.112
Primary Hdw Development CASS Upgrades	C-CPFF	VARIOUS	1.354								1.354	1.354
Primary Hdw Development CASS Upgrades	C-CPFF	VARIOUS		.181	3/07	.200	3/08	.200	3/09	1.200	1.781	1.781
SUBTOTAL PRODUCT DEVELOPMENT			12.258	3.215		5.268		7.549		25.954	54.244	

Remarks:

SUPPORT												
Develop Support Equip CASS Mod	WX	VARIOUS	2.556								2.556	
Develop Support Equip CASS Mod	WX	VARIOUS	3.487	4.165	1/07	1.100	1/08	1.100	1/09	6.460	16.312	
SUBTOTAL SUPPORT			6.042	4.165		1.100		1.100		6.460	18.867	

Remarks: Dollars may not add due to rounding.

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												

Remarks:

MANAGEMENT												
Travel CASS Mod	TO	NAVAIR, PAXTUXENT RIVER MD	.686	.275	VARIOUS	.276	VARIOUS	.281	VARIOUS	1.100	2.618	
Travel CASS Mod (NATEC)	TO	NAV AIR TEC EN SV CMD, SAN DIEGO CA	.073								.073	
Travel CASS Mod (NATEC)	WX	NAVICP, PHILADELPHIA PA		.026	11/06	.026	11/07	.026	11/08	.104	.182	
SUBTOTAL MANAGEMENT			.759	.301		.302		.307		1.204	2.873	

Remarks:

Total Cost			19.059	7.681		6.670		8.956		33.618	75.984	
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EXHIBIT R-2a, RDT&E Project Justification							DATE:			
APPROPRIATION/BUDGET ACTIVITY							February 2008			
RDT&E,N / BA-7			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
			0205633N, AVIATION IMPROVEMENTS			1041, ACFT EQ REPL/MAINT PROG				
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1041 ACFT EQ REPL/MAINT PROG				2.966	2.198	3.750	3.837	3.917	4.001	4.083
RDT&E Articles Qty										

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Aircraft Equipment Replacement/ Maintenance Improvement Program (AERMIP) is the only Navy program which provides Research, Development, Test & Evaluation (RDT&E) engineering support specifically for in-service, out-of-production aircraft equipment. AERMIP increases readiness through Reliability and Maintainability (R&M) and safety improvements to existing systems and equipment installed in Naval aircraft. It also provides a transition vehicle to deploy Total Ownership Cost (TOC) 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 (FTG) task.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

AVIONICS AND WIRING	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.352	.893	1.715
RDT&E Articles Qty			

AVIONICS AND WIRING (A)

Validate and transition Office of Naval Research (ONR) funded Smart Wire technology by conducting full aircraft flight test. Verify and validate a replacement Advanced Data Collections System that remotely downloads memory unit information for the AN/ASH-37(v) Structural Data Recording Set (SDRS). Test and perform the required changes to validate the ASW-27 as a replacement to the ASW-25. Perform the required testing to validate that the miniature version Arc Fault Circuit Breaker designed for fighter/attack aircraft and helicopters will work through system level Electro Magnetic Compatibility (EMC) and lighting events. Advance the Processor Maintainability efforts beyond the initial prototype stage to validate that accuracy of the developed common processes to ensure that reliability and maintainability issues caused by obsolescence components are identified and solutions options developed before the issues become critical. Opportunities and issues arise yearly that demand immediate attention to provide significant benefit or to avert an unanticipated problem. AERMIP actively pursues these issues and opportunities and responds quickly to implement a solution. Products are a qualified material or piece of equipment and the procedures/process required for its implementation. Pursue next generation wiring diagnosis and prognostics methods and prove the applicability to Naval aviation. Address avionics related reliability issues impacting multiple aircraft platforms.

AIR VEHICLE	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.614	1.305	2.035
RDT&E Articles Qty			

AIR VEHICLE (B): Qualification and implementation of advanced non-chrome primers with adequate corrosion protection properties. Perform field-testing and validation of the Office of Naval Research developed topcoat with enhanced durability so that it can last 8 years between repainting for approval for all Naval Aviation. Apply the latest sensor technology to develop an "after market" add-on fire bottle-monitoring device that affords immediate visible indication of bottle condition (go / no go). Incorporation of improved corrosion protection schemes and reduce corrosion maintenance cost. Develop strength retention factors for injection-repaired composites that provide full-life repair for structural components on composite aircraft. Field-test and qualify for usage for all Naval Aviation and Office of Naval Research developed long-life CPC that can be effectively employed on a 308-day maintenance cycle. Evaluate high-nitrogen stainless steel as high-strength, high-toughness, high-corrosion resistance alloy for use in carrier-based aircraft components. Review data and identify applications for T 1/34 incandescent light bulb. Determine vibrational test requirements of generators across multiple Naval aviation platforms. Investigate hydraulic servo valves and repair procedures related to hydraulic pressure testing to determine equipment upgrades. Opportunities and issues arise yearly that demand immediate attention to provide significant benefit or to avert an unanticipated problem. AERMIP actively pursues these issues and opportunities and responds quickly to implement a solution. Products are a qualified material or piece of equipment and the procedures/process required for its implementation. Develop new methods of structural repair. Pursue subsystem improvements by increasing component reliability. Qualification and implementation of advanced non-chrome primers with adequate corrosion protection properties.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Not Applicable									

D. ACQUISITION STRATEGY: Not Applicable

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)										DATE: January 1900		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0205633N, AVIATION IMPROVEMENTS				1041, ACFT EQ REPL/MAINT PROG						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Systems Engineering	WX	NAWCAD, PATUXENT RIVER MD	1.165	.962	Various	.904	Various	1.520	Various	Continuing	Continuing	
Systems Engineering	WX	NAWCAD, PATUXENT RIVER MD	.989	.645	Various	.450	Various				2.084	2.084
Systems Engineering	SSFFP	RAYTHEON TECH, INDIANAPOLIS , IN	.300								.300	.300
Systems Engineering	SSFFP	EMA ASSOCIATES, LEXINGTON PARK MD	.200								.200	.200
Systems Engineering	SSFFP	VARIOUS		.689	Various	.334	Various	1.976	Various	Continuing	Continuing	
Systems Engineering	SSFFP	GENERAL ELECTRIC, NISKAYUNA		.504	4/1/2007	.500	1/1/2008				1.004	1.004
SUBTOTAL PRODUCT DEVELOPMENT			2.654	2.800		2.188		3.496		Continuing	Continuing	

Remarks:

SUPPORT												
Studies & Analysis	WX	NADEP, SAN DIEGO CA	.193								.193	
Studies & Analysis	WX	NAWCAD, PATUXENT RIVER MD	12.171								12.171	
SUBTOTAL SUPPORT			12.364								12.364	

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												

Remarks:

MANAGEMENT												
Contractor Eng Sup - Direct Ca	SSFFP	VARIOUS	1.859								1.859	1.859
Program Management Support	WX	NAWCAD, PATUXENT RIVER MD	.295	.166	VARIOUS			.244	VARIOUS	Continuing	Continuing	
Travel	WX	NAWCAD, PATUXENT RIVER MD	.040			.010	VARIOUS	.010	VARIOUS	Continuing	Continuing	
SUBTOTAL MANAGEMENT			2.194	.166		.010		.254		Continuing	Continuing	

Remarks:

Total Cost			17.212	2.966		2.198		3.750		Continuing	Continuing	
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Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																	DATE: February 2008											
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E,N / BA-7					0205633N, AVIATION IMPROVEMENTS										1041, ACFT EQ REPL/MAINT PROG													
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	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
Avionics and Wiring:																												
Smart Wire																												
Arc Fault Circuit Breaker																												
ASW-25 Replacement																												
Investigate High Value Return on Investment																												
Avionics Reliability Enhancement																												
Wiring Diagnostics and Prognostics																												
Air Vehicle:																												
Advanced Non-Chrome Primers																												
Advanced Performance Topcoat																												
Imbedded Fire Bottle Condition Sensor																												
Improved Corrosion Preventative Compounds																												
Corrosion Prevention Control																												
Advanced Methods of Structural Repair																												
Subsystem Improvement Initiatives																												
Integrated In-Service Reliability Prog																												
Investigate High Value Return on Invest																												
Deliveries																												

EXHIBIT R-2a, RDT&E Project Justification						DATE:						
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7						PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS			PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)			
COST (\$ in Millions)						FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1355 A/C ENG COMP IMP (CIP)						57.370	56.379	59.963	59.246	60.410	60.945	62.093
RDT&E Articles Qty												

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 (OR) and Reliability and Maintainability (R&M), and reduces platform Life Cycle Cost (LCC). 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 (RCM) 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 DESERT SHIELD/DESERT STORM operations due to sand erosion. In addition, new problems arise through actual use during deployment of the aircraft. 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 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, 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 PROGRAM:

P3, E2, C130, (T56)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	8.462	7.474	6.407
RDT&E Articles Qty			

P3, E2, C130, (T56)

Implement the Engine Monitory System version 7.0 upgrade. Maintain safety margins by investigating turbine coatings and develop new designs, propeller integration efforts with potential propeller designs, perform engine hot section corrosion and fatigue analysis, and bearing improvements. Analysis of redesign for first stage turbine blades on T56-A427 engines. Qualification and verification testing of redesigned first stage turbine blades. Resolve service revealed problem. Work on resolving fuel nozzle choking issue. Resolve design problems in the areas of safety coupling, compressor leakage, generator problems, and electrical wiring problems. Mission updates and life analysis of critical components.

E2/C2/C130 (Props)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.441	.441	.496
RDT&E Articles Qty			

E2/C2/C130 (Props) Incorporate improved blade heaters. Develop improved propeller control system.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)

Mature Aircraft (J52)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	6.919	5.855	4.943
RDT&E Articles Qty			

Mature Aircraft (J52)

Address the top readiness degraders and AVDLR costs; implement efforts on the J52 engine (EA-6B) ASMET test, perform annual maintenance awareness brief and annual P-408A major engine inspection program. Study and implement solutions to aging aircraft issues and future obsolescence problems. Redesign of diffuser case for increased life. Design and analysis efforts on 4.5 bearing problem on J52 engine (EA-6B).

Efforts on life analysis and mission verification for critical components. Evaluate new coatings and seals for turbine areas. Begin ASMET of Pratt Wittney Associates.

Mature Aircraft (J85)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.694	.744	.892
RDT&E Articles Qty			

Mature Aircraft (J85)

Address the top readiness degraders and AVDLR costs; implement efforts on the J85 engine (F-5) ASMET test, perform annual maintenance awareness brief and annual P-408A major engine inspection program. Study and implement solutions to aging aircraft issues and future obsolescence problems.

H2/H60 (T700)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.205	3.857	4.956
RDT&E Articles Qty			

H2/H60 (T700)

Advanced Helicopter Transmission Lubricant Program, extended transmission component lives, increased readiness by reducing corrosion, Mission Profile Data Collection and Dynamic Component Life Limit efforts. Time on wing and Mean Time Between Removals (MTBR) cost drivers initiatives including compressor durability, Titanium Nitrates (TiN) coating and three-stage turbine. Efforts in the area of engine power loss, secondary power and wiring issues.

UH1N (T400)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.615	.230	.297
RDT&E Articles Qty			

UH1N (T400)

Address top safety concerns as ranked by the OAG and System Safety Working Group, continue to update Navy maintenance manuals, continue to improve time-between-overhaul and reduced impact of high-time parts; T400 Improved Compressor Turbine Stub Shaft, T400 Improved Gas Generator Case Diffuser Inlet, T400 Improved Compressor Coating, T400 Life Management, Study T400 Parts Obsolescence.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)

AV-8B (F402)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.892	3.570	4.461
RDT&E Articles Qty			

AV-8B (F402)
Address top readiness degraders and AVDLR costs; safety of flight issues, engine removal and mission failure drivers, assess life management program issues for engine components. Project included but not be limited to: ASMET testing, support of a Fleet Leader Program, Analytical Condition Insepction (ACI), Engine Life Management Program (ELMP) execution and design fixes for any service revealed deficiencies. LPC 1 vane cracking problems and FMU mod problems. Analysis of ASMET engine test.

H-53/H-46/H-3 (T58/T64)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	7.980	8.174	9.096
RDT&E Articles Qty			

Bleed valve redesign. Working engine design efforts on top cause for engine removals; improve on wing times; addressed top safety concerns as ranked by the Operational Advisory Group (OAG); reliability-centered maintenance program; improve compressor blade retention design; and develop corrosion resistant bearing designs. Improve the mean time between engine removal based upon continued implementation of reliability center maintenance initiatives. Conduct life management analysis to resolve critical rotating component issues based upon engine structural integrity assessments and the master life management plan.

F-18 C/D/E/F (F414/F404)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	12.398	14.698	15.756
RDT&E Articles Qty			

F-18 C/D/E/F (F414/F404)
Address top safety issues, readiness degraders, and AVDLR costs; safety of flight issues; engine removal and mission failure drivers; assess life management program issues for engine components. Analysis and redesign of fuel nozzles and control system to resolve sub idle flameout issues. Analysis of combustion linear to determine cause for durability problems. Analysis and redesign of components with service revealed deficiencies.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)

T-45 (F405)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.768	2.290	2.082
RDT&E Articles Qty			

T-45 (F405) Address top safety issues reported from fleet. Analysis and redesign components with service revealed deficiencies.

V-22 (T406)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.200	.200	.295
RDT&E Articles Qty			

V-22 (T406) Review safety ECP's and support incorporation safety requirements.

F-16 (F100)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.100	.100	.099
RDT&E Articles Qty			

F-16 (F100) Review safety ECP's and support incorporation safety requirements.

Multi-Platform Product Support Teams	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	8.696	8.746	10.183
RDT&E Articles Qty			

Multi-Platform Product Support Teams

Projects designed 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; improve blade and vane repair processes and life cycle support; and improve electrical system product support, wiring, and battery systems.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Not Applicable									0.000

D. ACQUISITION STRATEGY:

Not Applicable

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Systems Eng F110 Engine Program	SS-CPAF	GE - OHIO	17.992								17.992	17.992
Systems Eng F402 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD	2.778	1.365	12/1/2006	1.253	12/1/2007	1.566	12/1/2008		6.962	
Systems Eng F402 Engine Program	SS-CPFF	ROLLS ROYCE - UK	38.240	2.527	12/1/2006	2.317	12/1/2007	2.895	12/1/2008		45.979	45.979
Systems Eng T58/T64 Engine Program	SS-CPFF	GE - MASS	50.484	5.262	10/1/2006	5.679	10/1/2007	6.384	10/1/2008		67.809	67.809
Systems Eng T58/T64 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD	9.949	2.718	1/1/2007	2.495	1/1/2008	2.712	1/1/2009		17.875	
Systems Eng J52 Engine Program	SS-CPFF	P & W - FLORIDA	23.628	4.777	10/1/2006	3.887	10/1/2007	3.420	10/1/2008		35.712	35.712
Systems Eng J52 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD	3.056	2.142	12/1/2006	1.968	12/1/2007	1.523	12/1/2008		8.689	
Systems Eng T56 Engine Program	SS-CPFF	ROLLS ROYCE - IN	20.494	3.091	2/1/2007	2.689	2/1/2008	2.352	2/1/2009		28.626	28.626
Systems Eng T56 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD	8.210	5.371	2/1/2007	4.785	2/1/2008	4.055	2/1/2009		22.421	
Systems Eng F405 Engine Program	SS-CPFF	ROLLS ROYCE - UK	17.125	2.768	12/1/2006	2.290	12/1/2007	2.082	12/1/2008		24.265	24.265
Systems Eng F414 /F404 Engine Program	SS-CPFF	GE - MASS	34.796	10.997	12/1/2006	12.408	12/1/2007	13.317	12/1/2008		71.518	71.518
Systems Eng F414 /F404 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD		1.401	12/1/2006	2.212	12/1/2007	2.439	12/1/2008		6.052	
Systems Eng T700 Engine Program	SS-CPFF	GE - MASS	13.096	2.490	1/1/2007	2.283	1/1/2008	2.934	1/1/2009		20.803	20.803
Systems Eng T700 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD	3.458	1.715	1/1/2007	1.574	1/1/2008	2.022	1/1/2009		8.768	
Systems Eng TF34 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD	.338								.338	
Systems Eng TF34 Engine Program	SSCPFF	G.E. OHIO	7.845								7.845	
Systems Eng T406 Engine Program	WX	NAWCAD, PATUXENT RIVER MD	1.200	.200	12/1/2006	.200	12/1/2007	.295	12/1/2008	Continuing	Continuing	
Systems Eng T400 Engine Program	SS-CPFF	P & W - FLORIDA	3.066	.615	12/1/2006	.230	12/1/2007	.297	12/1/2008		4.208	4.208
Systems Eng J85 Engine Program	SS-CPFF	GE -OK	2.657	.694	11/1/2006	.744	11/1/2007	.892	11/1/2008		4.987	4.987
Systems Eng F100 Engine Program	WX	NAWCAD, PATUXENT RIVER MD	.100	.100	10/1/2006	.100	10/1/2007	.099	10/1/2008	Continuing	Continuing	
Systems Eng Props Program	SS-CPFF	HAM SUNSTRAND - CON	8.312	.441	12/1/2006	.441	12/1/2007	.496	12/1/2008		9.690	9.690
Systems Eng Contracts under 1.0M	VARIOUS	VARIOUS	15.892	.109	10/1/2006	.113	10/1/2007	.115	10/1/2008	Continuing	Continuing	
Systems Eng Lab Fld Activity-1.0 or more	WX	NAWCAD, PATUXENT RIVER MD	145.719	7.111	10/1/2006	7.428	10/1/2007	8.786	10/1/2008	Continuing	Continuing	
Systems Eng Other In-House Spt	VARIOUS	VARIOUS	17.984	.316	10/1/2006	.316	10/1/2007	.313	10/1/2008	Continuing	Continuing	
GFE	MILSTRIP	DES/DLA	6.032	.663	10/1/2006	.451	10/1/2007	.447	10/1/2008	Continuing	Continuing	
Award Fees	SS-CPFF		1.305								1.305	1.305
SUBTOTAL PRODUCT DEVELOPMENT			453.757	56.874		55.863		59.441		Continuing	Continuing	

Totals may not add due to rounding.

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS			PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)					

SUPPORT												
Develop Support Equip	VARIOUS	VARIOUS	6.082	.310	VARIOUS	.310	VARIOUS	.307	VARIOUS	Continuing	Continuing	
SUBTOTAL SUPPORT			6.082	.310		.310		.307		Continuing	Continuing	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	VARIOUS	VARIOUS	3.014	.053	VARIOUS	.053	VARIOUS	.053	VARIOUS	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			3.014	.053		.053		.053		Continuing	Continuing	

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MANAGEMENT												
Program Mgmt Sup	VARIOUS	VARIOUS	1.341	.053	VARIOUS	.053	VARIOUS	.053	VARIOUS	Continuing	Continuing	
Travel - Aquisition Planning	VARIOUS	NAVAIR, PATUXENT RIVER MD	.253	.080	VARIOUS	.100	VARIOUS	.109	VARIOUS	Continuing	Continuing	
SUBTOTAL MANAGEMENT			1.594	.133		.153		.162		Continuing	Continuing	

Total Cost			464.447	57.370		56.379		59.963		Continuing	Continuing	
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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS			PROJECT NUMBER AND NAME 3189, DIGITAL I-TER		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
3189 DIGITAL I-TER		*10.263	4.277	**	**		
RDT&E Articles Qty		10					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: 3189 Digital ITER: 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 JDAM. Using existing ITERs as Government Furnished Material, the electronics tray will be replaced with a more capable electronics package allowing for smart weapons capability. FY07-FY08 RDT&E,N funding under Project Unit:3189 will support full development of Digital ITER. Four RDT&E,N test articles will be electronic test set representatives for the testing of aircraft software and six RDT&E,N test articles will be Digital-ITER representatives BRU-42A/A.

* FY07 Funds are Title IX GWOT supplemental.

** FY09 and FY10 funds realigned to PE 0604214N, Project Unit 2634. These funds were re-aligned 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 Improved Triple Ejector Rack (ITER).

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

DIGITAL ITER KIT DEVELOPMENT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	7.244	3.277	
RDT&E Articles Qty	10		

Continues Digital ITER kit development and prototype fabrication. Continues aircraft integration and Support Equipment re-design.

DIGITAL ITER SOFTWARE DEVELOPMENT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.369	1.000	
RDT&E Articles Qty			

Continues Digital ITER Software Development

DIGITAL ITER TESTING	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.650		
RDT&E Articles Qty			

Continues Digital ITER Testing and Evaluation efforts.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Procurement BLI: 072000 War Consumables (APN-7)									
Digital ITER (\$M)				7.400					7.400

D. ACQUISITION STRATEGY: Digital ITER development will occur as a Navy SBIR effort. Integration and software development on the AV-8B will occur as part of the OSCAR software update and will be done through NAWC AD Patuxent River, MD and NAWC WD China Lake.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 3189, DIGITAL I-TER						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Aircraft Integration	WX	NAWCAD, PATUXENT RIVER MD		.263	Jun 2007	.214	Dec 2007				.477	
Primary Hdw Development	C/CPFF	EDO-MTECH, WARMINSTER PA		4.017	Mar 2008	2.000	Mar 2008				6.017	6.017
SUBTOTAL PRODUCT DEVELOPMENT				4.280		2.214					6.494	

Remarks: Target Value of contract is latest Program Manager Estimate.

SUPPORT												
Develop Support Equip	WX	NAWCAD, LAKEHURST NJ		.350	Dec 2007	.110	May 2008				.460	
Integrated Logistics Sup	WX	NAWCWD, CHINA LAKE CA		.620	Jul 2007	.230	Mar 2008				.850	
	WX	NAWCAD, PAX		1.054	Dec 2007						1.054	
	WX	Cherry Point		.120	Dec 2007						.120	
Software Development	WX	NAWCWD, CHINA LAKE CA TDL		2.369	Jun 2007	1.000	Mar 2008				3.369	
SUBTOTAL SUPPORT				4.513		1.340					5.853	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCWD, CHINA LAKE CA		.650	Mar 2008						.650	
Design Test & Eval	C/CPFF	TBD										
SUBTOTAL TEST & EVALUATION				.650							.650	

Remarks: Target Value of contract is latest Program Manager Estimate.

MANAGEMENT												
Contractor Eng Sup	TBD	TBD		.195	Mar 2008	.130	May 2008				.325	
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD		.300	Mar 2008	.260	May 2008				.560	
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD		.125	Mar 2008	.243	May 2008				.368	
Travel		NAVAIR, PAXTUXENT RIVER MD		.200	Mar 2008	.090	May 2008				.290	
SUBTOTAL MANAGEMENT				.820		.723					1.543	

Remarks:

Total Cost				10.263		4.277					14.540	
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2008												
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME																	
RDT&E, N/ BA-7					0205633N Aviation Improvements										3189 Digital I-TER																	
Fiscal Year	2007				2008				2009				2010				2011				2012				2013							
	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				
Hardware Development & Integration																																
Production																																

* SBIR Phase III Contract provides BRU -42 upgrades, digital interface kit development, and integration analysis.

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EXHIBIT R-2a, RDT&E Project Justification							DATE:			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E,N / BA-7		0205633N, AVIATION IMPROVEMENTS			3190, MULTI-PURPOSE BOMB RACKS					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013		
3190 MULTI-PURPOSE BOMB RACKS			26.095	47.001	29.628	18.088	.102	.146		
RDT&E Articles Qty				8	8					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: 3190 - Multi-Purpose Bomb Racks (MPBR): The MPBR will replace the BRU-41/42/33/55 and provide use for both tactical and training stores on one common rack. The MPBR will be integrated on the F/A-18A+/C/D and F/A-18E/F as part of this project.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

MULTI-PURPOSE BOMB RACK DEVELOPMENT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		20.713	23.802
RDT&E Articles Qty			8

Vendor will begin MPBR kit design and development. Begin prototype development and fabrication. Begin support equipment re-design.

MULTI-PURPOSE BOMB RACK SOFTWARE DEV.	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		3.386	11.083
RDT&E Articles Qty			

Begin software development and aircraft integration.

MULTI-PURPOSE BOMB RACK TESTING	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		1.996	12.116
RDT&E Articles Qty			

Provide systems engineering support and begin Developmental Test and Evaluation.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	To Complete Total Cost		
072000 War Consumables (APN-7)									
Cost Code 73600 Multi-Purpose Bomb Racks (M)	* 4.781			7.368	32.400	34.200	35.100	144.986	258.835
Quantities				59	300	300	300	1,500	2,459

* \$4.781M is an FY07 Congressional Add for MPBR

D. ACQUISITION STRATEGY: MPBR will be developed through a competitively awarded Cost Type contract. Aircraft software and integration will be done at the F/A-18 Advanced Weapons Laboratory at NAWC WD China Lake and through a Cost Type contract with Boeing awarded through China Lake.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 3190, MULTI-PURPOSE BOMB RACKS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Aircraft Integration	WX	NAWCAD, PATUXENT RIVER MD				.750	Jun 2008	3.137	Nov 2008	1.200	5.087	
Primary Hdw Development	C/CPFF	TBD				16.617	Jun 2008	15.041	Nov 2008	3.638	35.296	35.078
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD				2.300	Jun 2008	3.639	Oct 2008	3.130	9.069	
SUBTOTAL PRODUCT DEVELOPMENT						19.667		21.817		7.968	49.452	

Remarks: Target Value of contracts represents latest Program Manager estimates.

SUPPORT												
Develop Support Equip	WX	NAWCAD, LAKEHURST NJ						.380	Oct 2008	.735	1.115	
Software Development	WX	NAWCWD, CHINA LAKE CA				3.386	Sep 2008	11.083	Oct 2008	12.100	26.569	
SUBTOTAL SUPPORT						3.386		11.463		12.835	27.684	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD				1.996	Aug 2008	12.116	Oct 2008	14.430	28.542	
Oper Test & Eval	WX	OPER T & E FOR CD 30, NORFOLK VA								9.120	9.120	
SUBTOTAL TEST & EVALUATION						1.996		12.116		23.550	37.662	

Remarks:

MANAGEMENT												
Contractor Eng Sup	TBD	TBD				.175	Sep 2008	.310	Dec 2008	.735	1.220	1.220
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD				.200	Sep 2008	.400	Oct 2008	.735	1.335	
Government Eng Sup	WX	NAVSEA, CRANE IN				.400	Jan 2008	.550	Oct 2008	1.300	2.250	
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD				.200	Jan 2008	.225	Oct 2008	.601	1.026	
Travel		NAVAIR, PAXTUXENT RIVER MD				.071	Jan 2008	.120	Oct 2008	.240	.431	
SUBTOTAL MANAGEMENT						1.046		1.605		3.611	6.262	

Remarks:

Total Cost						26.095		47.001		47.964	121.060	
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:					
APPROPRIATION/BUDGET ACTIVITY																								February 2008					
RDT&E, N BA-7								PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME													
								0205633N, AVIATION IMPROVEMENTS								3190, MULTI-PURPOSE BOMB RACKS													
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition Milestones							MS B								MS C				FRP				IOC						
Development Phase							[Bar]																						
MPBR Development Critical Events							PDR	CDR																					
MPBR Test Unit Deliveries										DT					OT														
Test & Evaluation Milestones										TRR					OTRR														
First Article Test																													
Development Test										[Bar]																			
Operational Test																													
Production Milestones																													
Low Rate Initial Procurement																													
Full Rate Procurement																													

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS			PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
	16.215	19.277						
Project Cost								
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

CONGRESSIONAL ADDS

UNCLASSIFIED

CLASSIFICATION:				
EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS		
B. Accomplishments/Planned Program				
9752C	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	2.429	3.189		
RDT&E Articles Quantity				
Real-time Weight and Balance System for C-130s				
Realtime Weight and Balance System: This effort is to develop and qualify a real-time measurement weight and balance system for the C-130 to improve safety and speed of dispatch and to reduce costs associated with man-hours and delays.				
9A76N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	1.262	0.989		
RDT&E Articles Quantity				
Advance Avionics Miniaturization Program				
Advance Avionics Miniaturization Program: This is a continuation of 9856: This effort is to study and evaluate advanced cooling technologies for integration into existing avionics systems.				
9A77N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	1.941	1.989		
RDT&E Articles Quantity				
Age Exploration Model Extension				
Age Exploration Model extension program is a continuation of congressional add 9109N: this effort is to develop an Age Exploration Model for Naval aircraft platforms. The model will use existing Naval aircraft data to establish connections between age and reliability, maintainability, and readiness and will provide the Navy with a valuable tool for understanding, predicting, and communicating impacts of decisions and for mitigating risks associated with these decisions.				

CLASSIFICATION:				
EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS		
B. Accomplishments/Planned Program (Cont.)				
9A78N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	0.971			
RDT&E Articles Quantity				
Aircraft Sustainment Technology Rapid Deployment				
Aircraft Sustainment Technology Rapid Deployment Initiative: This effort is to transition existing technology to military aerospace applications thereby decreasing the turn around time for Naval aircraft. Targeted technology includes advanced Non Destructive Inspection technology that would allow rapid inspection and repair of helicopters in theater and advanced manufacturing and reverse engineering systems which would allow the navy to expedite manufacture of critical obsolete components.				
9A79N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	1.360	0.789		
RDT&E Articles Quantity				
Arc Fault Circuit Breaker				
Arc Fault Circuit Breaker with Arc Location System: This effort is to demonstrate a wireless fault sensor to detect location of wire faults that result in the tripping of the arc fault circuit breaker.				
9A80N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	0.971	1.589		
RDT&E Articles Quantity				
F/A 18 Avionics Ground Support System				
This congressional add supports the F/A 18 Avionics Ground Support System.				

CLASSIFICATION:				
EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS		
B. Accomplishments/Planned Program (Cont.)				
9A81N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	1.408			
RDT&E Articles Quantity				
Low Maintenance Material Applications				
Low Maintenance Material Applications: This effort is to develop the processes, materials & technologies to reduce costs for composite parts manufacturing , and reduce failure of critical components operating in extreme conditions (combat, high heat, high corrosion).				
9A82N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	1.019			
RDT&E Articles Quantity				
Nanocrystalline Diamond Coatings-Complex Curved				
This congressional add supports the Nanocrystalline Diamond Coatings Complex Curved Improvement program.				
9A83N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	0.971			
RDT&E Articles Quantity				
NAVAIR Obsolescence Management				
NAVAIR Obsolescence Management and Tools. This is a continuation of 9630: To support the Center for Defense Sustainment Technology, which will conduct studies and analysis support for Aging Aircraft issues.				

CLASSIFICATION:				
EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS		
B. Accomplishments/Planned Program (Cont.)				
9A84N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	0.971	0.789		
RDT&E Articles Quantity				
Rotor Blade Protection				
<p>The add supports the Joint Aeronautical Logistics Commanders (JALC) initiatives to develop an industry standard for sand and water erosion testing and the ability to model coating designs for desirable erosion properties. This program will provide the first standard for sand and water erosion testing, tools for numerical investigation of protective coatings and adhesives, and transition of repair and overhaul technology to the depots.</p>				
9A85N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	1.019			
RDT&E Articles Quantity				
Sacrificial Film Laminates-Navy Helicopter				
<p>The Sacrificial Film Laminated Navy Helicopter program is to prevent damage to helicopter windows caused by harsh environments. This condition is particularly severe during night operations. Incorporation of a tear away film on the windscreens would prevent the necessity to completely remove and replace them, downing the aircraft for the duration of the maintenance action.</p>				
9A86N	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	1.893	1.589		
RDT&E Articles Quantity				
Wireless Sensors for Navy Aircraft				
<p>The purpose of the add is to perform full scale development and test of a prototype wireless strain sensor primarily for rotorcraft applications. This full scale testing supports a Joint Aeronautical Logistics Commanders (JALC) initiative to benchmark best Condition Based Maintenance (CBM) practices and transition a suite of sensors to airborne applications.</p>				

CLASSIFICATION:				
EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS		
B. Accomplishments/Planned Program (Cont.)				
9999	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost		1.189		
RDT&E Articles Quantity				
Lightweight Composite Structure Development				
Lightweight Composite Structures Development for Aerospace Vehicles: The qualification and deployment of complex composite materials for manned and unmanned ground and air vehicles leading to affordable, lightweight composite structures.				
	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost		1.589		
RDT&E Articles Quantity				
Aviation Improvements-Low Observable AC				
Aviation Improvements - Low Observable Aircraft Sealants: Effort to develop aircraft sealants of sufficient strength that are electrically conductive yet resist radar detection.				
	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost		3.988		
RDT&E Articles Quantity				
Rapid Repair UV Curable Structural Adhesives				
Rapid Repair UV Curable structural adhesives: Effort to develop structural adhesives that cure in the presence of UV light reducing required maintenance equipment while retaining required adhesive strength.				

CLASSIFICATION:				
EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS		
B. Accomplishments/Planned Program (Cont.)				
	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost		1.588		
RDT&E Articles Quantity				
Structural Life Tracking				
Structural Life Tracking of Navy and Marine Corps Helicopter Aircraft: Developing and validating a high fidelity customized data collection and analysis protocol for helicopter components that is fully automated				
	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
	FY 07	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: February 2008

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N
PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

COST: (Dollars in Thousands)

Project Number & Title	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE	5,433	3,451	3,625	3,748	3,814	3,851	3,880
0834 LABORATORY FLEET SUPPORT	5,433	3,451	3,625	3,748	3,814	3,851	3,880

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Naval Science Advisor Program ensures that 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 Naval Science Advisor Program enables continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: February 2008

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N
PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

B. PROGRAM CHANGE SUMMARY:

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2008/FY 2009 President's Budget Submission	3,363	3,473	3,608
Congressional Undistributed Reductions/Rescissions	0	-22	0
Execution Adjustments	2,087	0	0
Rate Adjustments	0	0	17
SBIR Assessment	-17	0	0
FY 2009 President's Budget Submission	5,433	3,451	3,625

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: The FY 2007 and out program funds 24 Science Advisors. Execution adjustments fund Science and Technology programs, management, execution and support costs for FY 2007 initiatives.

Schedule: Not applicable.

C. OTHER PROGRAM FUNDING SUMMARY:

Not applicable.

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.

Goal: Provide the optimum technological solutions to achieve Fleet/Force capability requirements.

Metric: Number of capability gaps reduced to technology gaps.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROJECT NUMBER: 0834

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT TITLE: LABORATORY FLEET SUPPORT

COST: (Dollars in Thousands)

Project Number & Title	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
0834 LABORATORY FLEET SUPPORT	5,433	3,451	3,625	3,748	3,814	3,851	3,880

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Naval Science Advisor Program ensures that 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 first hand knowledge of the F/F, warfighting issues, and strategic decision making. The Naval Science Advisor Program enables continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROJECT NUMBER: 0834

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT TITLE: LABORATORY FLEET SUPPORT

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
NAVAL SCIENCE ADVISOR PROGRAM	5,433	3,451	3,625

The Science Advisors are a conduit between the Fleet/Force, the Office of Naval Research (ONR) and the NRE: Specific Fleet Accomplishments were:

- Science Advisor, Commander Seventh Fleet (COMSEVENTHFLT) (C7F), continued active support for discreet elements of the U.S. Pacific Command (PACOM) Pacific Air Study (PAS) by pursuing joint technological solution sets to resolve the study's key findings. Efforts have been specifically identified at the Office of the Secretary of Defense (OSD) as being "instrumental" toward resolution of certain key findings of the PAS - by informing future investment strategy. As Project Director for two first-of-their-kind aircraft carrier vulnerability studies, formally delivered test results. These studies are currently under review by Naval Research Laboratory (NRL), Naval War College, and Navy Systems Commands. A formal commencement of the proposal initiated to conduct a Navy-Air Force Theater Ballistic Early Warning study by the OSD Joint Test and Evaluation Office.
- Science Advisor, Commander Fleet Forces Command (CFFC), established business rules and developed a Fleet Force input schedule that increased Fleet inputs into the Future Naval Capabilities (FNCs), Rapid Technology Transition (RTT), and Joint Concept Technology Demonstration (JCTD) S&T. Coordinated and led over 130 scientist and engineers from the Naval Research Laboratory (NRL)/ONR, Office of the Chief of Naval Operations (OPNAV), United States Air Force (USAF) on familiarization tours of Navy ships, aircrafts, and landing craft. These tours provided senior decision makers and engineers a better understanding on how to design and procure equipment needed by the Fleet Forces. Developed briefs, refined products, and recommended decisions to the Sea Trial Executive Steering Group (STESG) and 3-star level Technical Oversight Group (TOG) which allowed the Fleet Forces to shape the final decisions on S&T investments.
- Science Advisor, Joint Forces Command (JFCOM), emphasized multi-national data collection and information sharing with industry, academia, DOD, interagency, and multi-national partners leveraging DOD programs and strategies including the NETWARCOM Trident Warrior events, Multi-National Experiment series, Office of the Secretary of Defense (OSD) Coalition Warfare Project, the DOD Multi-National Sharing guidance and Net-Centric Operations Joint Integrating Concept. Chaired, co-sponsored or was on the organizing committee for various

R1 Line Item 178

Page 4 of 13

UNCLASSIFIED

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: 0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

multi-national workshops and conferences including the Technical Cooperation Program Net-Centric Warfare 07 Workshop, Commercial Information Technology for Multi-National Operations and Ad-Hoc Networking against Terrorism and Integrated Sensing and Decision Support Workshop.

- Science Advisor, Commander U. S. Naval Forces Central Command (COMUSNAVCENT), developed, prioritized, and socialized COMUSNAVCENT Technology gaps based on prioritized threat. Issued two Urgent Need Statements for portable machine translators, and for portable chemical, biological, radiological, nuclear, and high yield explosives/Weapons of Mass Destruction (CBRNE/WMD) detector. Drafted and disseminated two Urgent Need Statements to Office of the Chief of Naval Operations (OPNAV)/U.S. Fleet Forces Command (USFFC) for a review of an Anti-Terrorism Force Protection armed Unmanned Surface Vehicle (USV) and for a Laser Dazzler. Initiated action to formalize USN Urgent Need Statement process. Secured Iraq Reconstruction Management Office (IRMO) funds from MG Abt, Director IRMO for Command, control, communications, computing, and intelligence (C4I) Oil Platform Upgrades. Facilitated development of NAVCENT/ONR Iraq Navy S&T Plan. Initiated development of Yemen Coast Guard S&T plan to strengthen Theater Security Cooperation. Provided technical oversight to the ONR TechSolutions Product Acoustic Signature System (PASS), a more reliable and rugged detector for liquid contraband. Initiated efforts to integrate Fast Connectivity for Coalitions and Agents Project (FastC2AP) into NAVCENT Battle Watch. Provided oversight, networking, and consulting for NAVCENT S&T issues.

- Science Advisor, Commander Submarine Forces Atlantic Fleet (COMSUBFOR), developed Undersea Enterprise (USE) S&T challenges content to address Submarine Force needs and socialized it with CNO, Submarine Acquisition Managers, Submarine Fleet Leaders and ONR. Energized Submarine Technology (SUBTECH) influence through numerous one-on-one and group Flag and SES level engagements as well as significant NRE prodding resulting in increases in proposals to ONR in the areas of War Fighter Performance, TechSolutions, Swampworks, Rapid Technology Transitions and Communications. Influenced proposals that met USE needs, had successful FNC influenced future propulsion and electric actuation efforts, in Rapid Technology Transition projects, secured Warfighter Performance, and TechSolutions for Unmanned Aerial Systems and improved Submarine Training. Initiated and matured an independent Technology alignment effort, which starts to identify how well the ONR portfolio aligns with the USE technology needs to ensure the right work is being executed to meet USE needs. Identified Submarine Security needs to enhance world-wide watch for technology that would impact submarine security.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: 0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

- Science Advisor, Commander Naval Surface Forces (SURFOR), elevated surface force input for coordinating installation, evaluation and transition of a Defense Advance Research Project Agency (DARPA)/Program Executive Office Ships (PEO-SHIPS) high efficiency lighting project. Principal in Surface Ship Technology Process (SURFTECH), providing the Command's perspective to the Flag IPT. Co-chaired the Anti-Submarine Warfare (ASW) Improvement Program (ASWIP) Sensors Working Group, and SURFOR's advocate/voice for ASWIP. Supports CNSF regarding Littoral Combat Ship, Fleet requirements, and evaluation of candidate concepts of naval relevance. Manages and coordinates the Scientist at Sea Program.
- Science Advisor, Commander Third Fleet (COMTHIRDFLT) (C3F), coordinated and participated in Maritime Homeland Defense exercises for C3F and evaluated new technologies to support Maritime Domain Awareness efforts. Investigated, and coordinated ONR TechSolutions proposal to rapidly prototype an integrated geographic information system (GIS) to enable rapid and sage mine clearance in our military harbors using available technology, fleet and industry collected data, and off-the-shelf software. Developed Concept of Employment and Integrated Assessment Plans for the Joint Multi-Mission Electro Optic System (JMMES) Joint Technology Capability Demonstration (JCTD). Coordinated C3F Sea Trial/Sea Shield Experimentation efforts for the C3F Operational Agent.
- Science Advisor, Commander Sixth Fleet (COMSIXTHFLT) (C6F)/Commander Naval Forces Europe (CNE), established ongoing dialogs with Washington and Systems Command (SYSCOM) principles on Maritime Domain Awareness issues from the U.S. Navy Forces, Europe (NAVEUR) operational area. Emphasize the importance of incorporating "disadvantaged" users where "low barriers to entry" are required; primarily in the developing world. This project not only promotes nation building but could further improve our Command and Control operational picture. Collaboration resulted in endorsement to provision NAVEUR ships with the latest warning technology. Continual involvement in the Maritime Security and Safety Information (MSSIS) resulted in progress with the continual proliferation among European countries; virtually all USN ships in the command's area of responsibility are Automatic Identification System (AIS) sensor nodes for the network.
- Science Advisor, Commanding General 1st Marine Expeditionary Force (CG I MEF), involved in the Joint Improvised Explosive Devise Defeat Office (JIEDDO) working group in order to assist in the identification of prevention and prediction algorithms to focus 'left of the boom'. Continued Counter Improvised Explosive Device (C-IED) analysis cell, coordinated efforts with Multi-National Force - West (MNF-W) II Marine Expeditionary Force (II MEF), Marine Corp Combat Development Command (MCCDC) and Naval PostGraduate School. Generated a briefing for use by Commandant of the Marine Corps to escalate involvement of industry in production of Mine-Resistant-Armor-Protected (MRAP) vehicles for the USMC in support of their C-IED efforts.

R1 Line Item 178

Page 6 of 13

UNCLASSIFIED

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: 0834

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Documented need of language training resources for "Advisor Teams" being trained here at the MEF, working with USMC Training and Education Command (TECOM), Program Manager for Training Systems (PM TraSys) to accelerate sourcing the solution. Coordinated operational need of 'critical infrastructure' (last mile tactical networking) with HQ Marine Corps, MCCDC and Marine Corps Systems Command.

- Science Advisor, Chief of Naval Operations (CNO) Strategic Studies Group (SSG) Contributed to SSG XXVI team efforts to develop revolutionary war fighting concepts for "Military Operations in Cyberspace in 2030." Facilitated broad technical exchanges among a variety of organizations and the SSG. Proactively identified potential sources of information sought by the Group's Concept Teams (CTs) and played an important role in the development of the Introductory Program by SSG. Established and expanded links with a broad spectrum of government, scientific, academic, and industrial organizations across the nation so that the SSG could benefit from an understanding of their endeavors as they might apply to naval warfare.
- Science Advisor, Commander, U.S. Marine Corps, Atlantic (COMMARFORLANT), continued the development of a Foreign Language and Culture Program (FLCP), evaluated several cultural awareness tools modeled that adapted video gaming technology role playing games. Collaborated with the II Marine Expeditionary Force (IIMEF) Science Advisor in the demonstration, evaluation, training, and fielding of squad level language tools. Worked with MARFORPAC's Experimentation Cell (MEC) on training support for Mojave Viper evolutions at Twentynine Palms. Was a member of the Joint Improvised Explosive Device Defeat Office (JIIEDDO) working group which develops the identification of intelligence sources, potential software packages, social behavior models, and prediction algorithms. Coordinated delivery of Improvised Explosive Device Kwikpoint cards for 24th Marine Expeditionary Unit (MEU). Was the MARFOR S&T representative for the development of the USMC strategy for the acquisition of relevant core non-lethal capabilities which support Irregular Warfare while providing the Marine Air-Ground Task Force (MAGTF) a flexible response to peace enforcement, stability and humanitarian relief operations. Coordinated the efforts of the other ONR Global Science Advisors at I MEF, II MEF, and MARFORPAC to ensure the overall S&T interest of the Marine Corps was optimized.
- Science Advisor, Commander, Naval Air Forces (COMNAVAIRFOR), initiated further development and refinement of an Aircraft Carrier (CVN) Underwater Hull Search Remotely Operated Vehicle (HS-ROV) that provides critical identification of potential underhull threats to Navy high value assets. The HS-ROV is an ONR TechSolutions project and has potential savings to the Navy in shortened time to conduct underwater hull searches as well as eliminating hazards to Navy divers. Initiated development of an Improved Flight Deck Communications System (IFCS) headset that eliminates the high impulse noise environments found on aircraft carriers. IFCS has potential to provide clearer and more coherent communication on the flight deck and thus

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: 0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

decrease likelihood of a mishap. Initiated the design and development of the CVN Surveillance System (CVN S2) for detection and identification of small boat threats to aircraft carrier strike groups. CVN S2 is an ONR TechSolutions program that provides perimeter day/night surveillance as well as nighttime navigation capability. Initiated the design and development of the Advanced Shipboard Acoustical Communications System (ASACS), a program for Anti-terrorism/Force Protection (AT/FP) close-in perimeter surveillance, communications, and warning system onboard Navy Ships. Reviewed formal requirements for critical warfighter needs and capabilities and articulated these to the S&T community. Identified and coordinated opportunities for senior scientists and engineers to get out to sea on CVN's and observe Fleet operations.

- Science Advisor, Chief of Naval Operations (CNO) Executive Panel (CEP), performed direct support activities to the CEP subcommittees on Latin America and the Navy's Role in Missile Defense, including technology discussions with PMR-51. Led Principal Staff on Defense of the Sea Bed subcommittee, including Federal Advisory Committee Activity (FACA) requirements, integration and liaison with OPNAV N81 (Assessments), Office of the Secretary of Defense (OSD)/Net Assessment, OPNAV N25 and various intelligence agencies. Coordinating technology and strategic level briefings from Defense Advance Research Project Agency (DARPA), U.S. Strategic Command (STRATCOM) and U.S. Northern Command (NORTHCOM). Organized briefers for an Intelligence Day with topics of Anti Satellite (ASAT), Anti Ship Counter Measures (ASCM), and adversary submarine operations and technologies. Coordinating and monitoring the CEP Panel Member's mentoring of the CNO's Strategic Studies Group Cyberspace research.
- Science Advisor, Commanding General 2nd Marine Expeditionary Force (CG II MEF) working with Oak Ridge National Lab, Marine Corps Warfighting Lab (MCWL) on the development of potential solutions to USMC capability gaps. Connected "Weigh-in-Motion" technology from Oak Ridge National Laboratory with requirements from the 2nd Marine Air Wing (2 MAW) and Marine Corps Systems Command (MARFORSYSCOM). Working with ONR's TechSolutions to automate part of the rapid planning process for the Marine Expeditionary Units (MEUs) by leveraging the tasks, conditions, and standards framework in the Automated Exercise and Assessment System (AEAS). Continue to pursue valuable solutions in II MEF experimentation and requirements development by investigation into the "CLEAR" biometrics system. Continue to streamline the II MEF internal Urgent Needs Statement (UNS) process.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: 0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

- Science Advisor, Commander, U.S. Marine Corps, Pacific (COMMARFORPAC), collaborated with vendors and the Center for Excellence for Research in Ocean Sciences (CEROS) to review proposals for DARPA funding in an effort to build the Hawaii technical community. Completed work on MARFORPAC's prioritization of the thirteen FY09 Enabling Capabilities most applicable to the Marine Corps to develop rankings that best represent the needs of MARFORPAC in both the U.S. Central Command (CENTCOM) and U.S. Pacific Command (PACOM) theaters. Served as a conduit between TechSolutions and MARFORPAC facilitating potential collaboration.
- Science Advisor, Commander Pacific Fleet (COMPACFLT), improved capabilities across the Pacific Fleet Area of Responsibility (AOR) through rapid technology pull in various mission areas including Maritime Security Operations, Anti-Submarine Warfare (ASW) and Counter-Intelligence Surveillance Reconnaissance (ISR). Engaged 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. Submitted a Techsolution request to address a critical warfighting gap associated with Maritime Security Operations (MSO) to provide an Enhanced Maritime Intercept Operations (E-MIO) capability to support intelligent collection, dissemination, analysis and reachback. This solution will develop this capability and deliver to afloat platforms. Acting as Operational Manager and project oversight lead at COMPACFLT for an FY08 proposed JCTD titled Long-Range Multi-mission Optical Sensor (LMOS) which addresses countering adversaries ISR capabilities. In support of Shipyard Innovation, formulated a project regarding application of Nanotechnologies for coatings and paints in an effort to reduce maintenance of shipboard equipment and possibly improve anti-fouling bottom coatings. Continued to focus on engaging leadership involved in improving ASW capabilities to support Pacific AOR wartime contingency plans. Emphasis has been in non-traditional ASW technologies, Fleet Synthetic Training and Distributed Netted Sensors. Participated in Republic of Singapore Navy (RSN) - COMPACFLT staff talks and identified various capabilities for potential RSN - USN Science and Technology collaboration including Vessel Stopping, Maritime Domain Awareness (MDA) Anomaly Detection, Unmanned Aerial Vehicle (UAV)'s for Straights of Malacca ISR, and Maritime Security Operations (E-MIO). Naval Post Graduate School (NPS) established three significant research proposals/experiments, in support of PACFLT, focus on Radar Jamming using Digital Radio Frequency Modulation, Cooperative Operations and Applied Science & Technologies Study (COASTS) and Littoral Combat Ship (LCS) Platform Logistics support.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: 0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

- Science Advisor, Naval Supply Systems Command (NAVSUP), executed Technology Insertion Program for Savings (TIPS) funded project for Modified Atmosphere Packaging System (MAPS) that will extend shelf life for Fresh Fruits and Vegetables (FFV). Managed Navy Logistics Program (NLP) projects to include, Collaborative Logistics Program (CLP), Aviation Pack-up Kits (A-PUK), Naval Operational Logistics Innovation (NOLI), Defense Integrated Technical Data Center (D-ITDC) and Lead Free Solder. Managed NAVSUP's Small Business Innovation Research (SBIR) projects. Continuing to serve as NAVSUP representative to ONR's Seabasing Future Naval Capability (FNC) Enabling Capabilities (EC) for sense and respond logistics (S&RL). Member of Virtual SYSCOM (VS) Systems Engineering and Technical Authority working group, which accomplished the task of updating the Joint Instruction for Technical Authority, requiring signatures from all five (5) SYSCOM commanders. Leading efforts in NAVSUP to create internal SYSCOM documentation necessary to implement Technical Authority within the command. Continue working collaboratively with Navy Automated Identification Technology (AIT) Office to enable and expand use of AIT applications.
- Science Advisor, Navy Warfare Development Center (NWDC), researched the source and validity on six families of Anti Ship Cruise Missiles (ASCMs) proposed for use in a Surface Warfare Development Group (SWDG) Ship Stationing Tactical Decision Aid tool, funded through the Tactical Development and Evaluation (TAC D&E) program. Provided the identification and assessment of new and emerging technologies for the protection of Iraqi oil platforms in the Northern Arabian Gulf (NAG). Researched and provided analytical support for planned Navy participation in major Air Force exercise - Joint Expeditionary Force Experiment (JEFX) 08. Initiatives supported were Global Maritime Awareness, Networking of Maritime Operations Centers (MOCs), and Maritime Joint Fires. Working issues and researching technologies to support Navy initiative by SWDG and NRL to counter swarming small boat attacks.
- Science Advisor, Naval Criminal Investigation Service/OPNAV (NCIS/N34), leading a joint Navy/Marines/NCIS team to rapidly create and deploy modular, mobile forensics laboratories to theater in the next 18 months, in response to an urgent warfighting capability gap identified by the Central Command. Hosted the second Navy Biometrics Information Exchange Forum to coordinate Navy activities and identify leveraging/collaboration opportunities in Biometrics. Assisted the Naval Research Advisory Committee (NRAC) with its study on Navy Biometrics. Exploring the possibility of a Project Agreement with Singapore on Biometrics data collection and data sharing during Maritime Interdiction Operations.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: 0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

- Science Advisor, U. S. Pacific Command (USPACOM), developed strategic plan for Command engagement with the DoD wide S&T community. Developed and executed the outreach program with senior government leadership to explain priority Command operational shortfalls. Established and operated first ever S&T advisory cell to the Deputy Commander consisting of representatives from all Services and DARPA. Cell participated in the strategic exercise "Terminal Fury" and demonstrated the value of closer ties between the Command and the S&T community in solving near term operational problems. Conducted the Pacific Theater Operational Science and Technology Conference that brought together technical and warfighting participants from all over the world to build the relationship between warfighters and researchers. Developed cooperative technology activities with Singapore, Australia, Korea, Malaysia, and Thailand. Established Capabilities Working Group with Singapore that includes Joint Forces Command (JFCOM) and DTRA to stimulate cooperative projects. Facilitated approval of two new technical efforts with US Forces Korea that will enable precise counterfire response to indirect fire and rapid detection of biological agents. Developed new proposal with Singapore to weaponize an unmanned surface vessel. Initiated new relationship with Department of Energy (DOE) lab to help solve Command problems.

- Science Advisor, Commander Submarine Forces Pacific Fleet (COMSUBPAC), developed a summary of Science and Technology needs specific to the missions and likely operational scenarios associated with the Pacific Submarine Command. The plan begins with demonstrating technical challenges and performance short-falls associated with a stressing Western Pacific (WESTPAC) campaign with an attack center crew in a simulated environment provided by the Naval Submarine Training Center Pacific (NSTCP). Submitted three requests to Tech Solutions, Over the horizon target identification for submarines, Improved submarine hull mounted sensors for anti-submarine warfare (ASW) operations, and Beyond-Line-of-Sight Link 16 Track Exchange for Submarines. Work continues to evaluate the feasibility of potential implementation approaches for these solutions and coordinating with ONR and Naval Sea Systems Command (NAVSEA) program managers to develop prototypes for submarine experimentation. Other efforts have focused upon completing projects begun by the previous SUBPAC science advisor, including installation of new bridge radios capable of Digital Selective Calling, distribution of new commercial radar reflectors for enhanced ship safety during surface transits, and monitoring the development of a custom radar reflector prototype as part of an on-going Tech Solutions effort.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: 0834

PROJECT TITLE: LABORATORY FLEET SUPPORT

- Science Advisor, Chief of Naval Operations Code N81 (OPNAV N81), synthesized products from think tanks, defense policy experts, intelligence analysts, warfighter, technologists and scientists, to frame S&T in the context of emergent security policy issues. Advised N81 on S&T issues. Led broad-based special studies on Navy vulnerability to future disruptive threats, areas for improvement in campaign and mission analysis modeling, and finding game-changing technologies to target long-range S&T investments. Investigated the potential benefits and limitations of directed energy weapons in the maritime environment. Briefed House Armed Services Committee (HASC) staff on Navy vulnerability to an Electromagnetic Pulse (EMP) attack. Presented technology gaps in areas of future warfighting capability in order to focus long range S&T planning.

- Science Advisor, Fleet Anti-Submarine Warfare Command (FLTASW), primary member of the Navy Mine and Anti-Submarine Warfare Command (NMAWC) Experimentation Working Group which refines the Integrated Priorities Capabilities List (IPCL) for the Navy's ASW capability gaps. Involved in developing the Mine Warfare IPCL, the Full Spectrum Mine Warfare Plan and the World Wide Mine Warfare Concept of Operations. NMAWC lead for assessment and development of the Undersea Warfare Superiority System that follows the Joint Undersea Superiority Study done by the Joint Staff. Led the Independent Critical Recommendation Team (ICRT) review process for cutting edge technologies designed to meet the needs of fleet gaps. Led efforts in the command to develop the technologies for the ASW Mission Package for Littoral Combat Ships (LCS).

Decrease from FY 2007 to FY 2008 reflects S&T initiatives funded during execution (FY 2007) as required.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0205658N

PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

PROJECT NUMBER: 0834

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C. OTHER PROGRAM FUNDING SUMMARY - NAVY RELATED RDT&E:

PE 0601152N In-House Laboratory Independent Research
PE 0601153N Defense Research Sciences
PE 0602114N Power Projection Applied Research
PE 0602123N Force Protection Applied Research
PE 0602131M Marine Corps Landing Force Technology
PE 0602235N Common Picture Applied Research
PE 0602236N Warfighter Sustainment Applied Research
PE 0602271N RF Systems Applied Research
PE 0602435N Ocean Warfighting Environment Applied Research
PE 0602747N Undersea Warfare Applied Research
PE 0602782N Mine and Expeditionary Warfare Applied Research
PE 0603114N Power Projection Advanced Technology
PE 0603123N Force Protection Advanced Technology
PE 0603235N Common Picture Advanced Technology
PE 0603236N Warfighter Sustainment Advanced Technology
PE 0603271N RF Systems Advanced Technology
PE 0603640M USMC Advanced Technology Demonstration (ATD)
PE 0603727N Navy Technical Information Presentation System
PE 0603729N Warfighter Protection Advanced Technology
PE 0603747N Undersea Warfare Advanced Technology
PE 0603758N Navy Warfighting Experiments and Demonstrations
PE 0603782N Mine and Expeditionary Warfare Advanced Technology

OTHER PROGRAM FUNDING SUMMARY - NON-NAVY RELATED RDT&E:

Not applicable.

D. ACQUISITION STRATEGY:

Not applicable.

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA-7 Operational Sys Dev
PROGRAM ELEMENT (PE) NAME AND NO.
0206313M Marine Corps Communications Systems

COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	277.553	260.719	273.696	189.912	209.027	169.657	150.707
C2270 Expeditionary Indirect General Support Weapon Systems	39.972	31.870	55.232	30.320	31.959	35.966	34.859
C2272 Intelligence C2 Systems	43.171	13.942	17.760	26.013	26.309	22.968	24.625
C2273 Air Operations C2 Systems	62.719	39.366	46.671	24.682	11.481	8.476	6.439
C2274 Command & Control Wargare Systems	3.827	9.254	8.933	8.930	9.725	10.426	10.930
C2275 Joint Tactical Radio Systems	11.937	6.649	11.906	6.930	5.827	4.385	4.474
C2276 Communications Switching and Control Systems	4.248	3.977	2.592	0.811	0.826	0.326	0.335
C2277 System Engineering & Integration	8.899	6.660	7.027	7.197	7.409	8.852	9.097
C2278 Air Defense Weapons Systems	5.567	1.213	4.617	3.967	3.723	3.823	3.910
* C2315 Training Devices/Simulators	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C2510 MAGTF CSSE & SE	35.230	34.927	15.233	11.891	27.078	35.693	21.684
C3099 Radar Systems	46.201	102.428	103.725	69.171	84.690	38.742	34.354
C9999 Congressional Adds	15.782	10.433	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles							

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.

1. Received \$41.54M in FY07 GWOT.
2. Received \$0 in FY08 from the 2008 Consolidated Appropriation.
3. FY08 funding totals do not include \$80.542M previously requested for current FY08 GWOT requirements.

Note:

* Funds for Project C2315 were realigned to PE 0206623M in FY07.

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA-7 Operational Sys Dev

PROGRAM ELEMENT (PE) NAME AND NO.
0206313M Marine Corps Communications Systems

B. PROGRAM CHANGE SUMMARY

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) FY 2008 President's Budget:	233.708	280.140	248.687
(U) Adjustments from the President's Budget:			
(U) Congressional Program Reductions		-25.000	
(U) Congressional Undistributed Rescissions/Reductions		-1.838	
(U) Congressional Rescissions			
(U) Congressional Increases (incl. FY07 Supplemental)	41.540	10.500	
(U) FY09 Program Review			24.630
(U) Reprogrammings	7.156		
(U) SBIR/STTR Transfer	-4.851	-3.083	
(U) Minor Affordability Adjustment	0.000		0.379
(U) FY 2009 President's Budget:	277.553	260.719	273.696

CHANGE SUMMARY EXPLANATION:

- (U) Funding: See Above.
- (U) Schedule: Not Applicable.
- (U) Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Systems Development		0206313M Marine Corps Communications Systems			C2270 Exp Indirect Fire Gen Supt Wpn Sys				
COST (\$ in Millions)		Prior Years	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost		53.989	39.972	31.870	55.232	30.320	31.959	35.966	34.859
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
Systems assigned to this project are to be used by commanders and their staffs to process, fuse, and tailor information to assist decision-making and enhance situational awareness. They will integrate and share information from sources both internal and external to the Marine Air-Ground Task Force (MAGTF) to provide a shared understanding of the battlespace. Maneuver Command and Control (C2) is the executive layer of decision support that retrieves and fuses information from functional areas. It provides an integrated representation of the battlespace or a specific area of concern. The subprojects below develop systems that report unit status and location to the Tactical Combat Operations (TCO) System, and disseminate maneuver information throughout the battlespace.									
Advanced Field Artillery Tactical Data System (AFATDS) - Consists of fire support Command and Control C2 software fielded on Marine Corps common hardware. AFATDS provides the MAGTF with the ability to rapidly integrate all supporting arms assets into maneuver plans via a digital link utilizing currently fielded communications equipment. AFATDS automates the fire planning, tactical fire direction, and fire support coordination required to support maneuver from the sea and subsequent operations ashore. The AFATDS program includes AFATDS software and hardware, the Effects Management Tool (EMT) (a C2PC injector), the Backup Computer System (BUCS), and the Battery Mobile Tactical Shelter (MTS).									
MAGTF Software Baseline (MSBL)/ Command and Control Personal Computer (C2PC) . MSBL/C2PC is the software backbone of all ground command and control in the Marine Corps; it is the primary means of integrating blue force tracking, fires, maneuver and intelligence capabilities in Command Operations Centers; is the ground C2 capability in the MAGTF C2 initiative; is the key to Joint interoperability with other Services and between CoComs; and integrates air data links from the Common Aviation Command and Control System to provide an integrated air-ground digital picture for commanders. MSBL/C2PC is an evolutionary acquisition program that is in a constant R&D spiral necessary to remain interoperable with other Services and stay abreast of emerging Joint C4I requirements and standards, while also executing an aggressive life cycle support program for fielded capability throughout the Marine Corps. There are two separate but interrelated baselines of software development and support. The Common Operating Environment (COE) Unix baseline, which is Unix based server systems and the C2PC baseline which is a Windows based tactical workstations/system used at the company and above levels. A "light" version of C2PC has also been developed and fielded (C2CE) for hand-held for									
The Common Aviation Command and Control System (CAC2S) (CAC2S FUNDING WILL BE A PART OF MAGTF C2 IN FY2010) will provide a common baseline of equipment, computer hardware, and software required to perform the mission of the Marine Air Command and Control System (MACCS). CAC2S will provide a capability that allows operators to integrate Marine aviation into joint and combined air/ground operations. CAC2S will be an open architecture system. CAC2S will provide the software integration to ground C2 via Command and Control Personal Computer (C2PC) functionality in order to improve air and ground situational awareness, blue force tracking and reduce the potential for fratricide.									
Tactical Command Operations (TCO) will provide systems to the command post which support Maneuver C2. Maneuver C2 is the executive layer of A11 decision support that pulls and fuses information from other functional areas.									
Target Location Designation and Hand-Off System (TLDHS) Block II - 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 Blue Force Situational Awareness 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. TLDHS Block II also provides the capability to designate targets for laser-guided munitions and laser spot trackers. TLDHS Block II is comprised of and integrates two major subsystems: the Targeting Subsystem and the Target Hand-Off Subsystem. USMC Milestone C for TLDHS Block II was June 2005 and Fielding and Full rate Production Decisions were Oct 2006.									

EXHIBIT R-2a, RDT&E Project Justification

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Systems Development	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Systems	PROJECT NUMBER AND NAME C2270 Exp Indirect Fire Gen Supt Wpn Sys
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Marine Air Ground Task Force (MAGTF) Command and Control (C2) Systems. The Marine Requirements Oversight Council (MROC) has endorsed and authorized Marine Air Ground Task Force Command and Control (MAGTF C2) as the command and control strategy for the Marine Corps. As such, it is the equivalent of the other Services strategies (LandWarNet, C2 Constellation and ForceNet). The MAGTF C2 will take place within the ForceNet construct. Therefore, MAGTF C2 is a strategy and a process for addressing command and control concerns across the DOTMLPF spectrum. From a systems perspective, MAGTF C2 the strategy and process will be realized through a system of systems architecture. This system of systems architecture is comprised of five "pillars": MAGTF C2 Systems and Applications, Marine Corps Enterprise IT Systems, Network Services, Bandwith Systems Operational and Bandwidth Systems Tactical. The MAGTF C2 strategy realized within this architecture acknowledges that command and control requires an infrastructure (radios, servers, switches, routers and to some extent IT Services) upon which to execute (commanders receive situational information and disseminate/transfer guidance and orders).

The infrastructure required to execute command and control is embodied within the Network Services and Bandwith Systems "pillars". MAGTF C2 Systems and Applications integrates and implements common, open architecture software between developing systems (Command Aviation Command and Control Systems (CAC2S)) and fielded systems (Joint Tactical COP (Common Operations Picture) Workstation/Command and Control Personal Computer (C2PC) in order to provide increased Situational Awareness (SA), Blue Force Tracking (BFT), and improved COP/Common Tactical Picture (CTP) for the commander and disseminate/transmit his/her guidance and direction. In accordance with a system of systems approach, beginning in FY08 JTCW sustainment and product improvement will occur within the MAGTF C2 Systems and Applications line.

Blue Force Situational Awareness (BFSA) + A4 is the Marine Corps' Situational Awareness family of systems comprised of the Mounted and Dismounted variants of terrestrial (EPLRS/SINCGARS) systems, and the mounted celestial (SATCOM) system.

Data Automated Communications Terminal (DACT) is the Marine Corps' Blue Force Tracking Program of Record. It is the primary source of all tactical ground tracks below the Marine battalion, and is the primary provider of Position Location Information (PLI) into the Combat Operations Center (COC) and to Joint forces viewing the Common Operational Picture (COP). DACT is one tool in the Joint Combat ID toolbox that the Marine Commander uses to reduce the potential for fratricide.

The Mounted Data Automated Communication Terminal (M-DACT) (IOC 2nd Qtr FY03) consists of the Ruggedized Handheld Computer (RHC) with Command and Control Personal Computer (C2PC) software integrated with various tactical vehicle platforms and communications systems through the use of a Vehicle Modification (VM) kit. It is mounted in vehicles from the battalion to the mechanized platoon (HMMWV, AAV, LAV and tanks).

The Dismounted Data Automated Communications Terminal (D-DACT) (IOC 2nd Qtr FY05) is a smaller, lighter handheld device having greater battery life, consisting of the Rugged Personal Digital Assistant (R-PDA) with Windows Command and Control CE (C2CE) software. The Dismounte DACT is intended for the dismounted user at the platoon level. Future DACT improved capabilities for replacement systems will meet stipulated Operational Requirements and OIF-derived Requirements to provide Blue Force Tracking and automated communications support for commander in tactical operations. New capabilities will include Non Line of Sight (NLOS) and enhanced communication paths; improved Graphic User Interface (GUI) software, a larger screen, and Selective Availability Anti-Spoofing Module (SAASM) GPS integration.

Blue Force Tracker (BFT) System is a satellite-based Tracking and Communication System. BFT provides the capability to identify position, track progress, and communicate with the operators of tactical wheeled vehicles. It is intended to provide real-time, intransit visibility of vehicles and cargo within a theater of operation. The BFT is employed to the battalion level to provide operational commanders with USMC/Army Position Location Information within the area of operations.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	1.574	1.203	1.513
RDT&E Articles Qty			
TLDHS: Test Development and integration support			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.230	0.086	0.300
RDT&E Articles Qty			
AFATDS: Development of BackUp Computer System (BUCS) & Software (SW)			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.084	0.000	0.175
RDT&E Articles Qty			
AFATDS: SPAWAR Test and Intergration			

EXHIBIT R-2a, RDT&E Project Justification

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N/BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2270 Exp Indirect Fire Gen Supt Wpn Sys		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.377	0.400	0.320
RDT&E Articles Qty				
AFATDS: Program Management, engineering support and hardware development.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.116	0.122	0.135
RDT&E Articles Qty				
AFATDS: MCTSSA tested new Software (SW) and Federation of Systems (FEDOS)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		2.933	0.530	1.251
RDT&E Articles Qty				
AFATDS: Development of improved interoperability with USMC and Joint Systems. Enhancement to EMT and C2PC interface.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		2.084	0.375	1.522
RDT&E Articles Qty				
AFATDS: Development of Software Block II (SWBII) and future software. Increased functionally, interoperability and ease of use. Better interface with USMC and USN systems.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.518	1.715
RDT&E Articles Qty				
AFATDS: Net Centric Migration				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		12.340	0.000	0.000
RDT&E Articles Qty				
C2PC: Software Development Build Test Open Architecture and Service oriented Architecture C2/SA Applications.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.309
RDT&E Articles Qty				
C2PC: Program Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		13.300	0.000	0.000
RDT&E Articles Qty reprogrammed				
C2PC: Build, test, field and support COE compliant versions of MSBL and C2PC to fulfill C2 requirements in the six Warfighting functions focuses primarily on the integration, inclusion and incorporation of Fire Support, Maneuver and Intel capabi				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.401	0.000	0.000
RDT&E Articles Qty				
C2PC: Engineering Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.961	0.000	0.000
RDT&E Articles Qty				
C2PC: Program Management Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		2.462	0.000	0.000
RDT&E Articles Qty				
C2PC: Development of MSBL Client in MS Windows environment (C2PC) and foot mobile Marines in Windows CE environment, Command and Control Compact Edition (C2CE).				

EXHIBIT R-2a, RDT&E Project Justification

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2270 Exp Indirect Fire Gen Supt Wpn Sys		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	6.746	6.800
RDT&E Articles Qty reprogrammed				
MAGTF C2: Coordinate, integrate and implement a common, open architecture software baseline.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	4.669	5.878
RDT&E Articles Qty				
MAGTF C2: Engineering Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	1.800	1.800
RDT&E Articles Qty				
MAGTF C2: Program Management Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	2.490	1.765
RDT&E Articles Qty				
MAGTF C2: Conduct C2PC Code Quality Analysis.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	10.978	26.245
RDT&E Articles Qty				
MAGTF C2: NMCI Certification Cost				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.414	0.293
RDT&E Articles Qty				
MAGTF C2: Software Development				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				
MAGTF C2 Integration, IV&V, Logistics				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.350	0.568
RDT&E Articles Qty				
MAGTF C2 ECP and trouble desk support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.177	0.000	0.000
RDT&E Articles Qty				
DACT: DACT Technical Support Plan.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				
DACT: Mount Development.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				
DACT: Protocol Implementation.				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2270 Exp Indirect Fire Gen Supt Wpn Sys			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.020	0.191	0.195	
RDT&E Articles Qty					
BFSA: Test support					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.196	0.195	0.125	
RDT&E Articles Qty					
BFSA: Increased Capabilities.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		1.122	0.043	2.955	
RDT&E Articles Qty		30	30	30	
BFSA: Mount Development.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.598	0.000	0.075	
RDT&E Articles Qty					
BFSA: Software Integration.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.355	0.070	0.250	
RDT&E Articles Qty					
BFSA: Training Development.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.079	0.153	0.135	
RDT&E Articles Qty					
TCO: Program management and engineering support.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.130	0.100	0.223	
RDT&E Articles Qty					
TCO: System testing and integration to develop additional functional capabilities.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.218	0.251	0.450	
RDT&E Articles Qty					
TCO: Integrate software changes into new system and perform testing.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.215	0.186	0.235	
RDT&E Articles Qty					
TCO: Testing and validations of advanced concepts and technologies.					
(U) Total \$		39.972	31.870	55.232	

EXHIBIT R-2a, RDT&E Project Justification

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7 Operational Systems Development	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Systems	PROJECT NUMBER AND NAME C2270 Exp Indirect Fire Gen Supt Wpn Sys
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(U) PROJECT CHANGE SUMMARY:	FY 2007	FY 2008	FY 2009
(U) FY 2008 President's Budget:	15.030	36.144	37.653
(U) Adjustments from the President's Budget:			
(U) Congressional Program Reductions		-3.845	
(U) Congressional Rescissions			
(U) Congressional Undistributed Rescissions/Reductions		0.205	
(U) Congressional Increases (incl. FY 2007 Supp)	21.44		
(U) PR09 Program Review			17.369
(U) Reprogrammings	3.817		
(U) SBIR/STTR Transfer	-0.315	-0.224	
(U) Minor Affordability Adjustments			0.210
(U) FY 2009 President's Budget:	39.972	32.280	55.232
CHANGE SUMMARY EXPLANATION:			
(U) Funding: See Above.			
(U) Schedule:			
(U) Technical:			

(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
PMC BLI 463100 DACT	30.085	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.085
PMC BLI 463100 AFATDS	9.876	6.520	0.862	3.418	3.482	3.549	3.631	Cont	Cont
PMC BLI 463100 BFSA	29.341	13.684	8.456	6.789	4.809	15.557	20.743	Cont	Cont
PMC BLI 463100 GCCS	10.514	4.785	4.686	4.909	5.033	2.038	2.291	Cont	Cont
PMC BLI 463100 TCO	0.372	1.340	0.220	0.220	0.230	0.237	0.243	Cont	Cont
PMC BLI 463100 TLDHS	15.017	3.328	1.042	1.023	2.045	2.084	2.132	Cont	Cont

(U) Related RDT&E:

- (U) PE 0301301L (Department of Defense Intelligence and Information Systems/Military Intelligence Integrated Data System/Integrated Data Base I and II) Defense.
- (U) Navy Tactical Flag Communication and Control System.

(U) D. ACQUISITION STRATEGY:

(U) 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).

(U) AFATDS: AFATDS is a Cost Plus Award Fee contract through Army CECOM, Ft. Monmouth, NJ. 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.

(U) MSBL/C2PC: Funds applied to contract with Northrop Grumman Mission Systems, San Diego, CA for development of MSBL client in MS Windows environment and development of client for foot mobile Marines in Windows environment. Funds applied to NGMS, Aquia, VA and OSEC, Stafford, VA under the CEOSS contract for program management and engineering support. Funds applied to SPAWAR, Charleston, SC to integrate applications, injectors and services, and to conduct independent verification and validation of MSBL, C2PC, C2CE and the integrated IOW and Joint Tactical COP Workstation builds. (JTCW) Additional funds applied to refactoring and rearchitesting the JTCW client and gateway.

(U) TCO: Contracting is done with various vendors for software test and integration, COTS evaluation and documentation. The PMO conducts quarterly performance reviews.

APPROPRIATION/BUDGET ACTIVITY

RDT&E, N/BA-7 Operational Systems Development

PROGRAM ELEMENT NUMBER AND NAME

0206313M Marine Corps Communications Systems

PROJECT NUMBER AND NAME

C2270 Exp Indirect Fire Gen Supt Wpn Sys

(U) **MAGTF C2:** Spiraled development of capabilities. Spiral development cycle is 2 years. Spiral 1 Initial Operational Capability (IOC) in 2010 has the following capabilities attributes: Single integrated air and ground picture; full real time to near real time, and non real time data exchange; integrated fire control. Spiral 2 IOC in 2012 has the following capabilities attributes: Single integrated air, ground, and intel picture; full real time, near real time, and non real time data exchange. Spiral 3 IOC in 2014 and has the following capabilities attributes: Full integrated tactical air, ground, intel, and CSSE display and integrated data environment. Each spiral will be accepted as an integrated whole, running on the target hardware, following a contractor development test.

(U) **DACT:** The Program develops software and hardware for two operational domains. The Mounted DACT (M-DACT) (IOC 2nd Qtr FY03) consists of the Ruggedized Handheld Computer (RHC) with Command and Control Personal Computer (C2PC) software integrated with various tactical vehicle platforms and communications systems through the use of a Vehicle Modification (VM) Kit. It is mounted in vehicles from the battalion to the mechanized platoon (HMMVV, AAV, LAV, and Tanks). AAO of 1074 systems has been procured. The Dismounted DACT (D-DACT) (IOC 2nd Qtr FY05) is a smaller, lighter handheld device having greater battery life, consisting of the Rugged Personal Digital Assistant (R-PDA) with Windows Command and Control CE (C2CE) software. The Dismounted DACT is intended for the dismounted user at the platoon level. 1108 systems of the acquisition objective of 1944 have been procured.

(U) E. MAJOR PERFORMERS:

TARGET LOCATION DESIGNATION AND HAND-OFF SYSTEM (TLDHS)

FY07 Stauder Technologies St Louis MI T&E

FY08 Stauder Technologies St Louis MI T&E

FY09 Stauder Technologies St Louis MI T&E

ADVANCED FIELD ARTILLERY TACTICAL DATA SYSTEMS (AFATDS)

FY07 RAYTHEON, Fort Wayne IN. Develop and test software. Oct 07
MCOTEA, Quantico, va. Test software. Award Dec 07.
MCTSSA, Software Testing, Award Oct 07.

SPAWAR, Charleston SC, Software Testing. Award Oct 07.
FY08 RAYTHEON, Fort Wayne IN. Develop and test software. Oct 08
MCOTEA, Quantico, va. Test software. Award Dec 08
MCTSSA, Software Testing, Award Oct 08.

SPAWAR, Charleston SC, Software Testing. Award Oct 08.
FY09 RAYTHEON, Fort Wayne IN. Develop and test software. Oct 09
MCOTEA, Quantico, va. Test software. Award Dec 09.
MCTSSA, Software Testing, Award Oct 09.
SPAWAR, Charleston SC, Software Testing. Award Oct 09.

MSBL

FY 07 NORTHROP GRUMMAN MISSION SYSTEMS (NGMS), San Diego, CA. Software development C2PC and C2CE (C2PC Light). Estimated contract award date: Oct 06
SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR) Charleston, SC. Software integration, building, testing and fielding MSBL. Estimated contract award date: Oct 06

TACTICAL COMBAT OPERATIONS (TCO)

FY 07 SPAWAR, CHARLESTON, SC Provide funds to EMA, and SRC for testing of new workstation concept, integration of new software, and final acceptance testing.

FY 08 SPAWAR, CHARLESTON, SC Provide funds to EMA and SRC for testing of new server concept, integration of new software, and final acceptance testing.

FY 09 SPAWAR, CHARLESTON, SC Provide funds to EMA, and SRC for system software testing and integration,

MAGTF C2

FY 08-09 NGMS, San Diego. Product Software Development

FY08-09 SPAWAR Charleston. Product Software Development

DATA AUTOMATED COMMERCIAL TERMINAL (DACT) - FY07-13:

NSWC SPAWAR, Charleston, SC, Integration and Program Support
Ocean Systems Engineering Corporation (OSEC), Calsbad, CA, Training Development
L-3 Com/Titan, Stafford, VA Program Support

DATE: **February 2008**

Exhibit R-3 Cost Analysis				APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT		PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Systems Development				0206313M Marine Corps Communications Systems										C2270 Exp Indirect Fire Gen Supt Wpn Sys					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract							
TLDHS	RCP	MCSC, QUANTICO, VA	6.917	1.224	10/06	1.053	10/07	1.363	10/08	Cont	Cont								
AFATDS	WR	SPAWAR, Charleston, SC	0.484	0.390	10/06	0.161	10/07	0.175	10/08	Cont	Cont								
AFATDS	WR	MCTSSA QUANTICO VA	2.088	0.116	11/06	0.122	11/07	0.135	11/08	Cont	Cont								
AFATDS	MPR	CECOM FT MONMOUTH	4.817	4.875	03/07	1.435	03/08	4.714	03/09	Cont	Cont								
AFATDS	RCP	CEOSS CTQ MCSC	0.660	0.377	01/07	0.400	01/08	0.410	01/09	Cont	Cont								
AFATDS	RCP	KCI, Stafford VA	0.046								0.046								
AFATDS	Repro	MCSC, QUANTICO, VA	0.040								0.040								
AFATDS	MP	PMI&E FT. MONMOUTH	1.435								1.435								
MAGTF SOFTWARE BASELINE	RCP	NGMS, San Diego	8.749								0.000								
MAGTF SOFTWARE BASELINE	WR/RCP	SPAWAR Charleston	3.007								8.749								
MAGTF SOFTWARE BASELINE	RCP	MCSC QUANTICO VA	2.292								3.007								
C2PC	RCP	MCSC QUANTICO VA	2.420					0.309			2.601								
C2PC	MP	SPAWAR	0.230	13.315	10/06						15.735								
C2PC	RCP	NGMS, SAN DIEGO	0.000	13.478	10/06						13.708								
MAGTF C2	RCP	NGMS, San Diego	0.000			17.893	10/07	33.556	10/08	Cont	Cont								
MAGTF C2	WR/RCP	SPAWAR Charleston	0.000			5.500	10/07	5.500	10/08	Cont	Cont								
TCO	WR/RCP	SPAWAR, Charleston, SC	2.870	0.634	11/06	0.517	11/07	0.941	11/08	Cont	Cont								
TCO	MP	Robins AFB	0.024	0.008	11/06	0.012	11/07	0.012	11/08	Cont	Cont								
BFSA	WR/RCP	SPAWAR, Charleston, SC	0.090	1.000	01/07	0.064	01/08	1.475	10/08	Cont	Cont								
BFSA	MPR/T&M	CECOM FT MONMOUTH	0.000	0.790	12/06			1.975	12/08	Cont	Cont								
BFSA	MPR/FFP	CECOM FT MONMOUTH	0.450	0.305	01/07	0.210	12/07				0.965								
BFSA	RCP	MCOTEA	0.000			0.145	10/07	0.125	10/08										
DACT	RCP	MCSC, QUANTICO, VA	1.721								1.721								
DACT	WR	MCTTSA, CAMP PEND	0.363	0.177	10/06						0.540								
DACT	RCP	MCSC, QUANTICO, VA	0.052								0.052								
DACT	MPR	DISA	0.050								0.050								
DACT	MPR	CECOM	0.252								0.252	3.379							
Subtotal Product Dev			39.057	36.689		27.512		50.690		Cont	Cont								
Remarks:																			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract							
TLDHS	WR	NSWC CRANE	0.975	0.200	12/06							1.175							
MAGTF SOFTWARE BASELINE	WR	MCTSSA	1.145								1.145								
C2PC	RCP	MCTSSA	0.012								0.012								
C2PC	RCP	DISA	1.150								1.150								
C2PC	RCP	MCOTEA FY06	0.000	0.234	01/07						0.234								
C2PC	RCP	MCTSSA	0.000	0.524	01/07						0.524								
C2PC	RCP	SPAWAR	0.000	0.234	06/07						0.234								
C2PC	RCP	NMCI CERTIFICATION	0.000	0.029	06/07						0.029								
MAGTF C2	CP	NMCI CERTIFICATION	0.000			0.554	10/07	0.432	10/08	Cont	Cont								
MAGTF C2	RCP	MCOTEA FY06	0.000			0.656	10/07	0.608	10/08	Cont	Cont								
MAGTF C2	RCP	WEB LOGIC LICENSE FY06	0.000			0.361	10/07	0.334	10/08	Cont	Cont								
MAGTF C2	WR/RCP	MCTSSA	0.000			0.000	10/07	0.487	10/08	Cont	Cont								
MAGTF C2	RCP	MCHS	0.000			0.683	10/07	0.632	10/08	Cont	Cont								
TCO	WR	MCTSSA	0.000			0.000		0.000			0.004								
Subtotal Support			3.282	1.221		2.254		2.493		Cont	Cont								
Remarks:																			

Exhibit R-3 Cost Analysis											DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Systems Development				0206313M Marine Corps Communications Systems				C2270 Exp Indirect Fire Gen Supt Wpn Sys						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
TLDHS	MP	DES MOINES	0.036										0.036	
TLDHS	WR	MCSC QUANTICO VA	0.074										0.074	
TLDHS	Repro	MCOTEA	1.035			0.150	01/07	0.150	01/08	0.150	01/09	Cont	Cont	
TLDHS	WR	Dahlgren VA	0.898										0.898	
TLDHS	MP	Ft. Huachuca AZ	0.075										0.075	
AFATDS	WR	MCOTEA	0.074			0.066	12/06	0.074	12/07	0.074	12/08	Cont	Cont	
BFSA	WR	FMF, MCB Camp Pendleton/N				0.196	11/06	0.080	01/08	0.025	01/09	Cont	Cont	
DACT		MCOTEA TESTING	0.468										0.468	
												Cont	Cont	
												Cont	Cont	
												Cont	Cont	
												Cont	Cont	
Subtotal T&E			2.660			0.412		0.304		0.249		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
MAGTF SOFTWARE BASELINE	RCP	MCSC QUANTICO CTQ	8.990										8.990	
C2PC	RCP	MCSC QUANTICO CTQ	0.000			1.650	10/06						1.650	
MAGTF C2	RCP	MCSC QUANTICO CTQ	0.000					1.800	10/07	1.800	10/08	Cont	Cont	
Subtotal Management			8.990			1.650		1.800		1.800		Cont	Cont	
Remarks:														
Total Cost			53.989			39.972		31.870		55.232		Cont	Cont	

Exhibit R-4-4a Project Schedule/Detail

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

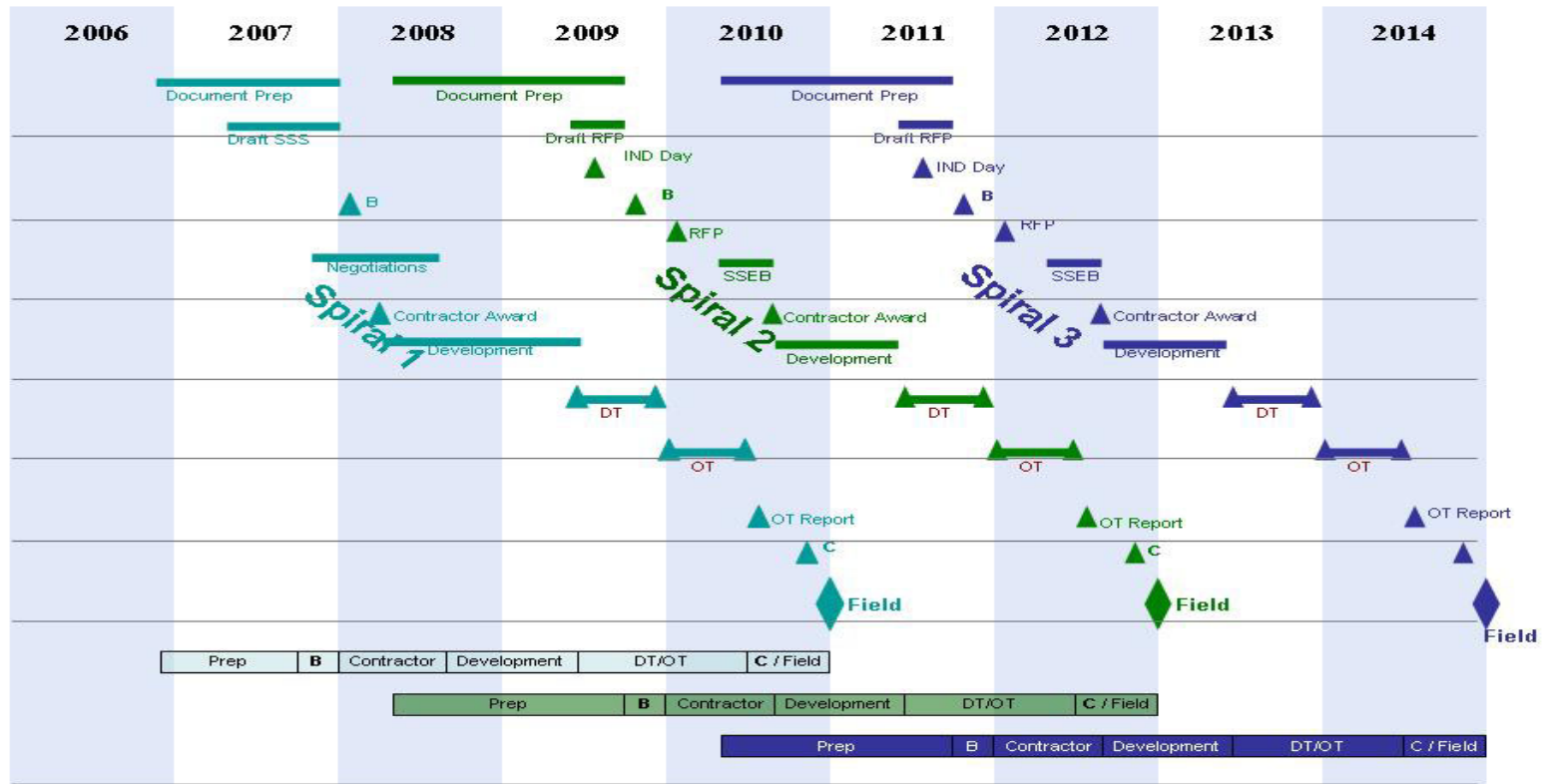
PROJECT NUMBER AND NAME

RDT&E, N /BA-7 Operational Systems Development

0206313M Marine Corps Communications Systems

C2270 Exp Indirect Fire Gen Supt Wpn Sys

MSBL/C2PC & MAGTF C2



Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Comptotal Cost
(U) RDT&E,N C2270 C2PC	29.464	0.000	0.309	0.000	0.000	0.000	0.301	0.000 30.074
(U) RDT&E,N C2270 MAGTF C2 Systems Applications	0.000	27.447	43.349	20.588	22.773	24.922	23.244	Cont Cont

Exhibit R-4a Project Schedule/Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Systems Development		0206313M Marine Corps Communications Systems			C2270 Exp Indirect Fire Gen Supt Wpn Sys			
MAGTF C2 SCHEDULE DETAIL								
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
C2PC 7.0 Delivery	4th Qtr							
JTCW 1.0 Delivery for DT/OT		2nd Qtr						
JTCW OT Operator Training		3rd Qtr						
JTCW 1.0 IOT&E		4th Qtr						
JTCW Material Release Decision			1st Qtr					

Exhibit R-4-4a Project Schedule/Detail

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

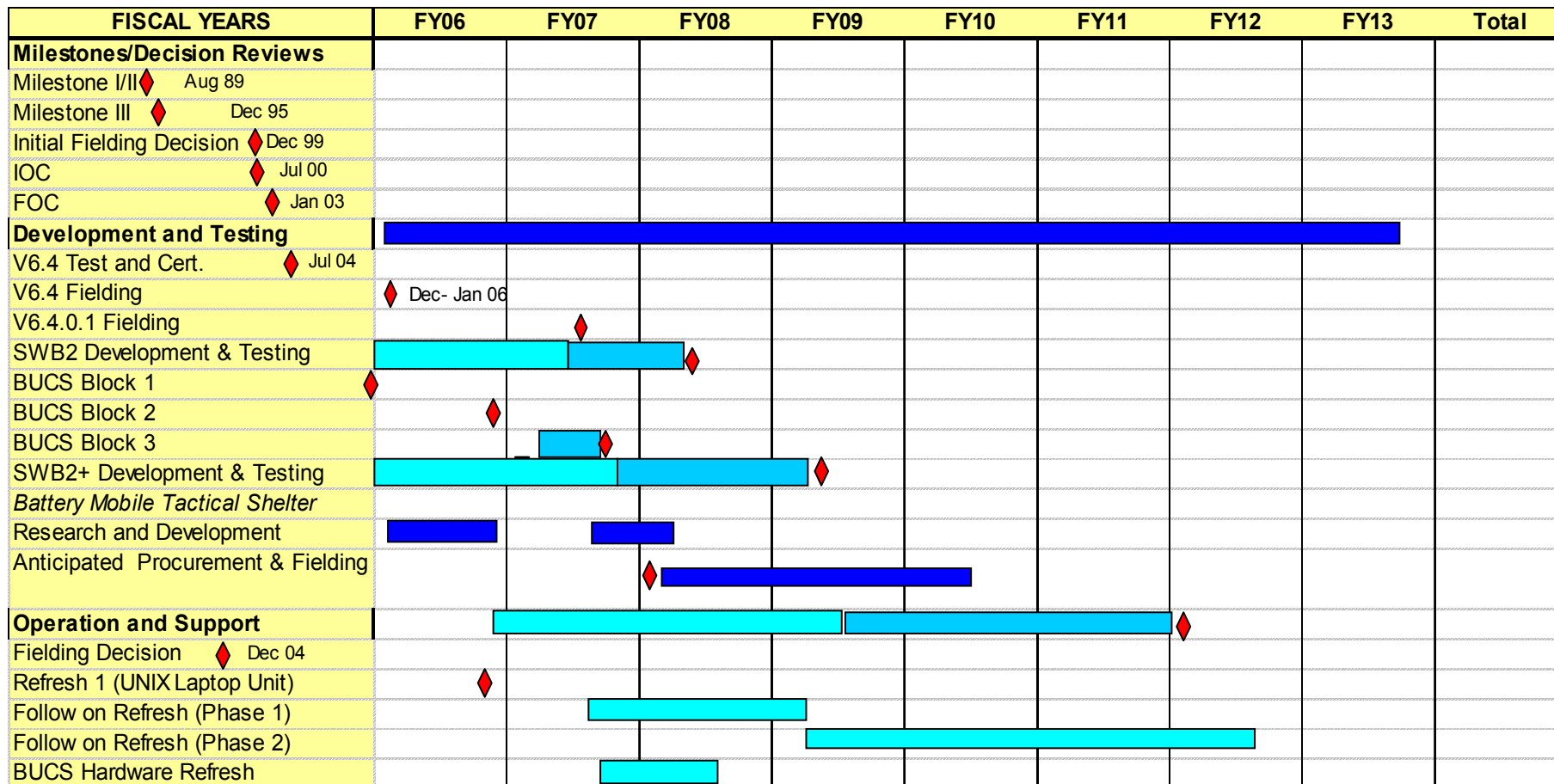
PROJECT NUMBER AND NAME

RDT&E, N /BA-7 Operational Systems Development

0206313M Marine Corps Communications Systems

C2270 Exp Indirect Fire Gen Supt Wpn Sys

ADVANCED FIELD ARTILLERY TACTICAL DATA SYSTEMS (AFATDS)



Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N, C2270, AFATDS	5.824	2.192	5.508	5.271	5.818	5.939	6.072	Cont	Cont
(U) PMC BLI, 463100, AFATDS	9.876	6.520	0.862	3.418	3.482	3.549	3.631	Cont	Cont

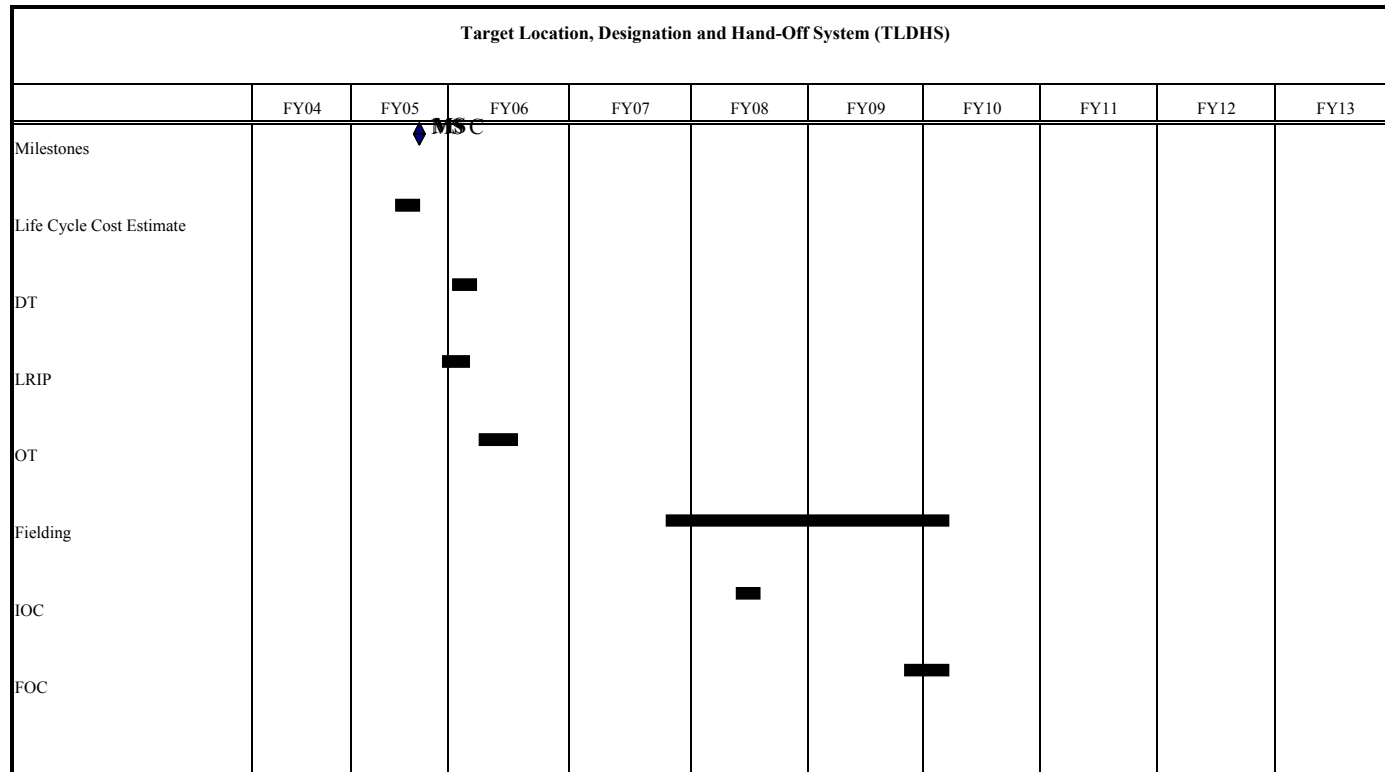
Exhibit R-4-4a Project Schedule/Detail							DATE:		February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Systems Development			0206313M Marine Corps Communications Systems				C2270 Exp Indirect Fire Gen Supt Wpn Sys				
ADATDS SCHEDULE DETAILS											
AFATDS DELIVERY DETAILS											
			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013		
				2nd Qtr							
					3rd Qtr						
							1st Qtr			3rd Qtr	
				2nd Qtr	3rd Qtr		1st Qtr			3rd Qtr	
			3rd Qtr								
				3rd Qtr							
				3rd Qtr							

DATE: **February 2008**

Exhibit R-4-4a Project Schedule/Detail

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2270 Exp Indirect Fire Gen Supt Wpn Sys

TLDHS SCHEDULE



Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N C2270 TLDHS	1.574	1.203	1.513	1.514	1.008	1.031	1.055	Cont	Cont
(U) PMC BLI 4631000 TLDHS	15.017	3.328	1.042	1.023	2.045	2.084	2.132	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Systems Development	PROGRAM ELEMENT 0206313M Marine Corps Communications Systems	PROJECT NUMBER AND NAME C2270 Exp Indirect Fire Gen Supt Wpn Sys
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TLDHS SCHEDULE DETAIL	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone C	3rd Qtr								
Life Cycle Cost Estimate	3rd Qtr								
Developmental Testing		1st Qtr							
Low Rate Initial Production	4th Qtr								
Operational Testing		2nd Qtr							
Fielding			4th Qtr			1st Qtr			
Initial Operating Capability				2nd Qtr					
Full Operational Capability					3rd Qtr				

Exhibit R-4-4a Project Schedule/Detail

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

PROJECT NUMBER AND NAME

RDT&E, N /BA-7 Operational Systems Development

0206313M Marine Corps Communications Systems

C2270 Exp Indirect Fire Gen Supt Wpn Sys

DACT SCHEDULE

	FY07	FY08	FY09	FY10	FY11	FY12	FY13
DACT Milestones/Decision Reviews							
Fielding Decision (upgraded RPDA)		◆					
Contract Awards							
D-DACT	◆	◆					
Hardware production							
D-DACT FY07 purchase	■	■					
D-DACT FY08 purchase		■	■				
Software build							
Develop and Test Cycle 1	■						
Develop and Test Cycle 2		■					
DT/OT		■					
Field and Train							
D-DACT	■	■	■	■			
Sustainment	■	■	■	■	■	■	■
BFSA Milestones/Decision Reviews							
Technical Reviews & Audits							
MRC IPR	◆						
MRC CDR/SRR	◆						
MRC Qual Testing	◆						
MRC Interoperability Testing	◆						
Contract Awards							
BFT/MRC	◆						
Production							
BFT/MRC		■	■				
Field/Install and Train							
BFT/MRC			■	■			
BFT/MRC P3I							
JCR and Type 1 Transceiver							
DT (PM FBCB2)		■					
OT (ATEC/MCOTEA)			■	■			
Procure Transceiver				■	■		
Field JCR software and Transceiver				■	■	■	
Sustainment	■	■	■	■	■	■	■

Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E,N, C2270, DACT

	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY 2012	FY 2013	Comp	Total Cost
(U) RDT&E,N, C2270, DACT	0.177	0.000	0.000	0.000	0.000	0.000	0.000	Cont	Cont

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems			C2272 Intelligence C2 Systems					
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost			43.171	13.942	17.760	26.013	26.309	22.968	24.625
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
(U) 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.									
Tactical Exploitation of National Capabilities (TENCAP) is a program designed to enhance the ability of tactical Marine Corps forces to exploit the capabilities of national intelligence-gathering systems. Congressionally directed, it requires close liaison with the intelligence community and involves complex and highly-sensitive activities.									
Topographic Production Capability (TPC) is an integrated, independently deployed, self-contained terrain analysis system designed for data acquisition, manipulation, analysis and output, providing commanders and staff with geospatial intelligence (GEOINT) support at the Marine Expeditionary Force (MEF) and the Marine Expeditionary Wing (MEW) levels. The TPC configurations consist of Commercial-off-the-Shelf (COTS)/Government-off-the-Shelf(GOTS) software packages, servers, workstations, large-format printing/plotting devices and large-format scanning devices, all mounted in transit cases. The TPC provides critical, timely, and accurate digital and hardcopy geospatial information to support mission planning and execution. The TPC provides the capability to collect, process, exploit, analyze, produce, disseminate, and use all-source geospatial information as a foundation for a Common Operational Picture (COP) for the Marine Air Ground Task Force (MAGTF) Commander. The TPC is used by the Topographic Platoon of the MEF and provides deployable modules down to the Major Subordinate Command (MSC) and the Marine Expeditionary Unit (MEU). It supports the Commander, Joint Task Force or Marine Component Commander. The TPC provides the frame work data collection, analysis and integration; and decision-aid development support.									
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, CDL and MTI sensor capabilities and Internet Protocol Version 6 (IPv6) research and development .									
Tactical Exploitation Group (TEG) - The TEG System is the only tactical imagery exploitation system in the United States Marine Corps (USMC) and is one of the four systems comprising the Distributed Common Ground/Surface System-Marine Corp (DCGS-MC). The modular and scaleable TEG employs a tiered approach comprised of two echelon-tailored configurations: the TEG-Main (TEG-M) and the TEG Remote Workstation (TEG-RWS). The TEG-M receives and processes national, theater, and tactical imagery and supplies the commander and subordinate commanders with exploitation reports and secondary imagery products for tactical operations, strike planning, precision targeting, detection and location of targets of opportunity, and battle damage assessment for restrike planning and intelligence assessment. The TEG-RWS provides imagery support to subordinate units within the MEF that do not require full TEG-M support. The TEG is also interoperable with the Army's Tactical Exploitation System (TES), the USAF Intelligence Systems Reconnaissance Manager (ISRM), the DCGS-Navy (DCGS-N) and other USMC C4I systems.									
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 (IAW) applicable national oversight directives. CIHEP provides each CI/HUMINT Company (CIHCo) 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.									
Team Portable Collection System - Multi-Platform Capable (TPCS-MPC) - The TPCS- MPC will provide the MAGTF commander with a modular and scaleable carry on/off suite of equipment capable of conducting Signals Intelligence (SIGINT) operations onboard organic non-dedicated Marine Corps air, ground, and water borne platforms. The TPCS-MPC will be highly modular, mission configurable, multi-platform system incorporating plug-and-play technologies. The system will provide state-of-the-art, versatile air/ground/water borne Signals Intelligence (SIGINT) and Electronic Warfare (EW) support to the MAGTF through the use of lightweight, flexible mission equipment suites capable of detecting, identifying, locating, and exploiting current and emerging communications technologies, intercepting non-communication signals, and improving the system's geolocation accuracy.									

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems
<p>Tactical Remote Sensor System (TRSS-PIP) - TRSS is a suite of hand emplaced and air-delivered unattended sensors, ground relays, and sensor monitoring stations, which are used by the Intelligence Battalions, Ground Sensor Platoons (GSPs). It provides the MEF/MAGTF Commander with an organic capability to conduct unattended, all-weather, semi-covert, ground surveillance of distant areas within his Area of Operations (AO). Through the use of seismic, acoustic, magnetic, infra-red, and imaging sensors, this suite provides an additional surveillance capability of personnel and/or vehicular activity, during tactical pre-assault, assault and post assault operations. TRSS covers gaps in the overall intelligence collection effort and reduces the requirement to employ Marines behind enemy lines for extended periods of time.</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 area of operations and externally with high adjacent commands. MSIDS capability resides with the MAGTF G/S-2 sections and Ground Reconnaissance units. The MSIDS FoS extends the digital imaging capability to all echelons within the 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 (OW/CI) or existing C4ISR architecture. 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 recently, been employed in Iraq, Kuwait, Afghanistan, Haiti, Philippines, and Horn of Africa.</p> <p>Intelligence Analysis Systems (IAS) supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence; it ensures that tactical intelligence is tailored to meet specific mission requirements to include Irregular Warfare.</p> <p>Global Command and Control System Integrated Imagery and Intelligence (GCCS I3) is a joint program that is designed to enhance the operational Commander's situation 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 battlespace and is interoperable, transportable, and compliant with the DoD mandated Common Operating Environment (COE).</p> <p>Technical Control Analysis Center (TCAC). The primary mission of the TCAC is to provide the Radio Battalions (RadBn) with an automated Signals Intelligence (SIGINT) processing, analysis, and reporting capability. The TCAC system is designed to receive collected intelligence from tactical, theater and National level producers and provide a multi-source fused intelligence production capability to support the Marine Air Ground Task Force (MAGTF) commander via the Intelligence Analysis System (IAS), as well as the National Security Agency (NSA) and other National consumers.</p> <p>Intelligence Broadcast Receiver (IBR) provides Marine tactical commanders access to National level Near Real-Time intelligence data provided over the Integrated Broadcast Service. IBR is employed across the MAGTF echelons through the following Host Systems; Intelligence Analysis System; Tactical Air Operations Center; Technical Control and Analysis Center; Tactical Air Command Center; Joint STARS Common Ground Station; Tactical Electronic Reconnaissance Processing and Evaluation System and Common Air Command and Control Systems and Joint Stars Work Station.</p> <p>Intelligence System Readiness (ISR) - provides timely and targeted solutions that enable the MAGTF Commander to accomplish the mission by rapid technology insertion, quick response training, logistics and provide interim support to mission essential legacy systems that are not otherwise supported through the POM process. By utilizing the Field User Evaluation (FUE) Process, the ISR program enhances the Marine Corps Intelligence Architecture by mitigating operational shortfalls through Commercial-Off-The-Shelf (COTS), Government-Off-The-Shelf (GOTS) and Non-Developmental Item (NDI) solutions. In this way, ISR provides proof-of-concept prototypes and focused Research and Development (R&D) efforts to support the Marine Corps Intelligence Architecture and shorten the time required to fill gaps and field systems. The ISR program Team also trains Marines to maximize new systems and capabilities.</p> <p>Trojan Spirit II - Two programs TROJAN SPIRIT II and TROJAN SPIRIT LITE are merging into a single program called TROJAN SPIRIT. TROJAN SPIRIT is a SHF multi-band satellite communications terminal, available in either High Mobility Multi-Purpose Wheeled Vehicle (HMMWV)-mounted or transit case configuration, that provides dedicated tactical communications capacity at the TS/SCII and Secret Collateral levels to USMC intelligence units. TROJAN SPIRIT terminals provide connectivity into Joint Worldwide Intelligence Communication System (JWICS), NSANET and SIPRNET via the TROJAN Network Control Center.</p> <p>Distributed Common Ground/Surface System-Marine Corps (DCGS - MC) - formerly known as Distributed Common Ground/Surface-Integration (DCGS-I), is a collection of Service Systems that will contribute to joint and combined warfighter needs for ISR support, with the Global Information Grid (GIG) providing unconstrained communications circa 2010 to support the Department of Defense (DoD) Intelligence, Sureveillance and Reconnaissance (ISR) Enterprise end-state. The DCGS Integrated Backbone (DIB) is the architecture that will tie the Service DCGS systems together into one Family of Systems (FOS). The DIB will provide the tools, standards, architecture, and documentation for the DCGS community to achieve a Multi-Intelligence (Multi-INT) (e.g. Imagery Intelligence (IMINT), Signal Intelligence (SIGINT), Measurement/Measuring and Signature Intelligence (MASINT), Counterintelligence/Human Intelligence (CI/HUMINT)), network centric environment with the interoperability to afford individual nodes' access to the information needed to execute their respective missions to include Irregular Warfare. The Marine Corps will conduct DIB integration research and development to meet a congressionally mandated implementation deadline.</p>		

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems		
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.035	0.037	0.039
RDT&E Articles Qty				
CIHEP: Engineering, Integration and Technical support for technical refresh and update of program hardware/software upgrades.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.091	0.066	0.091
RDT&E Articles Qty				
CIHEP: Program Management Support for the technical refresh and update of program hardware/software upgrades.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.440	0.000	0.434
RDT&E Articles Qty				
GCCS-13: Program Support, Integration and Software Engineering				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.972	0.000	0.612
RDT&E Articles Qty				
GCCS-13: Software Engineering Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.100	0.041	0.100
RDT&E Articles Qty				
GCCS-13: Engineering/Acq Logistics Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.070	0.000	0.080
RDT&E Articles Qty				
GCCS-13: Program Testing				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.724	0.516	0.722
RDT&E Articles Qty				
IAS MOD KIT: Software Engineering and Management Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.310	0.326	0.345
RDT&E Articles Qty				
IAS MOD KIT: Program, Logistic and Admin Support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.500	0.000	0.484
RDT&E Articles Qty				
IBR: Engineering and technical service support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.500	0.000	0.000
RDT&E Articles Qty				
IBR: Research and Development of MIBS-R.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.083	0.000	0.000
RDT&E Articles Qty				
IBR: Contract and Program Support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				
IER: Program Management and Technical Support for the ISR Program.				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.700	0.081	0.203
RDT&E Articles Qty				
IER: Engineering Support for delivery of new technology initiatives to the Operating Forces.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.232	0.000	0.000
RDT&E Articles Qty				
IER: System Engineering support for the ISR Testing and Training Center.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.280	0.000	0.115
RDT&E Articles Qty				
JSTARS: Engineering and technical support for development of software dissemination capability.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.104	0.054	0.000
RDT&E Articles Qty				
JSTARS: Future MTI capability into JSTARS ground elements.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.100	0.054	0.121
RDT&E Articles Qty				
JSTARS: MTIX Capability.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.100	0.000	0.000
RDT&E Articles Qty				
JSTARS: CGS/JSWS Client Development.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.100	0.000	0.000
RDT&E Articles Qty				
JSTARS: IPv6 integration research.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.010	1.010	0.547
RDT&E Articles Qty				
JSIPS-TEG: Engineering, development, integration, test and security accreditation and integrated logistics support for Enhanced and TEG-RWS functionality.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.271	0.345	0.164
RDT&E Articles Qty				
JSIPS-TEG: Development and integration of required upgrades/interfaces to accommodate emerging airborne imagery sensor.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.267	0.239	0.238
RDT&E Articles Qty				
JSIPS-TEG: Program Management and Technical support for T&E of program refresh.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.083	0.094
RDT&E Articles Qty				
JSIPS-TEG: Development of MTI/MTIX interfaces to include potential merger of current JSTARS/CGS capabilities				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.290	0.350	0.153
RDT&E Articles Qty				
JSIPS-TEG: Development and integration of video capture and exploitation capability.				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.183	0.260	0.000
RDT&E Articles Qty				
JSIPS-TEG: Development and integration of mandated DCGS/DIB interfaces and communication architectures.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.314	0.116
RDT&E Articles Qty				
JSIPS-TEG: Development of man-portable and reduced form-factor Common Data Link (CDL) capability.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.387	0.304	0.345
RDT&E Articles Qty				
JSIPS-TEG: Engineering/technical management and Infrastructure/Team IMINT shared costs.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.100	0.155	0.127
RDT&E Articles Qty				
JSIPS-TEG: Development and integration of mandated Joint interoperability and architectures to include IPv6, GIG and others.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.210	0.104	0.216
RDT&E Articles Qty				
MSIDS: Program Management and technical support for product development of program hardware and software refresh.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.040	0.024	0.047
RDT&E Articles Qty				
MSIDS: Program Management and technical support for Technical and Evaluation of program refresh.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.505	0.827	1.232
RDT&E Articles Qty				
TCAC: Software development, integration and testing for TCAC with COE 4.X and future releases.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.350	0.215
RDT&E Articles Qty				
TCAC: Program Management Support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		2.961	2.869	3.824
RDT&E Articles Qty				
TENCAP: Program support and management; evaluate national intelligence data systems for MAGTF applicability.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.897	0.608	0.151
RDT&E Articles Qty				
TENCAP: Technical assessments of emerging national data dissemination capabilities.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				
TENCAP: Training and education efforts by providing the Fleet Marine Force with TENCAP simulation, visualization, and data receipt and dissemination capabilities.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.135	0.150	0.000
RDT&E Articles Qty				
TENCAP: Evaluate the utility of emerging exploitation, automated and manual target recognition and detection tools.				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.321	0.260	0.318
RDT&E Articles Qty				
TPC: Integration of Hardware and Software of Spiral Development Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.035	0.033	0.049
RDT&E Articles Qty				
TPC: Contractor Support for Integration and Re-engineering Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.286	0.257	0.259
RDT&E Articles Qty				
TPCS-MPC: EDM Design.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.250	0.200
RDT&E Articles Qty				
TPCS-MPC: System development.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.050	0.056
RDT&E Articles Qty				
TPCS-MPC: Training development and test support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.700	0.350	0.502
RDT&E Articles Qty				
TPCS-MPC: Program support and management.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.500	0.387	0.000
RDT&E Articles Qty				
TPCS-MPC: Operational Test and Evaluation (OT&E).				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.700	0.578	0.709
RDT&E Articles Qty				
TRSS-PIP: Logistic and Admin support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.000	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Software development of HHPM and Low Cost Imager; Improved Air Delivered Sensor (IADS) II; Encoder Transmitter Unit (ETU); Windows 2000 migration; and RSMS ver 3.1 field verification/version 4.1 and 4.2.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.060	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Management support - MCSC				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.500	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Development of P3I Sensors.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Air Certification of Advanced Air Delivered Sensor (AADS) store.				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Development of SMMS II.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		2.000	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Development of Urban Sensor Sets				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.422	0.000	0.000
RDT&E Articles Qty				
TRSS-PIP: Support IOT&E and Increment II efforts.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.420	0.264	0.431
RDT&E Articles Qty				
TROJAN SPIRIT: Engineering and Technical Support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		16.600	0.000	0.106
RDT&E Articles Qty				
ANGEL FIRE: Engineering and Technical Support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				
DCGS-MC - USMC DCGS Integrated Backbone (DIB).				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.361	0.800
RDT&E Articles Qty				
DCGS-MC - Research and Development and Integration efforts.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		3.930	0.988	1.583
RDT&E Articles Qty				
DCGS-MC - Engineering and Technical Services.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.997	1.932
RDT&E Articles Qty				
DCGS-MC - Design and Development of Hardware and Enterprise Services and test and development support to include Studies, analysis and evaluation.				
(U) Total \$		43.171	13.942	17.760

EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication Systems	PROJECT NUMBER AND NAME C2272 Intelligence C2 Systems
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(U) PROJECT CHANGE SUMMARY:	FY2007	FY2008	FY2009						
(U) FY 2008 President's Budget:	26.571	17.052	18.624						
(U) Adjustments from the President's Budget:									
(U) Congressional Program Reductions		-3.02							
(U) Congressional Rescissions									
(U) Congressional Increases	16.600								
(U) Reprogrammings									
(U) SBIR/STTR Transfer									
(U) Minor Affordability Adjustment		-0.090	-0.864						
(U) FY 2009 President's Budget:	43.171	13.942	17.760						
CHANGE SUMMARY EXPLANATION:									
(U) Funding: See Above.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									

(U) C. OTHER PROGRAM FUNDING SUMMARY:		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
<u>Line Item No. & Name</u>										
PMC BLI 474700 Intel Support Eq	TRSS-PIP	12.254	63.087	5.042	8.727	12.943	4.258	5.993	Cont	Cont
PMC BLI 474700 Intel Support Eq	CIHEP	18.402	15.397	5.106	6.681	11.682	6.051	5.698	Cont	Cont
PMC BLI 474700 Intel Support Eq	DCGSI	0.000	0.518	0.116	6.246	0.577	0.593	0.610	Cont	Cont
PMC BLI 474700 Intel Support Eq	JSIPS - TEG	18.694	11.110	1.363	1.826	7.076	0.309	0.317	0.000	40.695
PMC BLI 474700 Intel Support Eq	TPCS	17.056	14.427	0.303	0.875	4.244	0.000	0.000	0.000	36.905
PMC BLI 474700 Intel Support Eq	MSIDS	10.917	3.226	2.251	4.350	4.386	2.132	1.903	Cont	Cont
PMC BLI 474700 Intel Support Eq	IBR	0.361	2.283	0.525	1.077	1.096	0.449	0.461	Cont	Cont
PMC BLI 474700 Intel Support Eq	TPC	21.649	13.373	3.209	1.658	9.943	4.731	6.319	0.000	60.882
PMC BLI 474700 Intel Support Eq	RREP	4.495	1.933	7.266	1.083	1.301	1.389	1.427	Cont	Cont
PMC BLI 474700 Intel Support Eq	TSCM	0.000	2.359	0.000	1.410	0.000	1.539	0.000	Cont	Cont
PMC BLI 474700 Intel Support Eq	TROJAN SPIRIT	7.085	11.640	0.560	0.109	0.114	0.116	0.120	Cont	Cont
PMC BLI 474700 Intel Support Eq	JWICS	0.703	0.540	0.828	0.638	0.620	0.896	0.921	Cont	Cont
PMC BLI 474700 Intel Support Eq	TCVS	5.600	0.000	0.000	0.000	0.000	0.000	0.000	Cont	Cont
PMC BLI 465200 Mod Kits	IAS MOD Kit	0.000	6.357	0.000	0.000	0.000	0.000	0.000	Cont	Cont
PMC BLI 465200 Mod Kit	TCAC	8.080	5.599	0.000	0.000	0.000	0.000	0.000	Cont	Cont
PMC BLI 465200 Mod Kit	JSTARS	1.622	4.688	0.000	0.000	0.000	0.000	0.000	Cont	Cont
PMC BLI 465200 Mod Kit	IER	15.805	9.777	0.000	0.000	0.000	0.000	0.000	Cont	Cont

(U) Related RDT&E:
 (U) PE 0301301L (Department of Defense Intelligence and Information Systems/Military Intelligence Integrated Data System/Integrated Data Base I and II)
 (U) PE 0604270A (Intelligence and Electronic Warfare Common Sensor (IEWCS), TACJAM-A)
 (U) PE 0305885G (Tactical Cryptologic Program)
 (U) PE 0603730A (Tactical Surveillance System - Advanced Development), Army TENCAP, Project D560
 (U) PE 0603766A (Tactical Electronic Surveillance System - Advanced Development), Army TENCAP, Project D907
 (U) PE 0604740A (Tactical Surveillance System - Engineering Development), OSD TENCAP, Project D662
 (U) PE 0902398M (United States Special Operations Command), Chariot Program
 (U) PE 0605867N (SEW Surveillance/Reconnaissance Support), Project Z1034

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	February 2008
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems
<p>(U) ACQUISITION STRATEGY JSTARS: JSTARS will utilize ongoing Army and Navy JSTARS contracts for development of client software, future CDL, MTI and MTI Sensor capabilities. IPv6 research will be conducted in conjunction with other services and agencies. Incremental Development Plan (IDP) efforts will continue to the JSTARS software baseline. SPAWAR-Charleston, SC will oversee the integration and testing of these development efforts, ensuring USMC Command, Control, Communications, Computers and Intelligence (C4I) architecture capability. On-site contractor logistical support will be provided through the General Dynamics Intelligence, Information Command and Control, Equipment and Enhancements (ICE2) Equipment Logistics Support Contract out of Warner-Robbins Air Force Base, GA. Post Deployment Software Support (PDSS) will be provided through the Communications-Electronics Command (CECOM), Ft Monmouth, NJ and SPAWAR-Charleston, SC. Surveillance Control Data Link (SCDL) antenna and Ground Data Terminal (GDT) support will be through Cubic Defense Systems, San Diego, CA, via a General Dynamics support contract.</p> <p>(U) ACQUISITION STRATEGY JSIPS TEG: The TEG Program Office leverages the advantages of its multi-service common software baseline and inherent Joint service interoperability. Development, integration, interoperability, security certification and accreditation and acquisition is divided between three prime contractors: Northrop Grumman Electronic Systems, Baltimore, MD (NGB) (through a classified contract); Space and Naval Warfare Systems Center, Charleston, SC (SSCC), and MTC Services Corporation. An incremental refresh is currently ongoing for the TEG/RWS. A subsequent refresh will occur in FY08 for the TEG-M in order to keep systems modern and modular to meet emerging technologies.</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 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 Increments are cost-plus fixed-fee efforts, while the production phase, which encompasses the production, fielding, training and initial support of the systems, are firm-fixed price efforts.</p> <p>(U) ACQUISITION STRATEGY TENCAP. Work will be led in-house. Necessary contractor support will be acquired using already existing contracts.</p> <p>(U) ACQUISITION STRATEGY CIHEP: CIHEP will use existing 8A contractor, Action Systems, the developer of the original system for test, evaluation and integration of planned refresh items for the ADP and Imagery Module. US Army IMA will be used for test, evaluation, and integration of planned refresh items for the TSS, Audio and Miscellaneous modules. CIHEP will coordinate acquisitions of communications equipment with PM Comm for planned upgrades to the Communications Module.</p> <p>(U) ACQUISITION STRATEGY MSIDS: A complete refresh of systems commenced in 3QTR FY02 and reached Full Operational Capability (FOC) in 2QTR FY03. Subsequent "increment refreshes" are under way in order to keep the systems from becoming unreliable and unsupported. The increment refresh approach will effectively leverage technological advances. Each increment of upgrades will refresh 1/3 of the fielded components.</p> <p>(U) ACQUISITION STRATEGY GCCS-I3: This program promotes and ensures interoperability among USMC Intelligence Systems. Engineering and technical support is provided to PM Intel systems integration efforts for incorporation of the COE and GCCS-I3 software baseline. An Intelligence Integration Facility has been established at the Integrated Team Solution Facility. As such, this facility will be used as the hub for the entire integration effort of the GCCS-I3 initiative.</p> <p>(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 Program Manager, Intelligence Systems, Marine Corps Systems Command (MARCORSYSCOM). Maintenance support will be managed by MARCORLOGBASES Albany and MCSC, Albany and through separate contractual agreements.</p> <p>(U) ACQUISITION STRATEGY IBR: In house contracts will be used to conduct engineering studies and test and evaluation activities associated with the Marine Corps implementation of the Integrated Broadcast Service, Common Message Format, ENTR integration and test and evaluation.</p>		

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems
<p>(U) ACQUISITION STRATEGY TPC: The TPC program will reach Full Operational Capability in FY06 with the fielding of TPC to the Marine Corp Intelligence Activity. The TPC will refresh and upgrade the existing TPC equipment as technology advances. As new technology emerges, the current fielded systems will need incremental hardware and software refreshes to sustain operational requirements and to meet the ORD requirement of compliance with the NGA US Imagery and Geospatial Information System. The TPC program uses existing Government contracts for hardware/software development and integration. Full-time contractor support is provided through the Commercial Enterprise Omnibus Support Services (CEOs) contract. Additional full time engineering and integration support is provided by Northrop Grumman Information Technology TASC through the Information Technology Omnibus Procurement II (ITOP II) contract under the auspices of the MCSC Information Technology Modernization 2000 (ITM2K) Project Office. Maintenance support will be managed by MARCORLOGBASES Albany and MCSC, Albany and through separate contractual agreements.</p> <p>(U) ACQUISITION STRATEGY ISR: 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 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 TROJAN SPIRIT: 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.</p> <p>(U) ACQUISITION STRATEGY DCGS-MC: The Marine Corps DCGS-MC project officer will leverage off of the USAF DCGS 10.2 Research, Development Test and Evaluation (RDT&E) effort and focus on the development of the DCGS Integrated Backbone (DIB) for the DCGS-MC. Additionally, the DCGS-MC will leverage off of MAGTF Legacy system DIB compliance efforts.</p>		
(U) E. MAJOR PERFORMERS:		
MANPACK SIDS (MP SIDS)		
FY 07 Navy Systems Management Activity (MTC, Stafford, VA). Continue to provide funds for engineering and program management support.		
FY 08 Navy Systems Management Activity (MTC, Stafford, VA). Continue to provide funds for engineering and program management support.		
FY 09 Navy Systems Management Activity (MTC, Stafford, VA). Continue to provide funds for engineering and program management support.		
INTELLIGENCE BROADCAST RECEIVER (IBR)		
FY 07 SPAWAR, Provide engineering support for the ISR Testing and Training Center NSMA (MTC), Stafford, VA. Provide contract and program support.		
FY 09 SPAWAR, Provide engineering support for the ISR Testing and Training Center		
INTELLIGENCE ANALYSIS SYSTEM (IAS)		
FY07 SPAWAR, CHARLESTON, S.C. Continue to provide funds for development, upgrades, integration, research and analysis of hardware for system refresh. Navy Systems Management Activity (MTC, Stafford, VA). Continue to provide funds for Integration and hardware upgrade study.		
FY08 SPAWAR, CHARLESTON, S.C. Continue to provide funds for development, upgrades, integration, research and analysis of hardware for system refresh. Navy Systems Management Activity (MTC, Stafford, VA). Continue to provide funds for Integration and hardware upgrade study.		
FY09 SPAWAR, CHARLESTON, S.C. Continue to provide funds for development, upgrades, integration, research and analysis of hardware for system refresh. Navy Systems Management Activity (MTC, Stafford, VA). Continue to provide funds for Integration and hardware upgrade study.		
INTELLIGENCE SYSTEM READINESS (ISR)		
FY07 SPAWAR, CHARLESTON, S.C. Continue to provide funds for engineering, testing, evaluation and training support.		
FY08 SPAWAR, CHARLESTON, S.C. Continue to provide funds for engineering, testing, evaluation and training support.		
FY09 SPAWAR, CHARLESTON, S.C. Continue to provide funds for engineering, testing, evaluation and training support.		

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems
TEAM PORTABLE COLLECTION SYSTEM - MULTI-PLATFORM CAPABLE (TPCS-MPC)		
FY07 SPAWAR, CHARLESTON, S.C. Continue to provide funds for prime systems integrator for TPCS-MPC EDM. MCOTEA. Provide Operational testing of the TPCS-MPC Ground/Team system. NSMA (MTC), Stafford, VA, Continue to provide funds for program management and engineering support services		
FY08 SPAWAR, CHARLESTON, S.C. Continue to provide funds for prime systems integrator for TPCS-MPC EDM. MCOTEA. Provide Operational testing of the TPCS-MPC Ground/Team system. NSMA (MTC), Stafford, VA, Continue to provide funds for program management and engineering support services		
FY09 SPAWAR, CHARLESTON, S.C. Continue to provide funds for prime systems integrator for TPCS-MPC EDM. NSMA (MTC), Stafford, VA, Continue to provide funds for program management and engineering support services		
GLOBAL COMMAND AND CONTROL SYSTEM INTEGRATED IMAGERY AND INTELLIGENCE (GCCS I3)		
FY 07 Navy Systems Management Activity (NSMA),MTC Services Corporation (MTC) Stafford, VA. Continue to provide funds for Engineering and Program support services. SPAWAR, Charleston, SC. Continue development, upgrades, integration, research and analysis for system refresh.		
FY 08 Navy Systems Management Activity (NSMA),MTC Services Corporation (MTC) Stafford, VA. Continue to provide funds for Engineering and Program support services. SPAWAR, CHARLESTON, SC. Continue development, upgrades, integration, research and analysis for system refresh.		
FY 09 Navy Systems Management Activity (NSMA),MTC Services Corporation (MTC) Stafford, VA. Continue to provide funds for Engineering and Program support services. SPAWAR, Charleston, SC. Continue development, upgrades, integration, research and analysis for system refresh.		
TOPOGRAPHIC PRODUCTION CAPABILITY (TPC)		
FY 07 MARCORSYSCOM, (MCSC), Quantico, VA Continue to provide funds to TBD for continues integration and re-engineering support in support of moderinzation and technology refresh. NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), (MTC, Stafford, VA), Continue to provide funds for engineering & technical management support.		
FY 08 MARCORSYSCOM, (MCSC), Quantico, VA Continue to provide funds to TBD for continues integration and re-engineering support in support of moderinzation and technology refresh. NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), (MTC, Stafford, VA), Continue to provide funds for engineering & technical management support.		
FY 09 MARCORSYSCOM, (MCSC), Quantico, VA Continue to provide funds to TBD for continues integration and re-engineering support in support of moderinzation and technology refresh. NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), (MTC, Stafford, VA), Continue to provide funds for engineering & technical management support.		
JOINT SURVEILLANCE TARGET ATTACK RADAR (JSTARS)		
FY 07 SPAWAR, Charleston, S.C. Provide funds for client software connectivity solution, future MTI, CDL, MTI sensor capabilities and Internet Protocol Version 6 (IPv6) research and development.		
FY 08 SPAWAR, Charleston, S.C. Provide funds for client software connectivity solution, future MTI, CDL, MTI sensor capabilities and Internet Protocol Version 6 (IPv6) research and development NSMA, VA, Provide engineering and technical support for development of software dissemination capability.		
FY 09 SPAWAR, Charleston, S.C. Provide funds for client software connectivity solution, future MTI, CDL, MTI sensor capabilities and Internet Protocol Version 6 (IPv6) research and development. NSMA, VA, Provide engineering and technical support for development of software dissemination capability.		

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY		February 2008
RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
	0206313M Marine Corps Communication Systems	C2272 Intelligence C2 Systems
JOINT SERVICE IMAGERY PROCESSING SYSTEM-TACTICAL EXPLOITATION GROUP (JSIPS-TEG)		
FY07 SPAWAR, Charleston, SC. Continue to provide funds for integration, engineering, program management & contractual support. ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract. NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), (MTC, Stafford, VA), Continue to provide funds for engineering & technical management support.		
FY08 SPAWAR, Charleston, SC. Continue to provide funds for integration, engineering, program management & contractual support. ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract. NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), (MTC, Stafford, VA), Continue to provide funds for engineering & technical management support. MARCORSYSCOM, (MCSC), Quantico, VA (CEOSS) Continue to provide funds for Program and technical support.		
FY09 SPAWAR, Charleston, SC. Continue to provide funds for integration, engineering, program management & contractual support. ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract. NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), (MTC, Stafford, VA), Continue to provide funds for engineering & technical management support. MARCORSYSCOM, (MCSC), Quantico, VA (CEOSS) Continue to provide funds for Program and technical support.		
TACTICAL CONTROL AND ANALYSIS CENTER (TCAC)		
FY 07 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA) (MTC, Stafford, VA) Software development, integration and testing for TCAC with COE 4.X and future releases. Provide program management support. NAWC,		
FY 08 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA) (MTC, Stafford, VA) Software development, integration and testing for TCAC with COE 4.X and future releases. Provide program management support. NAWC,		
FY 09 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA) (MTC, Stafford, VA) Software development, integration and testing for TCAC with COE 4.X and future releases. Provide program management support. NAWC,		
TACTICAL REMOTE SENSOR SYSTEM (TRSS)		
FY07 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), Crystal City, VA. Continue to provide for engineering and integration support. MARCORSYSCOM, Quantico, VA. Continue to provided Engineering support. OCEAN SYSTEMS ENGINEERING CORP. (OSEC), San Diego, CA. Continue to provided for software development of Increment III efforts MCOTEA		
FY08 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), Crystal City, VA. Continue to provided for engineering and integration support.		
FY09 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA), Crystal City, VA. Continue to provided for engineering and integration support.		
COUNTERINTELLIGENCE AND HUMAN INTELLIGENCE (HUMINT) EQUIPMENT PROGRAM (CIHEP)		
FY07 MARCORSYSCOM (MCSC), Quantico, VA. Provide program management support for tech refresh and upgrade of program hardware and software.		
FY07/FY08/FY09 NSMA, MTC, Stafford, VA - Provided for Pgm Mgmt support for tech refresh and upgrade of program hardware and software.		
FY07 ACTION SYSTEMS, Las Cruces, NM. Provide engineering, integration and technical support for tech refresh and upgrade of program hardware and software.		
TROJAN SPIRIT		
FY07 NSMA, MTC Stafford, VA - Continue to provide funds for P3I prototype, technical and Engineering support.		
FY08 NSMA, MTC Stafford, VA - Continue to provide funds for P3I prototype, technical and Engineering support to include EOA, DT and OT.		
FY09 NSMA, MTC Stafford, VA - Continue to provide funds for P3I prototype, technical and Engineering support.		
DCGS-I		
FY07 NSMA, MTC, Stafford, VA Integrated Teams Solution Facility, Stafford, VA Continue to provide Engineering & technical services, studies, analysis and evaluation for DIB integration, and integration support.		
FY08 NSMA, MTC, Stafford, VA Integrated Teams Solution Facility, Stafford, VA Continue to provide Engineering & technical services, studies, analysis and evaluation for DIB integration, and integration support.		
FY09 NSMA, MTC, Stafford, VA Integrated Teams Solution Facility, Stafford, VA Continue to provide Engineering & technical services, studies, analysis and evaluation for DIB integration, and integration support.		

Exhibit R-3 Cost Analysis						DATE: February 2008								
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communications Sys			C2272 Intelligence C2 Systems								
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TENCAP	Various	Titan	21.062			3.993	12/06	3.627	12/07	3.975	12/08	Cont	Cont	
TPCS	RCP	SPAWAR	4.494			0.799	11/06	0.257		0.259	12/08	Cont	Cont	
TPCS	WR	SPAWAR	0.000			0.500	11/06	0.250	12/07	0.200			Cont	Cont
MSIDS	RCP	NSMA (MTC)	0.543			0.250	01/07	0.128	01/08	0.263	01/09	Cont	Cont	
CIHEP	RCP	Action Systems	0.260			0.020	11/06					Cont	Cont	
CIHEP	RCP	USAIMA	0.024			0.015	04/07					Cont	Cont	
CIHEP	RCP	NGIT	0.037			0.025	01/07	0.037	01/08	0.039	01/09	Cont	Cont	
CIHEP	RCP	NSMA (MTC)	0.038			0.025	01/07	0.066	01/08	0.091	01/09	Cont	Cont	
CIHEP	RCP	MCSC	0.260			0.041	06/07					Cont	Cont	
TRSS-PIP	RCP	OSEC	1.500			1.000	01/07					0.000	2.500	
TRSS-PIP	MIPR	NAWCWD	2.740			0.000						0.000	2.740	
TRSS-PIP	RCP	NSMA (MTC)	2.162			0.700	01/07	0.578	01/08	0.709	01/09	Cont	Cont	
TRSS-PIP	RCP	MCSC	5.649			2.560	01/07					0.000	8.209	
TRSS-PIP	RCP/WR	SSCC	0.168			0.000						0.000	0.168	
JSTARS	WR/MPR	SPAWAR	0.859			0.384	12/06	0.108	12/07	0.115	12/08	Cont	Cont	
JSTARS	RCP	NSMA (MTC)	0.906			0.300	12/06		12/07	0.121	12/08	0.000	1.327	
TROJAN SPIRIT	RCP	NSMA (MTC)	0.374			0.420	12/06	0.264	12/07	0.431	12/08	Cont	Cont	
DCGSI	RCP	NSMA (MTC)	4.101			3.930	12/06	2.346	12/07	4.315	12/09	Cont	Cont	
DCGSI	MPR	USAF	0.700			0.000						Cont	Cont	
JSIPS - TEG	MPR	ASPO	4.812			1.264	02/07	1.716	02/08	0.890	02/09	Cont	Cont	
JSIPS - TEG	RCP	NSMA (MTC)	4.709			0.883	11/06	0.775	11/07	0.531	11/08	Cont	Cont	
JSIPS - TEG	MPR	SPAWAR	0.489			0.094	11/06	0.346	11/07	0.116	11/08	Cont	Cont	
JSIPS - TEG	RCP	MCSC (CEOss)	0.056			0.000		0.058	12/07	0.060	12/08	Cont	Cont	
JSIPS - TEG	RCP	MCSC	0.145			0.000		0.050	12/07	0.060	12/08	Cont	Cont	
IBR	RCP	MCSC	0			0.500	09/07					Cont	Cont	
Subtotal Product Development			56.088			17.703		10.606		12.175		Cont	Cont	
Remarks:														

Exhibit R-3 Cost Analysis				DATE: February 2008										
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communications Sys				C2272 Intelligence C2 Systems							
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TPC	RCP	MCSC	1.560			0.321	12/06	0.250	12/07	0.318	12/08	Cont	Cont	
TPC	RCP	NSMA (MTC)	0.039			0.035	12/06	0.043	12/07	0.049	12/08	Cont	Cont	
TPCS	RCP	NSMA (MTC)	6.229			1.687	02/07	0.350	12/07	0.502	12/08	Cont	Cont	
IAS MOD KIT	RC/WR	SPAWAR Charleston	1.513			0.623	01/07	0.406	01/08	0.602	01/09	Cont	Cont	
IAS MOD KIT	RCP	NSMA (MTC)	1.271			0.411	01/07	0.436	01/08	0.465	01/09	Cont	Cont	
GCCS I3	RCP	NSMA (MTC)	2.273			0.440	02/07	0.041	02/08	0.434	02/09	Cont	Cont	
GCCS I3	RCP	SPAWAR Charleston	1.430			0.972	12/06	0.000	12/07	0.512	12/08	Cont	Cont	
GCCS I3	WR	SPAWAR Charleston	0.110			0.100	12/06	0.000	12/07	0.200	12/08	Cont	Cont	
TCAC	RCP	NSMA (MTC)	2.203			1.130	12/06	0.827	12/07	0.829	12/08	Cont	Cont	
TCAC	RCP	MCSC	0.035			0.050	11/06	0.168	11/07	0.057	11/08	Cont	Cont	
TCAC	MPR	SPAWAR	0.000				08/07	0.000	01/08	0.386	01/09	Cont	Cont	
TPCS	MPR	MCLB	0.000			0.000		0.000		0.056	11/08	Cont	Cont	
IBR	WR	SPAWAR	0.835			0.000				0.200		Cont	Cont	
IBR	RCP	NSMA (MTC)	0.203			0.083	12/06			0.284		Cont	Cont	
IBR	RCP	MCSC	0.000				12/07	0.000		0.000		Cont	Cont	
ISR	WR	SPAWAR, Charleston	0.604			0.932	01/07	0.081	01/08	0.203	01/09	Cont	Cont	
ANGEL FIRE	RCP	VARIOUS	0.000			16.600		0.000		0.106		Cont	Cont	
JSTARS	RCP	MCSC	0.101									0.000	0.101	
Subtotal Support			18.406			23.384		2.602		5.203		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TCAC	REAL	MCOTEA	0.035			0.025	11/06	0.025	11/07	0.025	11/08			
TCAC	MIPR	DIA	0.358			0.000		0.000		0.000				
GCCS I3	MPR	JITC	0.129			0.070	10/06	0.000	10/07	0.080	10/08	0.000	0.279	
TRSS-PIP	RCP	MCOTEA	0.000			0.422	01/07					0.000	0.422	
TPCS	MIPR	MCOTEA	0.637			0.500	02/07	0.437	02/08			Cont	Cont	
TPCS	MIPR	ABERDEEN	0.070			0.000						Cont	Cont	
TPCS	MIPR	USAOTC	0.402			0.000						Cont	Cont	
TEG	MIPR	MCOTEA	0.071			0.267	09/07	0.115	02/08	0.127	02/09	Cont	Cont	
IBR	RCP	NSWC	0.083			0.500						Cont	Cont	
Subtotal T&E			1.785			1.784		0.577		0.232		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
DCGS	RCP	MCSC	2.280				08/07	0.000		0.000				
TCAC	WR	NAWC	0.206			0.300	11/06	0.157	11/07	0.150	11/08			
Subtotal Management			2.486			0.300		0.157		0.150		Cont	Cont	
Remarks:														
Total Cost						43.171		13.942		17.760		Cont	Cont	

Exhibit R-4/4a Schedule Profile/Detail

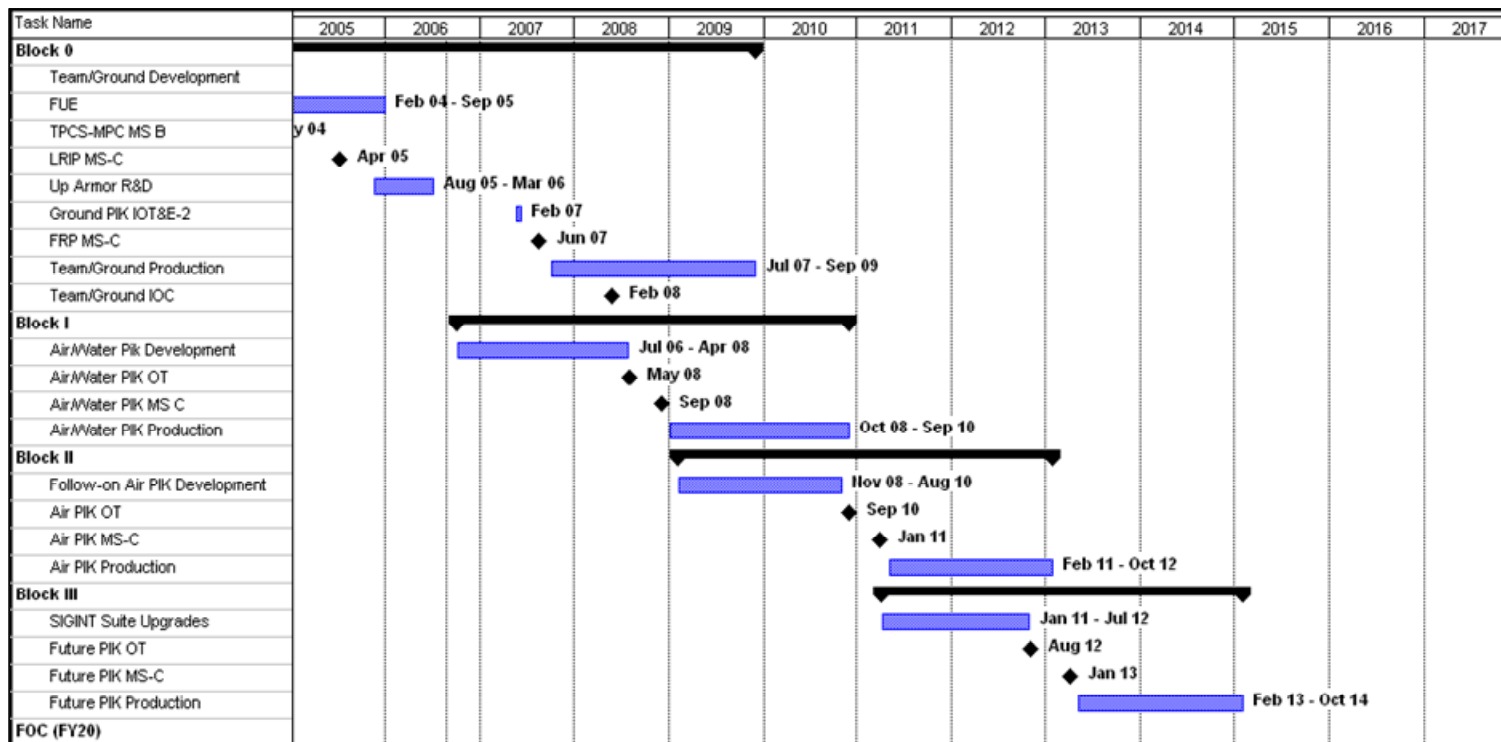
DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA 7 Operational Sys Dev

PROGRAM ELEMENT
0206313M Marine Corps Communications Sys

PROJECT NUMBER AND NAME
C2272 Intelligence C2 Systems

TPCS



Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E,N

(U) PMC BLI 474700 Intel Suppor TPCS

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N	3.486	1.294	1.017	1.554	1.461	1.657	1.701	Cont	Cont
(U) PMC BLI 474700 Intel Suppor TPCS	17.056	14.427	0.303	0.875	4.244	0.000	0.000	0.000	36.905

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2272 Intelligence C2 Systems

TPCS-MPC SCHEDULE DETAIL	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
MS B EDM Dev and Demo	3Q									
DT/FUE	1Q--3Q									
IOT & E	3Q									
MS C LRIP		2Q								
Procure Long Lead Items			3Q							
Ground/Team PIK IOT&E-2				2Q						
Team/Ground MS-C FRP				3Q						
Ground/Team PIK IOC					2Q					
Air/Water PIK OT					3Q					
Air/Water PIK MS C					4Q					
Air/Water PIK IOC						1Q				
AIR PIK OT								4Q		
AIR PIK MS-C							2Q			
FUTURE PIK OT									4Q	
FUTURE PIK MS-C										2Q
FUTURE PIK IOC						1Q				2Q

Exhibit R-4/4a Schedule Profile/Detail

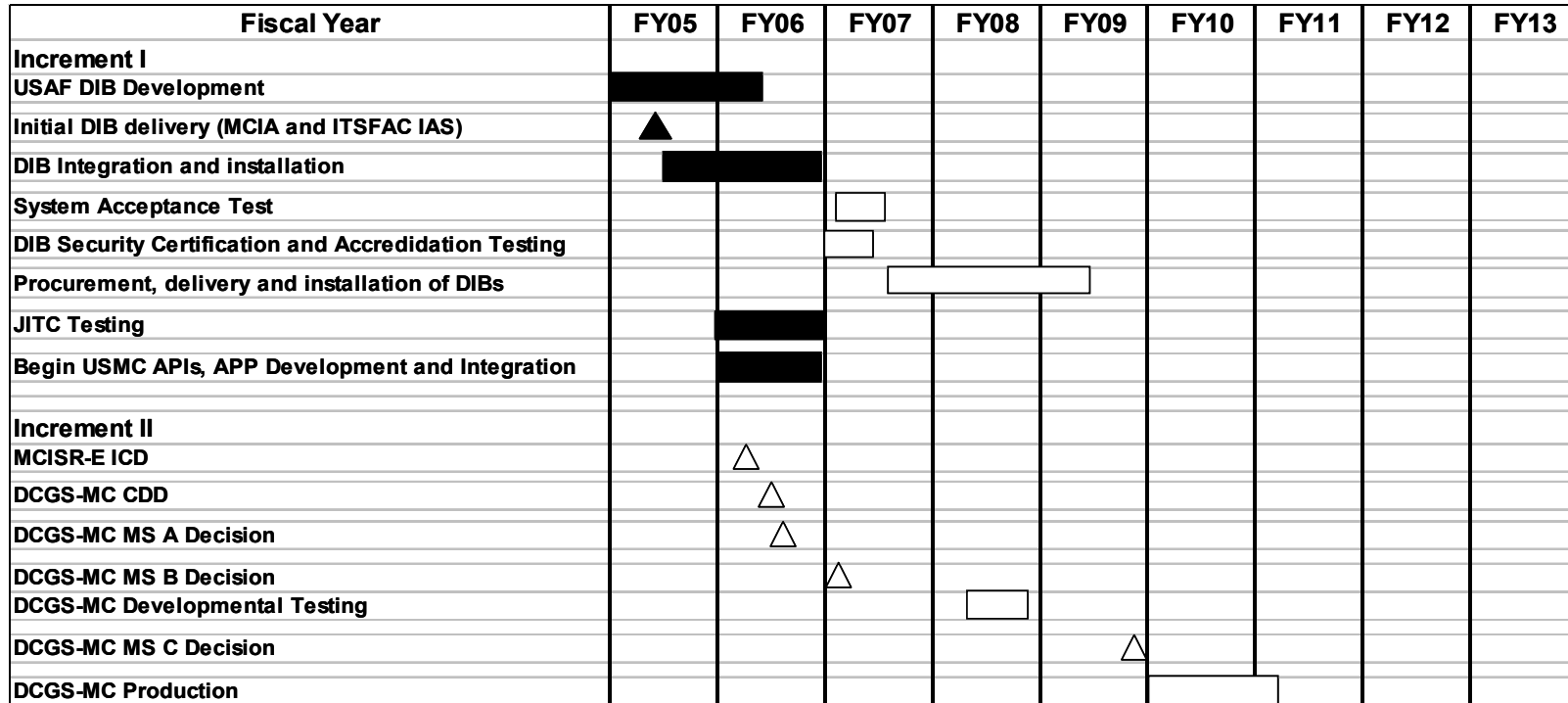
DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA 7 Operational Sys Dev

PROGRAM ELEMENT
0206313M Marine Corps Communications Sys

PROJECT NUMBER AND NAME
C2272 Intelligence C2 Systems

DCGS MILESTONE CHART



<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(APPN, BLI #, NOMEN)									
(U) RDT&E,N	3.930	2.346	4.315	4.452	4.437	3.489	3.587	Cont	Cont
(U) PMC BLI 474700 Intell Supp IDC GSI	0.000	0.518	0.116	6.246	0.577	0.593	0.610	Cont	Cont

Exhibit R-4/4a Schedule Profile/Detail

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2272 Intelligence C2 Systems
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DCGS	2005	2006	2007	2008	2009	2010	2011	2012	2013
Increment I									
USAF DIB Development	1Q-----	2Q							
Initial DIB Delivery	2Q								
DIB Integration and Installation	2Q-----	4Q							
System Acceptance Test			2Q						
DIB SCAT			1Q-2Q						
DIB Procurement, Delivery & Fielding			3Q-----						
JITC Testing		1Q----4Q							
USMC APIs APP Dev		1Q----4Q							
Increment II									
MCISR-E ICD		2Q							
DCGS-MC CDD		3Q							
DCGS-MC MS A Decision		3Q							
DCGS-MC MS B Decision			1Q						
DCGS-MC Development Testing				2Q----4Q					
DCGS-MC MS C Decision					4Q				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Comm Systems	C2274 Command & Control Warfare Systems						
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		3.827	9.254	8.933	8.930	9.725	10.426	10.930
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
(U) Command and Control (C2) Warfare Project includes the following tactical electronic intercept, direction finding, and electronic attack systems:								
<p>Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES) is used to process, sort, analyze, display and correlate electronic surveillance and electronic attack data collected by EA-6B aircraft and maintains the Tactical Electronic Orders of Battle.</p> <p>Mobile Electronic Warfare Support System, Product Improvement Program (MEWSS-PIP) will be used to collect and process communication and non-communication signals and provide electronic attack capability from a mobile ground platform.</p> <p>Radio Reconnaissance Equipment Program (RREP) provides the Radio Battalions, Radio Reconnaissance Platoons (RRP) 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 wireless signals. The RRP 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 Radio Battalion assets are not feasible. RREP is currently maintaining the SS-3 using a spiral 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.</p> <p>Communication Emmitter Sensing and Attacking System (CESAS)/(FLAMES) a system of COTS/GOTS designed to support the Marine Air Ground Task Force MAGTF Commander in conducting operations. It provides the capability to effectively sense/detect and attack, through the use of electromagnetic energy, the enemy's communication systems in support of the Commander's Electronic Warfare plan. The system will replace the existing AN/ULQ-19 and will assume the mission of sensing and denying the enemy the use of the electromagnetic spectrum, thereby disrupting his command and control system. Though primarily HMMWV-mounted, CESAS will also be capable of both seaborne and airborne deployment and employment, enhancing the Radio Battalion's ability to support Expeditionary Maneuver Warfare. The CESAS operate within the bandwidth of 20 to 2500 MHz (Threshold) 2MHz to 8000 MHz (Objective) against enemy emitters that use modern modulation schemes.</p> <p>Remote Controlled Improvised Explosive Device (RCIED) and Elect Warfare (Jammers/CREW) provides full spectrum protection against high and low power threats. The RCIED is capable of being integrated in all Marine Corps Tactical Ground Vehicles. This program is an ongoing effort to develop new techniques to improve the capabilities of the system by doing enhancements to software and to develop upgrades in order to prevent technology obsolescence.</p>								
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM								
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009			
Accomplishment/Effort Subtotal Cost			0.080	0.000	0.000			
RDT&E Articles Qty								
CESAS - Research and Development Directed Energy and Directional Attack Antennas.								
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009			
Accomplishment/Effort Subtotal Cost			0.495	0.112	0.420			
RDT&E Articles Qty								
CESAS - Research and Development of techniques, tactics and procedures.								

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Comm Systems	C2274 Command & Control Warfare Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.250	0.000	0.000
RDT&E Articles Qty				
CESAS - Testing Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.196	0.000	0.000
RDT&E Articles Qty				
CESAS - Testing for CESAS and Radio Threads				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.023	0.000	0.000
RDT&E Articles Qty				
CESAS - Program Management Support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.704	0.000	0.000
RDT&E Articles Qty				
TERPES: Research for TERPES software applications, hardware and software integration research, investment for R&D equipment and facilities; work to integrate the newer integrated broadcast receivers (IBR)s and Joint Tactical Terminal (JTT).				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.055	0.000	0.000
RDT&E Articles Qty				
TERPES: Research TERPES software to provide improvements in the interfaces and interoperability with the EA-6B Improved Capabilities (ICAP) II and III aircraft, (TEPP/TSP application); improve overall system performance (Tactical Data Correlati				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.254	0.000	0.000
RDT&E Articles Qty				
TERPES: Program Management Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.570	0.203	0.000
RDT&E Articles Qty				
RREP: Technology Research for SS-3 upgrades and modifications to include EA enhancements on current platforms.				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Comm Systems	C2274 Command & Control Warfare Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.200	0.317	0.919
RDT&E Articles Qty				
RREP: Research and Development of next generation SIGINT Suite.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	1.208	1.496
RDT&E Articles Qty				
RCIED: Engineering Analysis Support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	4.414	4.000
RDT&E Articles Qty				
RCIED: Hardware and Software Development.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	3.000	2.098
RDT&E Articles Qty				
RCIED: Hardware and Software Integration and testing.				
(U) Total \$		3.827	9.254	8.933
(U) PROJECT CHANGE SUMMARY:				
	FY 2007	FY 2008	FY 2009	
(U) FY 2008 President's Budget:	3.827	11.32	8.835	
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions		-2.007		
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings				
(U) SBIR/STTR Transfer				
(U) Minor Affordability Adjustments		-0.059	0.098	
(U) FY 2009 President's Budget:	3.827	9.254	8.933	
CHANGE SUMMARY EXPLANATION:				
(U) Funding:	See Above.			
(U) Schedule:	Not Applicable.			
(U) Technical:	Not Applicable.			

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY		February 2008
RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Comm Systems	PROJECT NUMBER AND NAME C2274 Command & Control Warfare Systems
(U) C. OTHER PROGRAM FUNDING SUMMARY:		
<u>Line Item No. & Name</u>	FY 2007	FY 2008
(U) PMC BLI 465200 Modification Kits MEWSS	0.188	0.000
(U) PMC BLI 465200 Mod Kit FLAMES (CESAS)	4.379	8.457
	FY 2009	FY 2010
	0.000	0.000
	FY 2011	FY 2012
	0.000	0.000
	FY 2013	To Compl
	0.000	0.000
	Total Cost	
		12.836
(U) Related RDT&E:		
(U) (U) PE 0305885G (Tactical Cryptologic Program)		
(U) D. ACQUISITION STRATEGY:		
<p>TERPES: The acquisition of components for the TERPES upgrade refreshes will maximize the use of existing equipment, NDI/COTS/GOTS/GFE equipment and software. The integration effort for TERPES hardware and software will be accomplished through the TERPES System Support Activity, Naval Air Warfare Center - Weapons Division, Pt. Mugu, CA. These efforts are directed by the Program Manager for Intelligence Systems, MAGTF C4ISR Product Group, Marine Corps Systems Command. TERPES will parallel enhancements to the EA-6B Improved Capabilities (I CAP II) and (ICAP III) upgrades and automatic interface of TERPES, Global Command and Control System - Integrated Imagery and Intelligence (GCCS-I3) and future joint mission planning and Distributed Common Ground/Surface System - Marine Corps (DCGS-MC).</p> <p>MEWSS PIP: The MEWSS PIP provides an Electronic Warfare support system that leverages from the Army CECOM Intelligence Electronic Warfare Common Sensor (IEWCS) program. Developmental and fielding efforts of the block upgrades focus on incorporating technology enhancements into the fielded system and providing specified block capabilities to the fleet as they become available. The MEWSS PIP leverages, when available COTS/GOTS/NDI solutions to obsolescence, operational readiness and supportability.</p> <p>RREP: The RREP will incorporate and integrate cutting edge technologies through the use of Commercial off the Shelf (COTS) and Government off the Shelf (GOTS) and Non-Development Items (NDI) components.</p> <p>CESAS: Acceleration of the CESAS effort and designation of CESAS as a Program of Record was undertaken as part of the Defense Emergency Response Funding initiative (DERF). Funds were applied to the program in FY-2 and together with FY03 DERF funds, an initial AN/ULQ-19 replacement capability was provided to the fleet in the Feb 04 for filed user evaluation purposes. Three (3) AN/USQ-146(V) 3 units were procured from Rockwell Collins and integrated into the HMMWV platforms. SSCC performed the integration effort. Two (2) prototypes were used for DT in Aug 03 with assistance from MCOTEA. OA was conducted in Dec 03 with a success rate. Upon completion of OA, SSCC incorporated ECP and modifications identified during OA in the prototype units. Two (2) prototypes were provided to 3rd RADB in Feb 04 for FUE, production will begin in FY05 meeting the IOC and FOC in FY07.</p> <p>Counter RCIED and Elect Warfare (CREW): The program is an ongoing effort to develop new techniques to improve the capabilities of the System by doing the following; Enhancing software capabilities to operate within the target environment; Develop hardware upgrades in order to prevent technology obsolescence; As the technologies and upgrades are replaced, there will be a requirement for testing and integration of the new capability and enhancement of system capabilities.</p>		

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Comm Systems	C2274 Command & Control Warfare Systems
(U) E. MAJOR PERFORMERS:		
COUNTER REMOTE CONTROLLED IMPROVISED EXPLOSIVE DEVICE (RCIED)		
FY08 NAVAL SURFACE WARFARE CENTER (NSWC), Crane IN. Provide funds for hardware, software testing and integration research. TBD: Engineering Analysis and Hardware and Software Development.		
FY09 NSWC, Crane, IN. Continue to provide funds for hardware, software testing and integration research. TBD: Engineering Analysis and Hardware and Software development		
COMMUNICATION EMMITTER SENSING AND ATTACKING SYSTEM (CESAS/FLAMES)		
FY07 NAVSEA, Provide research and development of techniques, tactics and procedures NSWC, Crane, Provide testing support		
FY08 NAVSEA, Provide research and development of techniques, tactics and procedures		
FY09 NAVSEA, Provide research and development of techniques, tactics and procedures		
TACTICAL ELECTRONIC RECONNAISSANCE PROCESSING AND EVALUATION (TERPES)		
FY07 NAVAL AIR WARFARE CENTER (NAWC), Pt Mugu CA. Continue to provide funds for hardware, software and integration research. LOCKHEED MARTIN, Denver CO. Continue to provide funds for research on TERPES software applications to provide improvement in the interfaces and interoperability with the EA-6B and mission planning systems.		
RADIO RECONNAISSANCE EQUIPMENT PROGRAM (RREP)		
FY07 NSMA, (MTC), ITsFAC, Stafford, VA. Continue to provide integration facility and program management support NSWC, Crane. Continue to provide System Engineering support, begin development of DAR S/W and H/W Solution CECOM, Provide integration facility		
FY08 NSMA, (MTC), ITsFAC, Stafford, VA. Continue to provide integration facility and program management support NSWC, Crane. Continue to provide System Engineering support, begin development of DAR S/W and H/W Solution CECOM, Provide integration facility		
FY09 NSMA, (MTC), ITsFAC, Stafford, VA. Continue to provide integration facility and program management support NSWC, Crane. Continue to provide System Engineering support, begin development of DAR S/W and H/W Solution CECOM, Provide integration facility		

Exhibit R-3 Cost Analysis				DATE: February 2007										
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Comm Systems			C2274 Command & Control Warfare Systems								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Comp	Total Cost	Target Value of Contract
MEWSS	WR	SPAWAR, S.C	2.952									Cont	Cont	
TERPES	RCP	Lockheed Martin	6.352			0.763	12/06					Cont	Cont	
TERPES	MPR	NAWC, Pt. Mugu CA	5.208			0.309	10/06					Cont	Cont	
TERPES	RCP	NAWC, Pt. Mugu CA	0.676			0.000	01/07					Cont	Cont	
TERPES	RCP	NSMA (MTC)	0.893			0.489	12/06					Cont	Cont	
TERPES	RCP	NSMA (AIES)	0.463			0.200	11/06					Cont	Cont	
RREP	RCP	NSWC, Crane	0.852			0.200	01/07	0.203	01/08	0.350	01/09	Cont	Cont	
RREP	RCP	NSMA (MTC)	0.225			0.120	12/06	0.124	12/07	0.350	12/08	Cont	Cont	
RREP	MIPR	ARMY COMM ELEC	0.135			0.450	03/07	0.193	03/08	0.219	03/09	Cont	Cont	
CESAS	RCP	SPAWARSYSCEN	3.398									Cont	Cont	
CESAS	WR/MIPR	NSWC, Crane	0.802			0.250	12/06	0.000				Cont	Cont	
CESAS	RCP	MCLB	1.210			0.080	12/06	0.000				Cont	Cont	
CESAS	RCP	NAVSEA	1.500			0.495	12/06	0.112	12/07	0.420	12/08	Cont	Cont	
Subtotal Product Development						3.356		0.632		1.339		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Comp	Total Cost	Target Value of Contract
TERPES	RCP	MCSC	0.015			0.202						Cont	Cont	
CESAS	RCP	NSMA (MTC)	1.404			0.196	11/06					Cont	Cont	
RREP	RCP	MCSC	0.020									Cont	Cont	
RCIED	RCP	MCSC	0.000					5.622	12/07	5.496	12/08	Cont	Cont	
Subtotal Support						0.398		5.622		5.496		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Comp	Total Cost	Target Value of Contract
TERPES	REALIGN	MCOTEA	0.035			0.050	11/06					Cont	Cont	
TERPES	MPR	DIA	0.500									Cont	Cont	
RCIED	MPR	NSWC	0.000					3.000	12/07	2.098	12/08	Cont	Cont	
Subtotal T&E						0.050		3.000		2.098		0	0	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Comp	Total Cost	Target Value of Contract
CESAS	RC	MCSC	0.838			0.023	12/06	0.000				Cont	Cont	
Subtotal Management						0.023		0.000				Cont	Cont	
Remarks:														
Total Cost						3.827		9.254		8.933		Cont	Cont	

Exhibit 4/4a Schedule Profile/Detail

DATE:
February 2008

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA 7 Operational Sys Dev

PROGRAM ELEMENT NUMBER AND NAME
02066313M MARINE CORPS COMM

PROJECT NUMBER AND NAME:
C2274 Command & Control Warfare Systems

COUNTER RCIED

	FY08	FY09	FY10	FY11	FY12	FY13
Engineering Analysis	[Redacted]					
Software/Hardware Development	[Redacted]					
Integration & Testing	◆	◆	◆	◆	◆	◆
System Upgrade & NET	◆	◆	◆	◆	◆	◆

Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E

(U) PMC BLI 652000 COUNTER RDIED & EW

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E	0.000	8.622	7.594	8.190	8.886	9.568	10.049	0.000	52.909
(U) PMC BLI 652000 COUNTER RDIED & EW	0.000	183.155	12.932	13.783	13.624	12.688	12.616	0.000	248.798

Counter RCIED & Elect Warfare	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Engineering Analysis	1Q-----					
Software/Hardware Development	1Q-----					
Integration & Testing	2Q	2Q	2Q	2Q	2Q	2Q
Upgrades & NET	3Q-4Q	3Q-4Q	3Q-4Q	3Q-4Q	3Q-4Q	3Q-4Q

Exhibit 4/4a Schedule Profile/Detail

DATE:
February 2008

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA 7 Operational Sys Dev

PROGRAM ELEMENT NUMBER AND NAME
02066313M MARINE CORPS COMM

PROJECT NUMBER AND NAME:
C2274 Command & Control Warfare Systems

RREP MILESTONE SCHEDULE

<u>EVENT</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>
SS-3 IOC/FOC	2/3Q	1Q							
SS-3 PIP IOC/FOC			1Q						
SS-4 MS B				2Q					
SS-4 MS C					2Q				
SS-4 IOC/FOC						4Q	4Q		

Program Funding Summary
(APPN, BLI #, NOMEN)

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) RDT&E,N	0.770	0.520	0.919	0.740	0.839	0.858	0.881	Cont	Cont
(U) PMC BLI 474700 Intelligence Support Equip RREP	4.495	1.933	7.266	1.083	1.301	1.389	1.427	Cont	Cont

RREP UPGRADE SCHEDULE	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
SS-3 FOC	1Q							
SS-3 PIP IOC/FOC		1Q						
SS-4 MS B			2Q					
SS-4 MS C				2Q				
SS-4 IOC/FOC					4Q	4Q		

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Development		0206313M Marine Corps Communication Systems			C2275 Joint Tactical Radio Systems					
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost				11.937	6.649	11.906	6.930	5.827	4.385	4.474
RDT&E Articles Qty										
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:										
<p>(U) Tactical Satellite Comm Terminal (TSCT) - LIGHTWEIGHT MULTIBAND SATELLITE TERMINAL (LMST)/GROUND MOBILE FORCES (GMF) is a tri-band Super High Frequency (SHF) satellite terminal mounted in transit cases and transported by HMMWVs. They will augment the existing Ground Mobile Force (GMF) satellite terminals. Additionally, across the FYDP, in accordance with the LMST Acquisition Strategy and Baseline, a quantity of 21 existing GMF terminals (TSC-93) will be upgraded and refurbished with enhanced components in order to extend their useful life. The GMF upgrades will occur concurrent with additional LMST transit case terminal procurements.</p> <p>(U) Legacy Communications/Electronics Modifications and Sustainment 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.</p> <p>(U) Networks: The following systems require SLEP/supportability upgrades: The Unit Level Circuit Switch (ULCS), which consists of the TTC-42, SB-3865 and SB-3614 require sustainment and modifications to continue the operating forces networking/switching capability until TSM is fielded. The AN/TSQ-227 Digital Technical Control (DTC) upgrades are driven by DoD mandated interoperability and security requirements, which includes technology insertion and evolutionary equipment improvements.</p> <p>(U) Wireless: The following systems require SLEP/supportability upgrades: These are the AN/TRC-170 Tropospheric Scatter Microwave Radio Terminal and the AN/PSC-5 "ShadowFire" upgrade. The AN/TRC-170 provides secure digital trunking between major nodes of the TRI-TAC communications network with a range of over 100 miles and will reach its end of service life in FY05. The FY05 upgrade allows for the fielded AN/PSC-5 to support past FY04.</p> <p>(U) Command & Control On-the-move Network, Digital Over-the-horizon Relay - (CONDOR) is a direct result of after action reports from Operations Iraqi Freedom and Enduring Freedom. The equipment suite will enable and provide on-the-move (OTM), over-the-horizon (OTH) connectivity between Tactical Data Radio networks (such as EPLRS networks). A CONDOR GW equipment suite consists primarily of a SATCOM modem, a mobile SATCOM antenna, a router, LAN encryption equipment, and a shock-mounted transit case. No vehicles are being procured. The CONDOR GW equipment suite will be installed on existing vehicles.</p> <p>(U) SHF Wideband Replacement (HC3) will be the Marine Air Ground Task Force (MAGTF) commanders primary SATCOM method of transmitting and receiving wideband voice, video, and data. The HC3 will be used at all levels of the MAGTF to support the commanders critical communication requirements. At the Regiment and below the focus will be on Comm-on-the-Move (COTM) and Comm-on-the-Pause (COTP) communications while at the Division/FSSG/Wing and above the transportable version will be incorporated as well. HC3 will be embedded in tactical vehicles such as the Expeditionary Fighting Vehicle (EFV) and the Light Armored Vehicle (LAV). As a result, it will play a vital role in command and control in all phases of an operation.</p> <p>(U) Wireless Cable Replacement (WCR) - The Wireless Cable Replacement (WCR) Initiative will procure a line of sight, unattended repeater capable of data rates ranging from 4.6 Mb/s to 155 Mb/s. This repeater will wirelessly remote data and telephone services from command and control centers to transmission systems such as the AN/MRC-142 and the AN/TRC-170. OIF Lessons-Learned revealed that fiber optic cables were highly susceptible to damage, leading to loss of service to the supported commander and staff. The WCR initiative fulfills the WCR Requirement within the Digital Wideband Transmission System (DWTS) Required Operational Capability (ROC) CCC 256.1.2, change 6 dated 28 Jan 04. The subject and purpose of the DWTS ROC is the official requirement for the AN/TRC-170, AN/MRC-142(A&B), and the WCR in the Marine Corps.</p> <p>(U) Very Small Aperture Terminal (VSAT) - VSAT provides beyond line-of-sight (BLOS), low-cost satellite communications up to speeds of 4 Mbps full duplex. VSAT fills a void of BLOS, high bandwidth capability throughout the MAGTF. The VSATs are currently Ku-band only which requires commercial satellite connectivity. Future upgrades will utilize the military's Wideband Gapfiller Satellites to save on long term O&M costs. R&D work will need to be done to ensure that VSAT can transition from Ku to Ka-band. Additional R&D dollars will be used to further develop the current Linkway modem to provide higher capacity throughout and TRANSEC</p>										
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:										
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost				1.000	0.000	0.000				
RDT&E Articles Qty										
SHF Wideband Replacement (HC3): USMC Integration efforts.										
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost				0.853	1.160	2.059				
RDT&E Articles Qty										
SHF Wideband Replacement (HC3): Navy/MC Crypto Development										

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Development	0206313M Marine Corps Communication Systems	C2275 Joint Tactical Radio Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.166	0.000	0.000
RDT&E Articles Qty				
SHF Wideband Replacement (HC3): Support				
Accomplishment/Effort Subtotal Cost		0.292	0.150	0.160
RDT&E Articles Qty				
TSCT (LMST): Develop and test component upgrades for integration for Ka-Band Upgrades.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.112	0.049	0.044
RDT&E Articles Qty				
TSCT (LMST): Contract support costs.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				
TSCT (LMST): DISA Certification				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.981	1.404	1.210
RDT&E Articles Qty				
Legacy Comm/Elec (Networks): Develop and test component upgrades for integration into legacy network equipment (ULCS/DTC)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.270	0.320	0.391
RDT&E Articles Qty				
Legacy Comm/Elec (Networks): Develop and test component upgrades for integration into legacy network equipment (ULCS/DTC)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.123	0.000	0.000
RDT&E Articles Qty				
Legacy Comm/Elec (Wireless): Develop and test component upgrades for integration into legacy radio systems (TRC-170 / PSC-5)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.400	0.250	0.500
RDT&E Articles Qty				
CONDOR: Spiral Development Studies and Integration Development				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.925	0.650	1.300
RDT&E Articles Qty				
CONDOR: Program Support, Logistics Support & Management, Technical Engineering Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.375	0.400	1.800
RDT&E Articles Qty				
CONDOR: Common Army Marine C2 Vehicle (CAMC2V) Development.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.250	0.300	0.300
RDT&E Articles Qty				
CONDOR: Technical, Engineering Support and Contract Advisory, Assistance Services (MITRE)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.400	0.249
RDT&E Articles Qty				
CONDOR: Gateway and CAMC2V OT (MCOTEA)				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Development	0206313M Marine Corps Communication Systems	C2275 Joint Tactical Radio Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.200	0.400	0.400
RDT&E Articles Qty				
CONDOR: Gateway and CAMC2V DT/02				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.966	1.674
RDT&E Articles Qty				
CONDOR: Gateway and CAMC2V Materials				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.050	0.100	0.100
RDT&E Articles Qty				
CONDOR: Marketing				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.055	0.100	0.100
RDT&E Articles Qty				
CONDOR: Travel/TAD				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.162	0.000	0.000
RDT&E Articles Qty				
WCR: Contractor Support				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.173	0.000	0.000
RDT&E Articles Qty				
WCR: Operational Testing, MCOTEA				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.050	0.000	0.000
RDT&E Articles Qty				
WCR: MCTSSA Integration Testing				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		3.000	0.000	1.119
RDT&E Articles Qty				
VSAT: Development and integration				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.500	0.000	0.500
RDT&E Articles Qty				
VSAT: Contractor Support				
(U) Total \$		11.937	6.649	11.906

EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Development	0206313M Marine Corps Communication Systems			C2275 Joint Tactical Radio Systems
(U) PROJECT CHANGE SUMMARY:	FY2007	FY 2008	FY 2009	
(U) FY 2008 President's Budget:	14.557	10.259	10.208	
(U) Congressional Reductions		-3.515		
(U) Congressional Rescissions				
(U) Congressional Increases	3.500			
(U) Reprogrammings	-5.753		1.698	
(U) SBIR/STTR Transfer	-0.367	-0.037		
(U) Minor Affordability Adjustment	0.000	-0.058		
(U) FY 2009 President's Budget	11.937	6.649	11.906	
CHANGE SUMMARY EXPLANATION:				
(U) Funding: See Above.				
(U) Schedule: Not Applicable.				
(U) Technical: Not Applicable.				

(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) PMC BLI# 463300 Radio Systems (LMST)	23.671	4.916	1.423	1.261	1.510	1.432	1.472	Cont	Cont
(U) PMC BLI# 463300 LEGACY RADIO SYS	0.000	23.618	4.044	4.089	3.839	0.277	0.284	Cont	Cont
(U) PMC BLI# 463300 CONDOR	0.000	8.394	8.365	5.993	0.000	0.000	0.000	0.000	22.752
(U) PMC BLI# 463300 VSAT	37.000	0.000	0.000	0.000	0.000	0.000	0.000	Cont	Cont

(U) Related RDT&E: Not Applicable

(U) D. ACQUISITION STRATEGY:

(U) LEGACY COMM ELECTRONICS MOD: Provide continuous sustainment support to fielded equipment and implemented Service Life Extension Programs for equipment reaching its end of life/supportability.

(U) Tactical Satellite Comm Terminal - LMST- Due to funding constraints, the acquisition strategy for the Lightweight Multiband Satellite Terminal and GMF terminals is to procure the minimum amount of LMST terminals for the FMF to satisfy the need for a modern tri-band satellite terminal in the USMC inventory while simultaneously upgrading the legacy GMF TSC-93 terminals with enhanced components. Upgrading the GMF terminals is in accordance with the LMST acquisition strategy and will attempt to fill the gap in USMC SATCOM capability since funding will not allow for meeting the LMST AAO completely. The LMST upgrade program leverages off the current efforts and integrates the full duplex Ka-band capabilities into existing terminals.

(U) SHF Wideband Replacement (HC3) is the long-term Development of multi-band replacement terminals synchronized with Transformational Communications (TC) satellite availability across the DoD. The USMC RDTE funding is for pre-milestone B activities & partnering with industry with Initial studies and transfer of technology between services. And, it will bring capability to test incrementally as selected technologies mature. The early efforts will ensure USMC interests are given equal weight to that of other services as this terminal will replace (approx. 2010/2012) all other DoD SATCOM terminals.

(U) INTEGRATED INTRA-SQUAD RADIO - IISR - Integrated Intra-Squad Radio is a short-range radio that utilizes advanced wireless LAN technology and spread spectrum techniques to provide a hands-free intercommunication capability while ensuring a low probability of interception and detection. The IISR consists of a small radio unit powered by 2 AA batteries, a wireless PTT switch, a lightweight headset compatible with the current combat helmet, and a heavy-duty nylon pouch. The dual version integrates with the AN/PRC-148 using an additional Push-to-talk (PTT) switch to provide the user control of two radios with one headset/microphone.

(U) Command & Control On-the-move Network, Digital Over-the-horizon Relay - CONDOR- -- CONDOR was approved as an ACAT Level III program. Commanding Officer MCSC will be the MDA. The MCSC CONDOR project office will pursue a Milestone B decision during 1st QTR FY07 and a Milestone C decision during 2nd QTR FY07. The CONDOR GW concept has been developed over the past 29 months by the cooperative efforts of MCSC and ONR (Littoral Combat, Future Naval Capabilities). Having achieved advocate endorsement at the CEAB in August 2003, CONDOR GW has a Technology Transition Agreement (TTA) with ONR for transition to a Program of Record (POR).

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Development	0206313M Marine Corps Communication Systems	C2275 Joint Tactical Radio Systems
<p>(U) Wireless Cable Replacement - WCR - The acquisition strategy for WCR involves the testing and procurement of a fully developed and mature COTS product. MCSC WCR will select from 3 or more manufacturers. The final selection will be based on capability, price, and Marine Corps test results.</p> <p>(U) Very Small Aperture Terminal (VSAT) - VSAT provides beyond line-of-sight (BLOS), low-cost satellite communications up to speeds of 4 Mbps full duplex. VSAT fills a void of BLOS, high bandwidth capability throughout the MAGTF. The VSATs are currently Ku-band only which requires commercial satellite connectivity. Future upgrades will utilize the military's Wideband Gapfiller Satellites to save on long term O&M costs. R&D work will need to be done to ensure that VSAT can transition from Ku to Ka-band. Additional R&D dollars will be used to further develop the current Linkway modem to provide higher capacity throughout and TRANSEC</p>		
<p>(U) E. MAJOR PERFORMERS:</p> <p>FY07 TSCT (LMST) HARRIS COMM SYS, Melbourne, FL KA-BAND INTEGRATION & UPGRADE, JAN 07.</p> <p>FY08 TSCT (LMST) HARRIS COMM SYS, Melbourne, FL KA-BAND INTEGRATION & UPGRADE, JAN 08</p> <p>FY09 TSCT (LMST) HARRIS COMM SYS, Melbourne, FL KA-BAND INTEGRATION & UPGRADE JAN 09</p> <p>FY07 SHF WIDEBAND REPLACEMENT (HC3) General Dynamics C4 Systems, Inc. Needham MA, Crypto Development MAR 07</p> <p>FY08 SHF WIDEBAND REPLACEMENT (HC3) General Dynamics C4 Systems, Inc. Needham MA, Crypto Development MAR 08</p> <p>FY09 SHF WIDEBAND REPLACEMENT (HC3) General Dynamics C4 Systems, Inc. Needham MA, Crypto Development MAR 09</p> <p>FY07 LEGACY: SPAWAR, Charleston, SC, Develop and Test component upgrades for Integration. FEB 07</p> <p>FY08 LEGACY: SPAWAR, Charleston, SC, Develop and Test component upgrades for Integration. FEB 07</p> <p>FY09 LEGACY: SPAWAR, Charleston, SC, Develop and Test component upgrades for Integration. FEB 08</p> <p>FY07 CONDOR: SPAWAR, Charleston, SC CAMC2V Development and Support Jan 07</p> <p>FY08 CONDOR: SPAWAR, Charleston, SC CAMC2V Development and Support FEB 07</p> <p>FY09 CONDOR: SPAWAR, Charleston, SC CAMC2V Development and Support NOV 08</p> <p>FY07 WCR: Robbins AFB, Georgia, Integration Testing and Support 07</p> <p>FY07 VSAT: CECOM, Ft Momouth, New Jersey Development Sept 07</p> <p>FY09 VSAT: Cecom, Ft. Momouth, NJ Mar 09</p>		

Exhibit R-3 Cost Analysis					DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev		0206313M Marine Corps Communication Systems				C2275 Joint Tactical Radio Systems						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY09 Cost	FY09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
LMST Ka-Band Upgrade	FFP	Harris Corp, Florida	0.000	0.292	01/07	0.150	01/08	0.160	01/09	Cont	Cont	
LMST DISA Certification	MIPR	PM WIN-T, CECOM	0.451	0.000		0.000		0.000		Cont	Cont	
SHF Wideband Replacement (USMC)	MIPR	PM WIN-T, CECOM	1.491	1.000	01/07	0.000		0.000		Cont	Cont	
SHF Wideband Replacement (Navy/USMC)	MIPR	PM WIN-T, CECOM	1.432	0.853	03/07	1.160	03/08	2.059	03/09	Cont	Cont	
IISR Concept and Technical Development	WR	SPAWAR Charleston	0.325	0.000		0.000		0.000		Cont	Cont	
LCE (Networks) Development	FFP	SPAWAR Charleston	1.935	2.374	02/07	1.404	02/08	1.210	12/08	Cont	Cont	
CONDOR Integ GW ITV's	FFP	SPAWAR Charleston	0.200	0.000		0.000		0.000		0.000	0.200	
CONDOR Development	SOW	SPAWAR Charleston	3.377	2.030	01/07	2.260	02/08	4.823	11/08	Cont	Cont	
SWAN K-band upgrade	MIPR	FT Momouth	0.000	3.000	09/07			1.119	03/09	Cont	Cont	
Subtotal Product Development			9.211	9.549		4.974		9.371		Cont	Cont	
Remarks:												
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CONDOR Program travel	Allot	MARCORSYSCOM	0.050	0.050	11/06	0.100	03/08	0.100	11/08	Cont	Cont	
SHF Wideband Replacement	FFP	Titan, Stafford, VA	0.842	0.166		0.000		0.000		Cont	Cont	
LMST Contractor Support	FFP	NGIT, Stafford, VA	0.515	0.112	01/07	0.049	03/08	0.044	10/08	Cont	Cont	
LCE (Networks) Development	FFP	Titan, Stafford, VA	0.270	0.000	01/07	0.320	03/08	0.391	10/08	Cont	Cont	
WCR Program Support	FFP	NGIT, Stafford, VA	0.118	0.085	01/07	0.000				Cont	Cont	
VSAT Contract Support	FFP	MARCORSYSCOM	0.000	0.500	09/07	0.000		0.500	03/09	Cont	Cont	
Subtotal Support			1.795	0.913		0.469		1.035		Cont	Cont	
Remarks:												
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CONDOR IOT&E	WR	MCOTEA	0.200	0.000	02/07	0.400	03/08	0.200	11/08	Cont	Cont	
WCR Integrtion Testing	FFP	MCTSSA, CA/TBD	0.000	0.050	02/07	0.000				Cont	Cont	
WCR MOT&E	FFP	MCOTEA	0.000	0.250	01/07	0.000				Cont	Cont	
Subtotal T&E			0.200	0.300		0.400		0.200		Cont	Cont	
Remarks:												
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CONDOR Program Support, Contract Adv & Asst	FFP	Titan, Stafford, VA	0.925	1.175	01/07	0.806	03/08	1.300	11/08	Cont	Cont	
Subtotal Management			0.925	1.175		0.806		1.300		Cont	Cont	
Remarks:												
Total Cost			12.131	11.937		6.649		11.906		Cont	Cont	

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA 7 O

PROGRAM ELEMENT
0206313M Marine Corps Communication Systems

PROJECT NUMBER AND NAME
C2275 Joint Tactical Radio Systems

TACTICAL SATELLITE COMMUNICATION TERMINAL (LMST)

Fiscal Year	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total
Milestone III (procurement)			◆								
Contract EPA Award		◆									
Terminal Deliveries/Fielding			■								
IOC			◆								
FOC					◆						
Ka-band development						■					
Integration Fielding Ka-Band Upgrades						■					
IOC						◆					
FOC								◆			

Program Funding Summary

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N	0.404	0.199	0.204	0.302	0.304	0.312	0.321	Cont	Cont
(U) PMC BLI# 463300 Radio Systems (LMST)	23.671	4.916	1.423	1.261	1.510	1.432	1.472	Cont	Cont

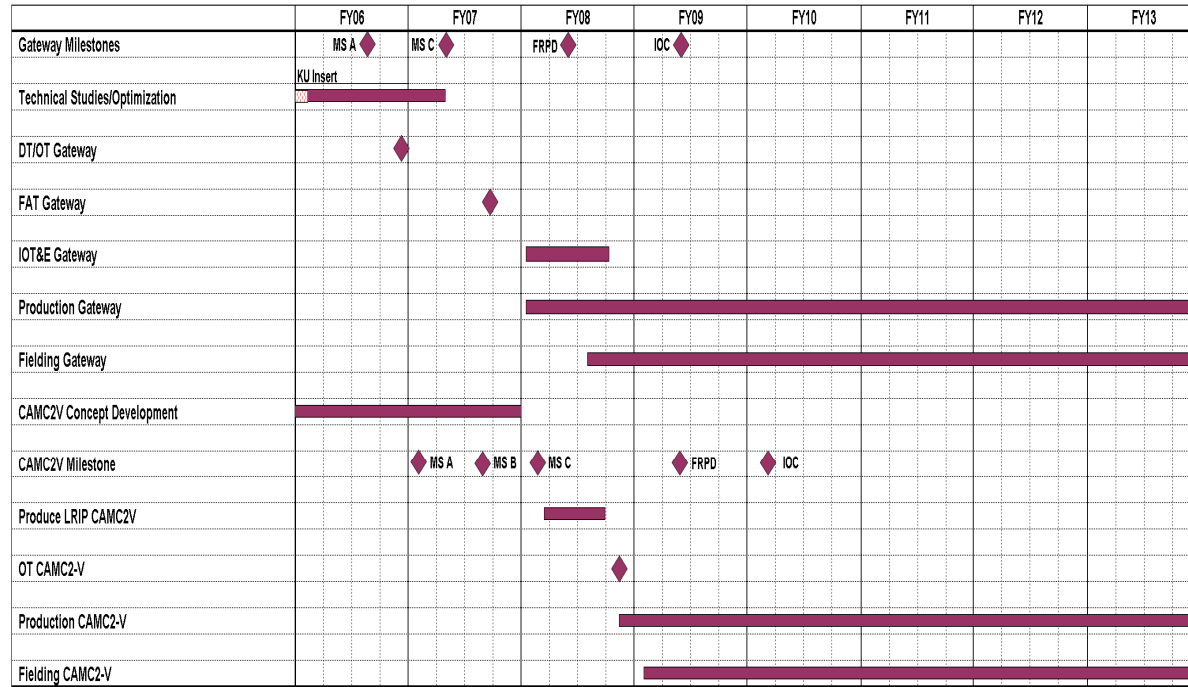
LMST SCHEDULE DETAIL	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Terminal Deliveries						
IOC (2Q03)						
FOC		2ndQtr				
Ka-band Development			1st-4th Qtr			
Ka-band Integration						
IOC			4th Qtr			
FOC					4th Qtr	

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA 7 O

PROGRAM ELEMENT
0206313M Marine Corps Communication Systems

PROJECT NUMBER AND NAME
C2275 Joint Tactical Radio Systems

Command & Control On-the-move Network, Digital Over-the-horizon Relay (CONDOR)



Program Funding Summary-(APPN, BLI #, NOMEN)

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N	3.255	3.566	6.423	1.780	0.916	0.922	0.947	Cont	Cont
(U) PMC BLI# 463300 CONDOR	0.000	8.394	8.365	5.993	0.000	0.000	0.000	0.000	22.752

CONDOR SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	2012	2013
Milestones B and C		2Q						
Gateway Optimization	1Q							
DT/OT (Gateway)		4Q						
FAT Gateway			3Q					
IOTE Gateway				1Q-3Q				
Production (Gateway)					1Q			4Q
Fielding (Gateway)					3Q			4Q
CAMC2V Concept Development	1Q		4Q					
CAMC2V Milestone A, B, C		1Q 3Q	1Q					
Produce LRIP CAMC2V			1Q-3Q					
OT CAMC2-V				4Q				
Production CAMC2-V				4Q				4Q
Fielding CAMC2-V					1Q			4Q

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Systems Development		0206313M Marine Corps Communications Systems			C2273 Air Operations C2 Systems				
COST (\$ in Millions)		Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY2012	FY2013
Project Cost		81.400	62.719	39.366	46.671	24.682	11.481	8.476	6.439
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) Air Operations Command & Control C2 coordinates and plans Navy and Marine air combat operations and interfaces with joint and combined forces air operations. It also interfaces with fire support C2. The systems in this project are used to detect aircraft and missiles, process the detected information, deliver the processed information to the Advanced Tactical Air Command Central (ATACC), and conduct the air battle.</p> <p>The Common Aviation Command and Control System (CAC2S) will provide a common baseline of equipment, computer hardware, and software required to perform the mission of the Marine Air Command and Control System (MACCS). CAC2S will provide a capability that allows operators to integrate Marine aviation into joint and combined air/ground operations. CAC2S will be an open architecture system. CAC2S will provide the software integration to ground C2 via Command and Control Personal Computer (C2PC) functionality in order to improve air and ground situational awareness, blue force tracking and reduce the potential for fratricide.</p> <p>The 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.</p> <p>The Joint Combat Identification Evaluation Team (JCIET) is a superb opportunity to conduct quality assurance testing of service's systems operating in a Joint environment. It conducts assessments in a number of venues including : Military Operations in Urban Terrain (MOUT) exercises, Advanced Concept Technology Demos (ACTD), Joint Training exercises, Combined Armed Training Exercises (CAXs) and Weapons Tactics Instruction Events (WTIs). Its mission is to improve Tactics, Techniques and Procedures (TTP) across all Combat Identification mission areas. (It is not an acquisition program; therefore it does not have specific milestone dates.)</p> <p>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).</p> <p>Single Integrated Air Picture (SIAP) is the product of fused, common, continual, unambiguous tracks of airborne objects within the surveillance area. The SIAP Systems Engineer Organization (JSSEO) will identify the most effective and efficient means to achieve a SIAP that satisfies the warfighter needs. The Joint Single Integrated Air Picture Systems Engineering Organization (JSSEO) is not limited to just material solutions in this effort; all aspects will be considered to produce the SIAP, including tactics, techniques and procedures and changes to service operations.</p> <p>Theater Battle Management Core Systems (TBMCS) provides the commander the automated tools necessary to generate, disseminate, and execute the Air Tasking Order (ATO), as mandated by the Chairman, Joint Chiefs of Staff in July 1993. It is an evolutionary acquisition, allowing for the rapid development/fielding of hardware and software to meet today's rapidly advancing technology. It is fielded to all four Marine Tactical Air Command Squadrons (MTACS) and the supporting establishment.</p>									

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2273 Air Operations C2 Systems		
<p>Battlefield Target Identification Device (BTID) in FY08 and beyond - will be a cooperative battlefield target identification device that employs encrypted, Ka band, millimeter wave, question and answer technology. It will consist of interrogator and transponder antennae, transceiver, and communications/electrical interface unit. It will be fielded as two variants: interrogator/transponder system for Expeditionary Fighting Vehicle (EFVs), Light Amphibious Vehicles (LAVs), and M1A1s; and transponder-only system for combat support and combat service support vehicles. When fielded, mounted weapon systems will have the capability to identify targets as friendly or unknown, at ranges to 6 km, before engaging them. They and all other designated vehicles will also possess the capability to rapidly identify themselves as friendly to weapon systems equipped with comparable systems prior to being engaged. As a result, incidents of fratricide and collateral damage will decline, while the range at which targets may be engaged without fear of misidentification will increase dramatically. The system will be interoperable with Joint, Allied, and Coalition forces' cooperative target identification systems.</p> <p>Small Unit Remote Scouting System (SURSS) - This program procures a capability for unmanned aircraft systems (UAS) to provide the company/detachment level with airborne reconnaissance to aid in detecting, identifying and engaging or avoiding enemy units. The UAS gather and transmit imagery of the tactical situation in near-real time at a range of up to ten kilometers. The Dragon Eye (DE) UAS was selected as the material solution for the SURSS Block 0 requirement and the Raven B UAS was selected as the solution for SURSS Block 1 requirement. Raven B is a five pound, hand launched, reusable vehicle with a wing span of 55 inches. As with the DE System, the air vehicle flies at an altitude of 300-500 feet above ground at a speed of approximately 35 knots. This system has a maximum duration of 90 minutes. A SURSS Block 1 system consists of three Raven B air vehicles, one Ground Control Station (GCS), one Remote Video Terminal (RTV), one Reconnaissance, Surveillance, and Target Acquisition (RSTA) Kit, one Field Repair Kit (FRK), and one Initial Spares Package (ISP). The RSTA kit is used for mission planning, autonomous flight operations and mission product archiving. This is a joint US ARMY/USSOCOM Program.</p> <p>The Combat Operations Center (COC) is a deployable, self-contained, 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 Combat Service Support Element. It is a commercial-off-the-shelf based, total turn-key, integrated hardware solution using unit provided radios, legacy, re-hosted tactical data systems, and available prime movers that provides the Marine mobility, modularity and scalability.</p> <p>This is a combined Navy (PE#0305204N) and Marine Corps (PE#0206313M) budget submission. The Tier II/UAS is a new start program that 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 three air vehicles, one ground control station, three 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 in the GWOT 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.</p> <p>Theater Battle Management Core Systems (TBMCS) is the Chairman, Joint Chiefs of Staff mandated air war planning tool for the generation, dissemination and execution of the Air Tasking Order/Airspace Control Order (ATO/ACO). It is the primary Air Command and Control (C2) tool utilized within the joint theater of operations.</p>				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		4.642	4.270	3.928
RDT&E Articles Qty				
CAC2S: Program management support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		3.219	3.476	3.754
RDT&E Articles Qty				
CAC2S: System development testing, operational assessment, and live interface testing in accordance with continued sensor interface/integration, communications interface/interoperability validation. Additionally, regression testing following DT & OT system corrections; as well as, Information Assurance certification test scans, and Joint				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2273 Air Operations C2 Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		17.572	8.776	14.036
RDT&E Articles Qty				
CAC2S: Design, Development and Testing of 15 Engineering Developmental Models (EDM). Contract activities to complete System Development and Demonstration (SDD) to include Engineering Discrepancy Reports (EDR) corrections following Gov't DT and Operational Assessments. Additionally, MROC directed Engineering Change Proposals (ECP) development and implementation.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.993	0.000	0.000
RDT&E Articles Qty				
CTN: Engineering Development Model (EDM) hardware and software development and support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.712	2.040	1.243
RDT&E Articles Qty				
CTN: System and software development. Interface design development for CTN interfaces to Common Aviation Command and Control System (CAC2S) and the AN/TPS-59 long range radar and G/ATOR.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.834	2.105	0.270
RDT&E Articles Qty				
CTN: Testing and Evaluation: Developmental Testing, Operational assessment, and Interoperability Test and Evaluation (IOT&E) support. Certification of interfaces.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.878	1.050	0.000
RDT&E Articles Qty				
CTN: Program management support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				
COMMAND POST/DERF CRITICAL INFRA: VTC Coop Engineering.				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2273 Air Operations C2 Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		2.960	2.552	1.933
RDT&E Articles Qty				
MACCS SUSTAINMENT: Hardware obsolescence upgrades for the TAOM, SAAWF, TIU, MCIU, ADCP, CIS and CDLS				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.795	2.413	1.913
RDT&E Articles Qty				
MACCS SUSTAINMENT: Planned software sustainment for the TAOM, ADCP and CDLS.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.091	0.000	0.000
RDT&E Articles Qty				
MACCS SUSTAINMENT: MCCDC MOS analysis for MAGTF C2 integration support services.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		17.622	0.000	0.000
RDT&E Articles Qty				
MACCS SUSTAINMENT: Engineering and technical support services for government DT & OT. System engineering discrepancy report corrections, IA certification, and logistics and training development of system operation and maintenance manuals.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		4.499	0.000	0.000
RDT&E Articles Qty				
SIAP: Service System Engineering support to Joint SIAP System Engineering Organization.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		2.619	0.000	0.000
RDT&E Articles Qty				
SIAP: Engineering and analysis support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.038	0.265	0.334
RDT&E Articles Qty				
TBMCS: USMC TBMCS development.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.037	0.185	0.187
RDT&E Articles Qty				
TBMCS: MCTSSA TBMCS software support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.037	0.228	0.230
RDT&E Articles Qty				
TBMCS: Program management support.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.037	0.075	0.077
RDT&E Articles Qty				
TBMCS: Test and Evaluation for TBMCS Upgrades Joint Interoperability.				

EXHIBIT R-2a, RDT&E Project Justification		DATE:	
APPROPRIATION/BUDGET ACTIVITY		February 2008	
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2273 Air Operations C2 Systems	
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.000	1.000	1.000
RDT&E Articles Qty			
BTID: Program management support.			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.000	0.590	0.376
RDT&E Articles Qty			
BTID: Joint component led SDD.			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.000	1.387	1.021
RDT&E Articles Qty			
BTID: SDD Developmental Test Articles.			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.000	0.075	0.100
RDT&E Articles Qty			
BTID: Life Cycle Cost Estimate.			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.000	0.225	0.000
RDT&E Articles Qty			
SURSS: Funds programmed for the ongoing ACTD to apply lessons learned from OEF/OIF to assist in the development of new concepts of operations (CONOPS) and tactics, techniques and procedures (TTP).			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.000	0.246	0.376
RDT&E Articles Qty			
SURSS: Test and Developmental efforts for a STANAG compliant Mobile Remote Video Terminal and Ground Control Station to support the MCCDC family of UAS concept.			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	3.248	1.984	1.562
RDT&E Articles Qty			
COC: Continue engineering and manufacturing development effort of production representative modules.			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.886	0.800	0.728
RDT&E Articles Qty			
COC: Program Management Support			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Qty			
COC: Configuration analysis for CSSE, CE, and FICCS Unit Operations Centers to include UOC Universal Communications Interface Module (UCIM).			

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2273 Air Operations C2 Systems		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	0.000	0.164	3.000	
RDT&E Articles Qty				
TIER II UAS: Integration of common UAS ground control station with Marine Corps C4I network.				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	0.000	0.000	2.000	
RDT&E Articles Qty				
TIER II UAS: Operational Testing (OT).				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	0.000	4.534	6.527	
RDT&E Articles Qty				
TIER II UAS: Navy Program Management Support.				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.509	
RDT&E Articles Qty				
TIER II UAS: Development, testing and evaluation of Tier II UAS and payloads.				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.067	
RDT&E Articles Qty				
TIER II UAS: Development of common UAS ground control station.				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	0.000	0.926	0.500	
RDT&E Articles Qty				
TIER II UAS: Program Management Support .				
(U) Total Cost \$	62.719	39.366	46.671	
(U) PROJECT CHANGE SUMMARY:	FY2007	FY2008	FY2009	
(U) FY 2008 President's Budget:	47.098	43.238	27.825	
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions		-2.941		
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) FY09 Program Review				
(U) Reprogrammings	16.773	-0.296	18.846	
(U) SBIR/STTR Transfer	-1.152	-0.635		
(U) Minor Affordability Adjustments				
(U) FY 2009 President's Budget:	62.719	39.366	46.671	

EXHIBIT R-2a, RDT&E Project Justification		DATE:							
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	February 2008 C2273 Air Operations C2 Systems							
CHANGE SUMMARY EXPLANATION:									
(U) Funding: Funding changes in FY2007 and FY2009 is due to reprogrammings and recoloring of funds.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Comp</u>	<u>Total Cost</u>
(U) PMC, BLI #464000, CAC2S	34.823	13.536	49.339	65.449	58.809	19.974	5.164	Cont	Cont
(U) PMC, BLI #464000, CTN	0.000	10.525	15.784	20.982	18.127	0.531	0.000	0.000	65.949
(U) PMC, BLI #464000, MACCS SUSTAINMENT	13.151	34.113	2.590	6.468	1.229	1.226	1.228	Cont	Cont
(U) PMC, BLI #464000, TBMCS	3.981	1.934	3.895	3.527	2.328	3.696	3.797	Cont	Cont
(U) PMC, BLI #474700, SURSS	15.493	0.000	15.393	4.804	4.470	5.619	3.713	Cont	Cont
(U) PMC, BLI #464000, SURSS	0.000	11.474	0.000	0.000	0.000	0.000	0.000	0.000	11.474
(U) PMC, BLI #474700, Tier II UAS	0.000	0.000	0.000	20.305	9.513	18.858	15.757	Cont	Cont
(U) PMC, BLI #464000, BTIS	0.895	0.000	6.370	9.117	7.408	8.117	8.229	Cont	Cont
(U) PMC, BLI #419000, COC	326.981	47.653	14.883	23.373	28.723	17.453	18.312	Cont	Cont
(U) RDT&E,N 0305204N, Proj 3192, STUAS	0.000	6.144	25.489	18.051	15.000	15.000	7.500	Cont	Cont
(U) APN, BLI # 044400 STUAS	0.000	0.000	0.000	10.099	9.859	9.511	6.048	Cont	Cont
(U) D. ACQUISITION STRATEGY:									
(U) CAC2S: The Systems Development and Demonstration (SDD) phase was implemented after the successful completion of the established Program Definition Risk Reduction (PDRR) phase exit criteria. The SDD phase includes the development and verification of the engineering development model representative of the basic common communications, sensor interface and processing, and display components. Following the SDD, a sole source (with approved J&A) low rate initial production (LRIP) contract will be awarded (Phased Pricing Fixed Fee). The Full Rate Production quantities will be competitively award and will rely on available commercial items and other equipment meeting the open systems architecture requirement.									
(U) CRITICAL INFRASTRUCTURE: The program will be executed under Government Works contract by evaluating proposals that will be compatible with Defense Video Services-Global (DVS-G) and service programs.									
(U) MACCS SUSTAINMENT: The family of systems that comprise the MACCS Sustainment program include all of the currently fielded Air Command and Control assets. These include the Tactical Air Operations Module (TAOM), Communications Data Link System (CDLS), Sector Anti-Air Warfare Facility (SAAWF), Air Defense Communication Platform (ADCP), Direct Air Support Central Airborne (DASCA), Direct Air Support Central Airborne System (DASCAS), TAOM Interface Unit (TIU), Multi-Channel Interface Unit (MCIU), Communication Interface System (CIS), Joint Tactical Information Distribution System (JTIDS), and Joint Range Extension (JRE).									
(U) 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.									
(U) MCTIS (BTID): Economy of scales dictate a strategy that highly leverages Joint/coalition evolutionary development and acquisition efforts. The FY03-FY05 Coalition Combat ID Advanced Concept Technology Demonstration (CCID ACTD) completed in October 2005 resulted in a process that evaluated the Military Utility of a Standard NATO Agreement (STANAG) 4579 Compliant millimeter wave (mmW) Target Identification system and other technologies with the objective of identifying the best system to satisfy the Marine Corps requirement. FY04/05 efforts focused on unique system integration efforts and participation in the Joint Forces Command (JFCOM) sponsored operation Exercise Urgent Quest. The resultant analysis and action by the Army Marine Corps Board in March 2006 directed a Army led Component Program. As a Component lead activity the Marine Corps will resource unique Marine Corps integration and Programmatic requirements through the System Development and Demonstration (SDD) Phase of the Program. The designated Milestone Decision Authority is anticipated to be PEO IEWS and managed by PMTIMS at Fort Monmouth, NJ.									

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	February 2008
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2273 Air Operations C2 Systems
<p>(U) Single Integrated Air Picture (SIAP): is a systems engineering effort that will be utilized to reduce risk and increase interoperability for legacy and future Command, Control Communications, Computers, Intelligence, Surveillance, and Reconnaissance C4ISR systems.</p> <p>(U) Theater Battle Management Core Systems (TBMCS): TBMCS is an ACAT 1AC, 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 cost plus fixed fee contract.</p> <p>(U) Small Unit Remote Scouting System (SURSS): 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 SURSS requirements. 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. The Army Program Manager for Unmanned Aircraft Systems is the program manager of record. By leveraging off of this joint program already in the production phase, the USMC is able to rapidly field systems to deployed warfighters.</p> <p>(U) TIER II UAS: 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.</p> <p>(U) COC: The Combat Operations Center (COC) is a Competitively Awarded Contract for design (cost type) and Firm Fixed Price production options.</p> <p>(U) E. Major Performers:</p> <p>COMBAT OPERATIONS CENTER (COC) FY06 - FY09 General Dynamics Decision Systems, Scottsdale AZ. System development, demonstration, integration, test and evaluation. Apr 04. FY07 - FY09 SPAWAR, Charleston SC. Support Services. Jan 05. FY07 - FY09 Coherent Systems, Lexington Park, MD. System development, demonstration, integration, test and evaluation. Apr 05.</p> <p>COMMON AVIATION COMMAND AND CONTROL SYSTEM (CAC2S) FY07 - FY08 Raytheon E-Systems, San Diego, CA. System development, demonstration, integration, test and evaluation. May 04</p> <p>COMPOSITE TRACKING NETWORK (CTN) FY07 - FY09 NSWC Crane, IN. Mobility platform integrator. Jan 04. FY07-FY09 Lockheed Martin, Syracuse NY. Radar integration. Jan 04. FY07-FY09 Science Applications International Corporation, St. Petersburg, FL. Antenna development and production. Jan 04.</p> <p>MACCS SUSTAINMENT FY07 - FY09 Northrop Grumman Electronic Systems, Woodland Hills, CA. TAOC Engineering and CETS services. Jan 04. FY07 - FY09 Ultra Electronics, Austin, TX. CDLS Engineering and Software services. March 06. FY07 - FY09 Carlisle Research Incorporated, Van Nuys, CA. TAOM Software Sustainment services. Feb 06. FY07 - FY09 Naval Surface Warfare Center, Crane, IN. ADCP, CIS, DASCAS, CDLS Engineering services. Oct 03. FY07 Raytheon, San Diego, CA; CAC2S Technical and Engineering Services for OT corrections. Feb 07. FY07 RCI, Vienna, VA; MAGTF C2 integration support services - MCCDC MOS analysis. Dec 06.</p> <p>BTID FY07 NSWC, Crane, IN, Engineering Services. FY07-FY08 MarCorSysCom support for component led Systems Development and Demonstration (SDD) phase. FY09 MarCorSysCom support for component led and developmental test. FY07 RNB Technologies, Inc., Stafford, VA Engineering services. Jan 04.</p> <p>SMALL UNIT REMOTE SCOUTING SYSTEM (SURSS) FY08 - FY09 Joint Small UAV ACTD. FY08 - FY09 AeroVironment, Simi Valley, CA - Product development. FY08-FY09 AeroVironment, Simi Valley, CA - Product development.</p>		

Exhibit R-3 Cost Analysis												
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communications Sys				C2273 Air Operations C2 Systems					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CAC2S	RCP	Raytheon, San Diego, CA	142.607	13.498	10/07	9.402	10/07	16.196	10/08	Cont	Cont	
CAC2S	WR	SPAWAR (Charleston)	3.880	0.882	10/07	0.600	10/07	0.300	10/08	Cont	Cont	
CAC2S	WR	DAHLGREN	1.180	0.876	10/07	0.876	10/07	0.900	10/08	0.000	2.956	
CAC2S	WR	SPAWAR (San Diego)	56.313	0.349	01/07	0.300	01/08	0.150	01/09	Cont	Cont	
CAC2S	RCP	NCTSI	0.068	0.030	12/06	0.030	12/07	0.030	12/08	Cont	Cont	
MACCS SUSTAINMENT	RCP	NGES, Woodland Hills, CA	8.558	2.366	03/07	2.552	03/08	1.933	03/09	Cont	Cont	
MACCS SUSTAINMENT	CPFF	CRL, Van Nuys, CA	4.820							0.000	4.820	
MACCS SUSTAINMENT	RCP	RCI, Vienna, VA		0.091	12/06					0.000	0.091	
MACCS SUSTAINMENT	CPIF	Raytheon, San Diego, CA		17.622	02/07					0.000	17.622	
SIAP	RCP	MCSC, Quantico, VA	39.028	7.118	01/07					0.000	46.146	
TBMCS	MIPR	ESC, Hanscom AFB	0.723			0.254	01/08	0.334	01/09	Cont	Cont	
TBMCS	MIPR	Greater Hampton, VA	0.100							0.000	0.100	
CTN	WR	NSWC, Crane, IN	4.236	0.779	01/07					0.000	5.015	
CTN	RCP	John Hopkins, Laurel, MD	0.265							0.000	0.265	
CTN	RCP	MCSC, Quantico, VA		0.076	01/07					0.000	0.076	
CTN	RCP	NATC, NV		0.017	01/07					0.000	0.017	
CTN	RCP	Raytheon, San Diego, CA	3.398							0.000	3.398	
CTN	RCP	SAIC, San Diego, CA	6.078							0.000	6.078	
CTN	WR	NSWD, Bethesda, MD	0.025							0.000	0.025	
COC	WR	SPAWAR	5.397	0.790	01/07	0.581	01/08	0.940	01/09	Cont	Cont	
COC	RCP	General Dynamics	19.263	2.936	01/07	0.194	01/08	0.063	01/09	Cont	Cont	
COC	RCP	Coherent, Johnstown, PA	0.000			1.228	01/08	0.651	01/09	Cont	Cont	
COC	WR	NSWC, Crane, IN	0.000			0.353	01/08	0.187	01/09	Cont	Cont	
COC	RCP	NGMS, Stafford, VA	0.000			0.428	01/08	0.449	01/09	Cont	Cont	
Critical Infrastructure	WR	SSC Charleston	5.116							0.000	5.116	
Critical Infrastructure	RCP	SSC Charleston	1.410							0.000	1.410	
TIER II	TBD	TBD				0.164	01/08	3.283	12/08	Cont	Cont	
BTID	WR	NSWC, Crane, IN	1.968			0.552	01/08	TBD	TBD	Cont	Cont	
SURSS	RCP	AeroVironment, Simi Val	0.225			0.246	12/07	0.376	12/08	Cont	Cont	
SURSS	MIPR	USSOCOM, Tampa, FI	0.675			0.225	12/07			Cont	Cont	
Subtotal Product Development			305.333	47.430		17.985		25.792		Cont	Cont	

Exhibit R-3 Cost Analysis												
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communications Sys				C2273 Air Operations C2 Systems					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CAC2S	WR	MCSC, Quantico, VA	1.778	2.273	10/06	0.600	10/07			Cont	Cont	
CAC2S	WR	MCSC, Quantico, VA	2.812							Cont	Cont	
CAC2S	RCP	MCSC, Quantico, VA	4.258			0.250	10/07	0.250	10/08	0.000	4.508	
CAC2S	WR	NSWC, Crane, IN	1.042	0.230	10/06					Cont	Cont	
CAC2S	WR	JITC	0.357	0.114	10/06					Cont	Cont	
CAC2S	RCP	Lockheed Martin	0.480	0.434	10/06					0.000	0.914	
											0.000	
JCIET	WR	MCSC, Quantico, VA	0.479							0.000	0.479	
JCIET	WR	NSWC, Crane, IN	0.449							0.000	0.449	
JCIET	RCP	Anteon, Stafford, VA	2.504							0.000	2.504	
JCIET	RCP	CACI, Chantilly, VA	0.040							0.000	0.040	
MACCS Sustainment	WR	NGES, Woodland Hills, CA	2.308	0.389	03/07	0.350	03/08	0.311	03/09	Cont	Cont	
MACCS Sustainment	RCP	CRI, Van Nuys, CA		1.200	01/07	1.200	01/08	0.961	01/09	Cont	Cont	
MACCS Sustainment	RCP	Ultra Electronics, Austin, TX	0.126	0.200	06/07	0.200	06/08	0.161	06/09	Cont	Cont	
MACCS Sustainment	WR	NSWC, Crane, IN	2.672	0.600	01/07	0.495	01/08	0.480	01/09	Cont	Cont	
TBMCS	WR	MCTSSA, CPndltn, CA	0.083	0.032	01/07					0.000	0.115	
TBMCS	WR	NSWC, Crane, IN	0.358			0.105		0.105	01/09	Cont	Cont	
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal Support (Cont.)												
TBMCS	WR	MCSC, Quantico, VA	0.283	0.054	01/07	0.091	01/08	0.082	01/09	Cont	Cont	
TIER II	TBD	TBD						0.500	12/09	Cont	Cont	
BTID	TBD	TBD				1.100	TBD	1.021	TBD	Cont	Cont	
CTN	WR	NA	0.090							0.000	0.090	
CTN	WR	MCSC, Quantico, VA	0.120							0.000	0.120	
CTN	RCP	Raytheon, St. Peters., FL		0.554	01/07	2.382	01/08			0.000	0.554	
CTN	RCP	SAIC, St Petersburg, FL				0.400	01/08			0.000	0.000	
CTN	WR	NSWC Crane, IN				0.350	01/08			0.000	0.000	
CTN	RCP	Lockheed, Syracuse, NY		0.010	01/07	0.100	01/08			0.000	0.010	
Subtotal Support			20.239	6.090		7.623		3.871		Cont	Cont	
Remarks:												

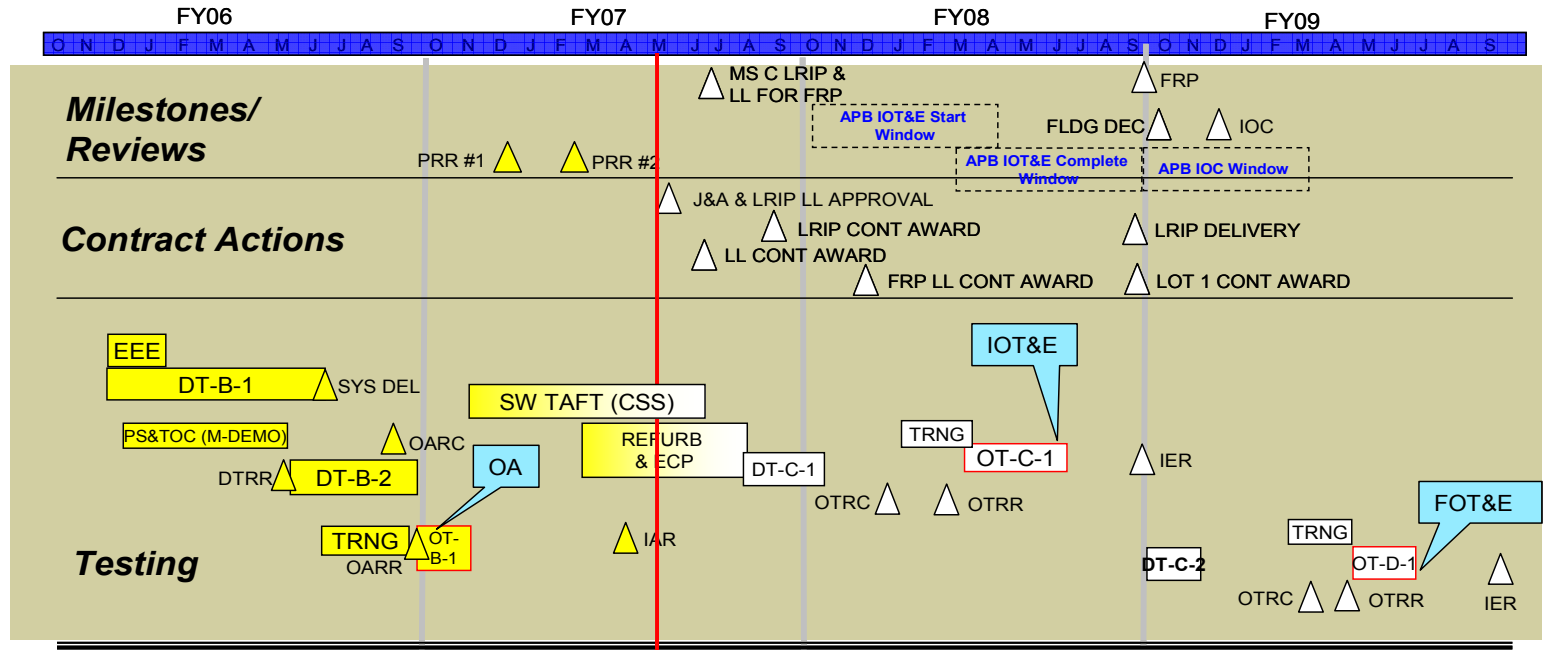
Exhibit R-3 Cost Analysis

APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT					PROJECT NUMBER AND NAME					
RDT&E, N /BA 7 Operational Sys Dev		0206313M Marine Corps Communications Sys					C2273 Air Operations C2 Systems					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CTN	RCP	NGMS, Stafford, VA		0.020	01/07	0.020	01/08			0.000	0.020	
CTN	RCP	Raytheon, St. Peters., FL		0.589	01/07	0.100	01/08	0.150	01/08	Cont	Cont	
CTN	RCP	SAIC, St. Peters., FL		0.070	01/07	0.100	01/08	0.150	01/08	Cont	Cont	
CTN	WR	NSWC, Crane, IN	0.195	0.282	01/07	0.200	01/08	0.313	01/08	Cont	Cont	
CTN	WR	NWAS, Corona, CA	0.494	0.100	01/07	0.125	01/08			0.000	0.594	
CTN	RCP	Lockheed Martin	0.927	0.060	01/07	0.100	01/08			0.000	0.987	
CTN		MCOTEA TESTING		0.055	01/07	0.125	01/08			0.000	0.055	
CTN	WR	MCSC, Quantico, VA		0.025	01/07					0.000	0.025	
CAC2S	MIPR	MITRE	1.460	0.608	11/07	0.220	10/08	0.220	10/08	Cont	Cont	
CAC2S	WR	MACCS X	0.620	0.300	11/07	0.150	10/08	0.150	10/08	Cont	Cont	
CAC2S	WR	MCTSSA, CPndlt, CA	0.956	0.400	11/07	0.400	10/08	0.400	10/08	0.000	1.756	
CAC2S		MCOTEA TESTING	1.075	1.075	11/07	1.194	10/08	1.075	11/08			
COC		MCOTEA TESTING	0.590							0.000	0.590	
TIER II	TBD	TBD						2.343	12/08	Cont	Cont	
BTID	WR	MCOTEA TESTING				1.400	01/08	1.476	01/09	Cont	Cont	
MACCS SUSTAINMENT	WR	NSWC, Crane, IN	0.030			0.168	01/08			0.000	0.030	
TBMCS		MCOTEA TESTING	0.114	0.063	01/07	0.075	01/08	0.077	01/09	Cont	Cont	
Subtotal T&E			6.461	3.647		4.377		6.354		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TBMCS	CPFF	NGIT, Stafford, VA	0.911							0.000	0.911	
TBMCS	FFP	L-3 Com, Stafford, VA				0.228	01/08	0.230	01/09	Cont	Cont	
CAC2S	IDIQ	NGMS, Stafford, VA	18.746	3.200	10/07						21.946	
CAC2S	IDIQ	QNA, Stafford, VA				1.600	11/08	1.147	11/08	Cont	Cont	
CAC2S	RCP	NOBLIS	3.746	0.900	10/08	0.900	10/08	0.900	10/08	0.000	5.546	
CAC2S	RCP	Booze Allen Hamilton	0.453	0.264	10/08					0.000	0.717	
CTN	WR	MCSC, Quantico, VA		0.024	01/07	0.119	01/08	0.347	01/09	Cont	Cont	
CTN	WR	MCSC, Quantico, VA		0.284	01/07	0.634	01/08	0.173	01/09	Cont	Cont	
CTN	WR	PEO		0.100	01/07					0.000	0.100	
CTN	WR	NA		0.010	01/07	0.040	01/08	0.020	01/09	Cont	Cont	
CTN	IDIQ	NGMS, Stafford, VA	2.165	0.362	01/07	0.400	01/08	0.360	01/09	Cont	Cont	
TIER II	TBD	TBD				0.926	03/08	0.950	12/08	Cont	Cont	
TIER II	TBD	Navy PMA-263				4.534	01/08	6.527	01/09	Cont	Cont	
COC	IDIQ	NGMS, Stafford, VA	3.593	0.408	01/07					0.000	4.001	
Subtotal Management			29.614	5.552		9.381		10.654		Cont	Cont	
Total Cost			361.647	62.719		39.366		46.671		Cont	Cont	

DATE: February 2008

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Systems Deve	0206313M Marine Corps Communications Systems	C2273 Air Operations C2 Systems

CAC2S PROGRAM SCHEDULE



OA/OTRC – Operational Assessment/Test Readiness Certification
 OA/OTRR – OA/OT Readiness Review
 PRR – Production Readiness Review
 PS&TOC – Product Support & Total Ownership Cost
 TAFT – Test, Analyze, Fix, Test

INCREMENT 2 DEVELOPMENT
 (ATC, MAGTF C2, MODE V, IPV6, IABM)

Program Funding Summary	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(APPN, BLI #, NOMEN)										
(U) RDT&E,N, C2273, CAC2S	46.360	25.433	16.522	21.718	2.303	0.000	0.000	0.000	0	112.336
(U) PMC, BLI #464000, CAC2S	3.759	34.823	13.536	49.339	65.449	58.809	19.974	5.164	32.600	283.453

DATE: February 2008

Exhibit R-4-4a Project Schedule/Detail

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Systems Deve	0206313M Marine Corps Communications Systems	C2273 Air Operations C2 Systems

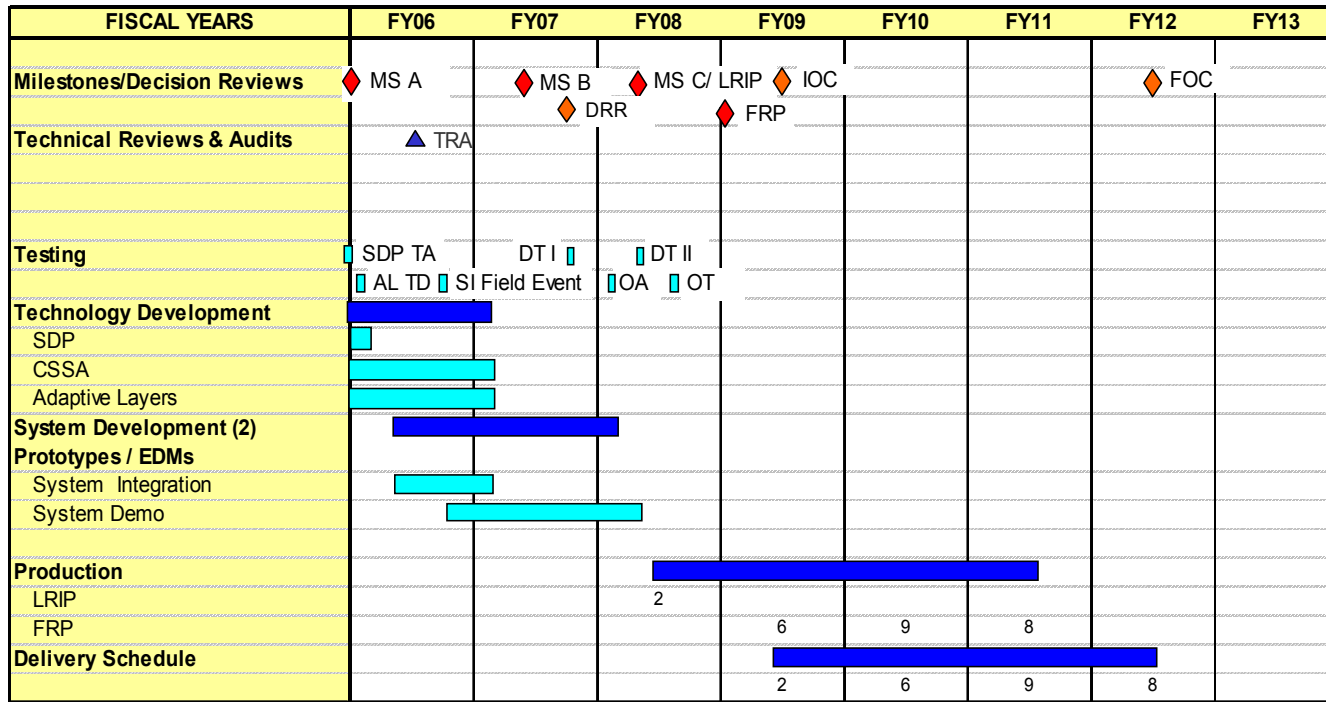
CAC2S SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B (completed 1st Qtr FY03)								
SDD	+++++							
DT	1st Qtr							
OA	4th Qtr							
Long Lead Items		3rd Qtr						
Milestone C		3rd Qtr						
OT			1st Qtr					
LRIP		4th Qtr	+++++					
IOC			4th Qtr					
Production				2nd Qtr	+++++			
Increment II of CAC2S Development				4th Qtr	+++++			
Increment II of CAC2S Production						2nd Qtr	+++++	

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA 7 Operational Sys Dev

PROGRAM ELEMENT
0206313M Marine Corps Communications Sys

PROJECT NUMBER AND NAME
C2273 Air Operations C2 Systems

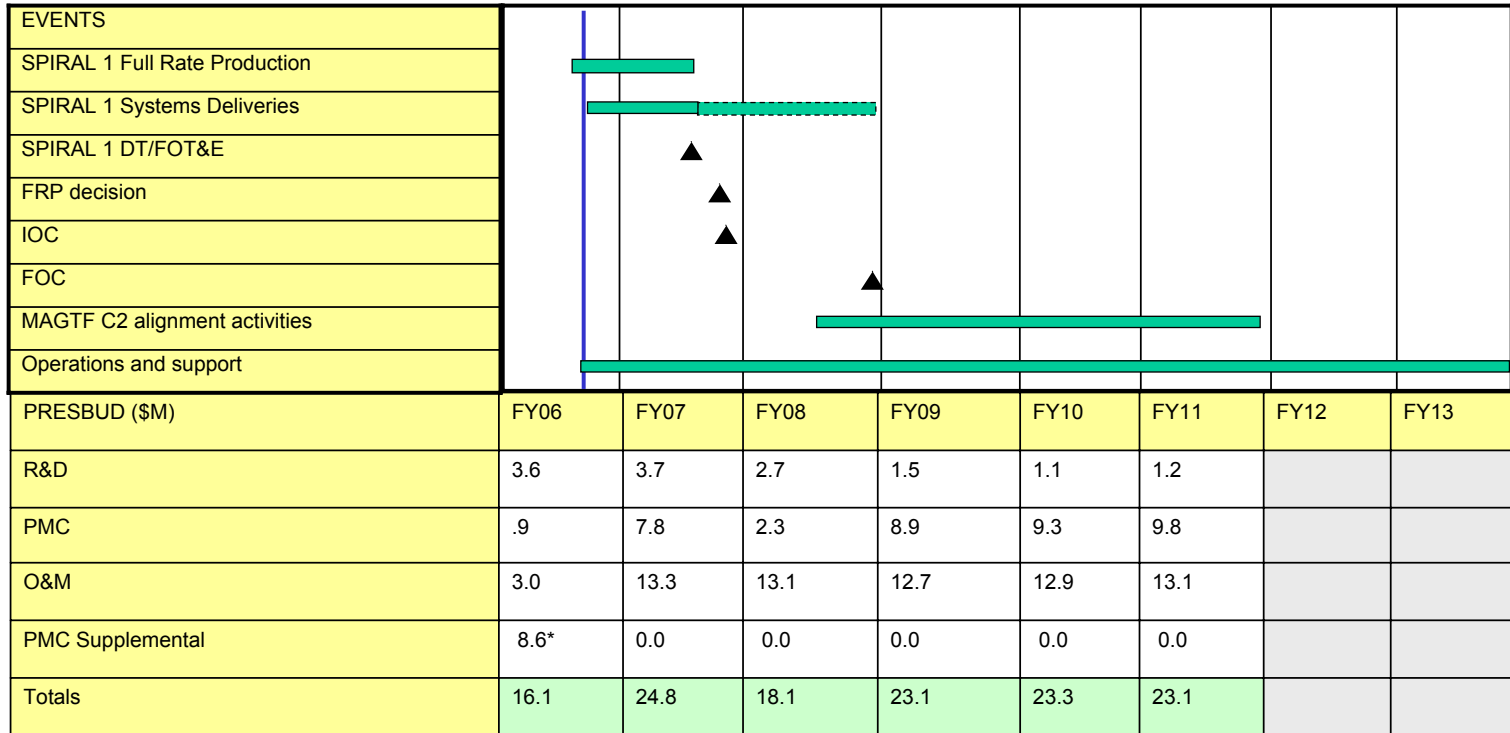
CTN PROGRAM SCHEDULE



Program Funding Summary	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(APPN, BLI #,										
(U) RDT&E,N, C2273, CTN (formally CEC)	4.679	3.417	5.195	1.513	1.514	1.413	1.007	0.502	Cont	Cont
(U) PMC, BLI #464000, CTN	0.000	0.000	10.525	15.784	20.982	18.127	0.531	0.000	0.000	60.809

Exhibit R-4/4a Schedule Profile/Detail		Date: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2273 Air Operations C2 Systems

COC PROGRAM SCHEDULE



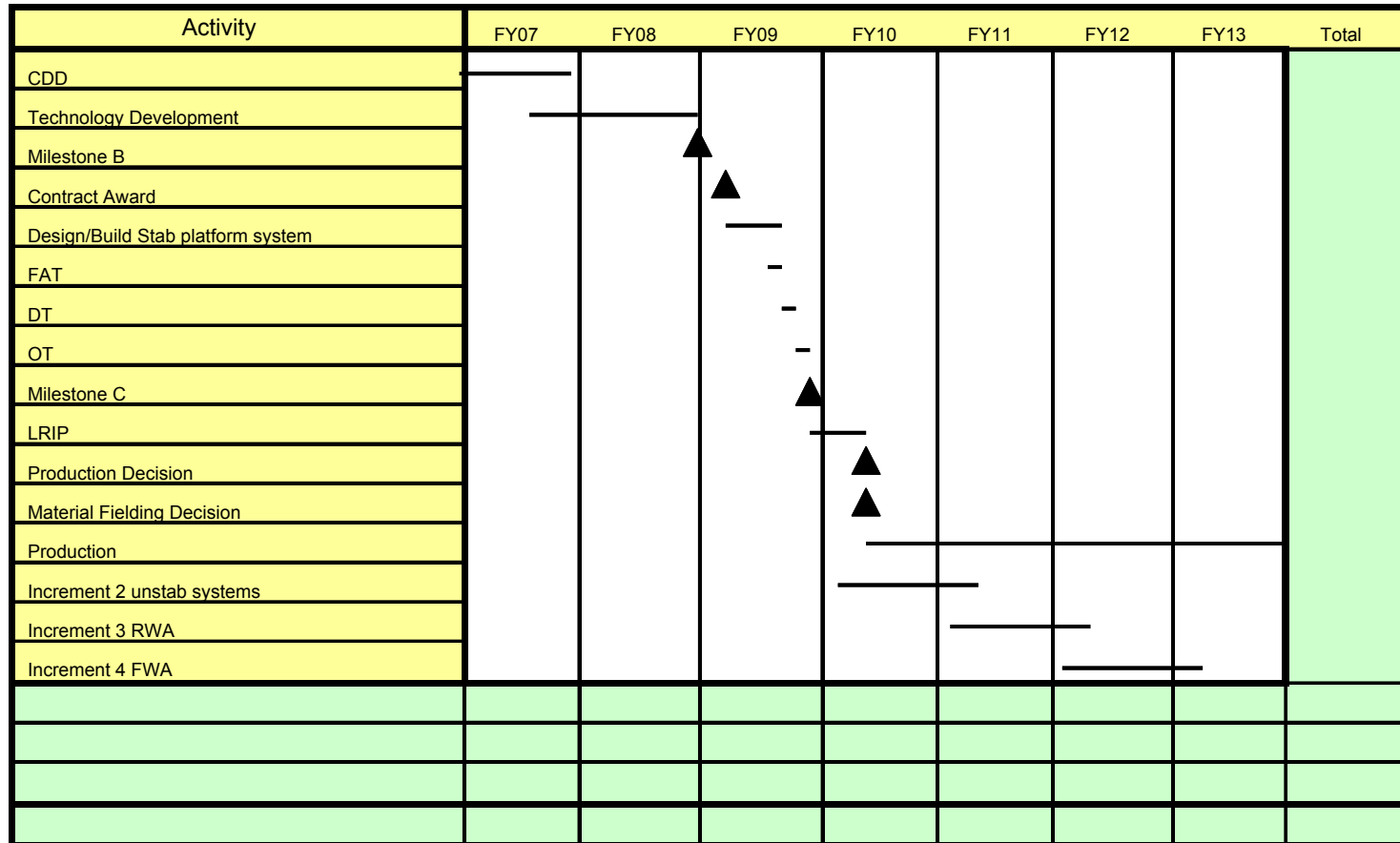
Program Funding Summary	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(APPN, BLI #,										
(U) RDT&E,N, C2273, COC	3.628	4.134	2.784	2.290	7.287	1.275	0.360	0.360	Cont	Cont
(U) PMC, BLI #419000, COC	5.056	326.981	47.653	14.883	23.373	28.723	17.453	18.312	Cont	Cont

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA 7 Operational Sys Dev

PROGRAM ELEMENT
0206313M Marine Corps Communications Sys

PROJECT NUMBER AND NAME
C2273 Air Operations C2 Systems

BATTLEFIELD TARGET IDENTIFICATION DEVICE PROGRAM SCHEDULE



Program Funding Summary	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(APPN, BLI#, NOMEN)										
(U) RDT&E,N, C2278A, BTID	3.392	2.150	0.000	0.030	0.000	0.000	0.000	0.000	0.000	5.572
(U) RDT&E,N, C2273C, BTID	0.000	0.000	3.052	2.497	1.665	1.705	1.762	1.748	Cont	Cont
(U) PMC, BLI # 464000, BTID	0.000	0.895	0.000	6.370	9.117	7.408	8.117	8.229	Cont	Cont

Exhibit R-4/4a Schedule Profile/Detail							Date: February 2008																																																																																																																												
APPROPRIATION/BUDGET ACTIVITY RDTE, N /BA 7 Operational Sys Dev		PROGRAM ELEMENT 0206313M Marine Corps Communications Sys			PROJECT NUMBER AND NAME C2273 Air Operations C2 Systems																																																																																																																														
BATTLEFIELD TARGET IDENTIFICATION DEVICE SCHEDULE DETAIL																																																																																																																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">BTID SCHEDULE</th> <th>FY 2004</th> <th>FY 2005</th> <th>FY 2006</th> <th>FY 2007</th> <th>FY 2008</th> <th>FY 2009</th> <th>FY 2010</th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013</th> </tr> </thead> <tbody> <tr> <td>Milestone A</td> <td>1st Qtr</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Milestone B</td> <td></td> <td></td> <td></td> <td></td> <td>4th Qtr</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Integration Testing</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2nd Qtr</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>											BTID SCHEDULE	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Milestone A	1st Qtr										Milestone B					4th Qtr						Integration Testing						2nd Qtr																																																																																	
BTID SCHEDULE	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013																																																																																																																									
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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys			C2276 Communications Switching & Control Systems						
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost				4.248	3.977	2.592	0.811	0.826	0.326	0.335
RDT&E Articles Qty										
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:										
<p>(U) The Network Planning and Mangement (NPM) is a portfolio of communications planning and Network Management System (NMS) applications for use throughout the Marine Air Ground Task Force (MAGTF). NPM includes Joint Network Management System JNMS and the Systems Planning Engineering and Evaluation Device (SPEED). JNMS provides the MARFOR component planners with the Joint mandated software needed to conduct high-level planning; detailed planning and engineering; monitoring; control and reconfiguration; spectrum planning and management; and security in support of Combatant Commander (COCOM) and Commander, Joint Task Force (CJTF) operations. SPEED is software used for Radio Frequency (RF) communications analysis by JNMS, other Services and for System Planning and Engineering (SPE) throughout the MAGTF. SPEED provides High Frequency (HF) predictions, Line of Site (LOS) propogation, Radio Coverage Analysis (RCA) and related communicatons network planning and management.</p> <p>(U) The Transition Switch Module (TSM) will provide a flexible Unit Level Switch that bridges legacy Tri-Tac switches with current commercial technology, providing maneuver elements with improved voice/data switching, data transport and bandwidth management capabilities. This program will maintain USMC joint interoperability as all Services transition to COTS switching technologies.</p> <p>(U) The Tactical Data Network (TDN) augments the existing Marine Air Ground Task Force (MAGTF) communications infrastructure to provide the commander an integrated data network, forming the communications backbone for Tactical Data Systems (TDS) and the Defense Messaging System (DMS). TDN consists of Gateways (AN/TSQ-222) and Data Distribution Systems (AN/TSQ-228), interconnected with one another and their subscribers via a combination of common user long-haul transmission systems, local area networks (LAN), and switched telephone systems. The TDN PIP provides a smaller and more mobile variant DDS for the Battalion, Secure Wireless LAN capability for enhanced mobility, integrates security interdiction products into the Gateway; and provides critical refresh of non-MCHS network components such as routers, switches, converters, and tactical peripherals.</p> <p>(U) The Expeditionary Command and Control Suite (ECCS) is a transit case solution that provides SIPRNET email and web access, secure VTC, C2PC/COP and collaborative planning (DCTS) DISA Standard to initial response teams to communicate with higher HQ until larger Command and Control C2 systems are established. This is an On-The-Move/Enroute capability.</p> <p>(U) The First In Command and Control System (FICCS) is an integrated, processor-controlled communications and management system, housed in a S-788/G Lightweight Multipurpose Shelter (LMS), providing secure and non-secure voice and data communications, switching functions, network routing and management, and global broadcast functions. The S-788/G LMS is mounted on a Heavy-variant High Mobility Multipurpose Wheeled Vehicle (H-HMMWV) and can be connected to a quick-erect general purpose tent.</p>										
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:										
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost				1.834	2.156	0.018				
RDT&E Articles Qty										
NPM: Develop unique USMC models for JNMS and Developmental work for SPEED Net Centric enhancements.										
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost				0.692	0.000	0.000				
RDT&E Articles Qty										
TSM: Integration Testing and Training Device Engineering										
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost				0.000	0.185	0.000				
RDT&E Articles Qty										
TSM: Development CBT for TSM training										
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost				0.000	0.000	0.941				
RDT&E Articles Qty										
TSM: Development of Global Satellite Mobile Telephone.										

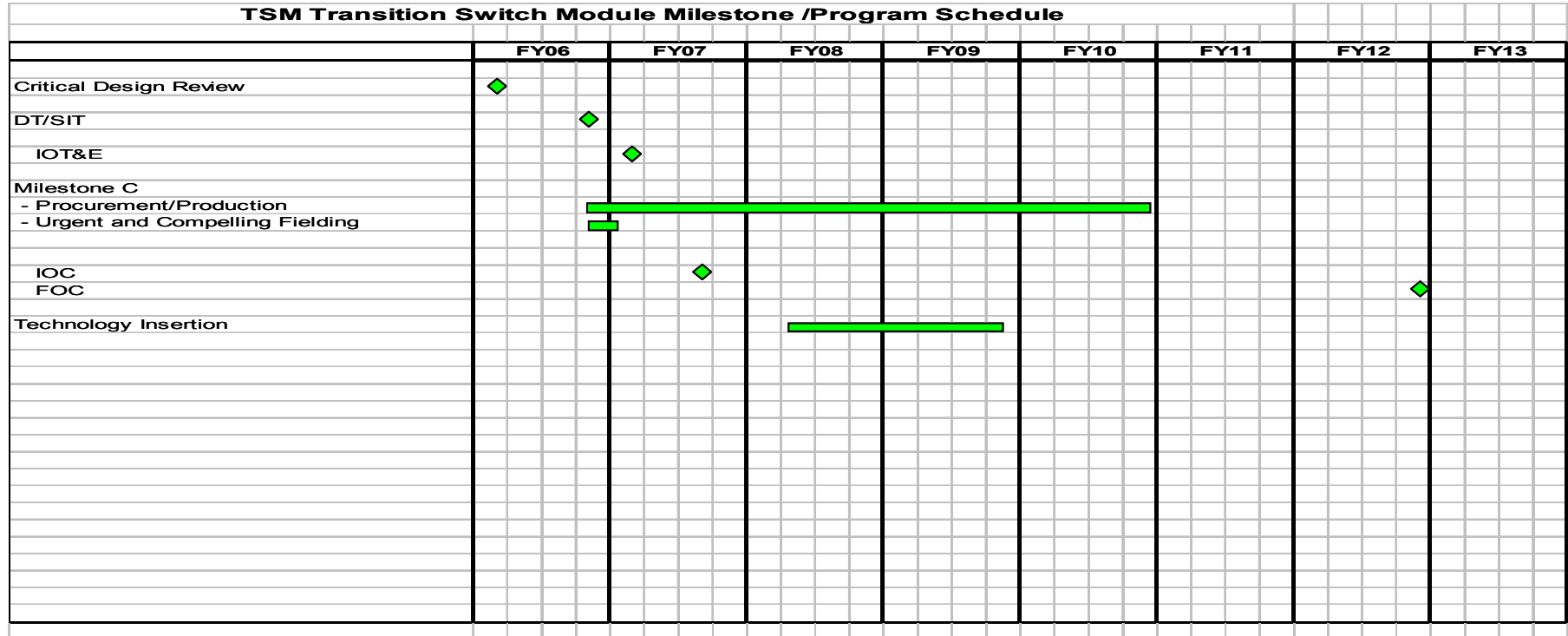
EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2276 Communications Switching & Control Systems							
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		1.350	1.487	1.008					
RDT&E Articles Qty									
ECCS: Analysis of alternatives life cycle mode									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		0.364	0.000	0.000					
RDT&E Articles Qty									
FICCS: Program Support									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		0.008	0.149	0.625					
RDT&E Articles Qty									
TDN: Test and Evaluate integrated software requirements.									
(U) Total \$		4.248	3.977	2.592					
(U) PROJECT CHANGE SUMMARY:									
(U) FY 2008 President's Budget:		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>					
		4.477	4.783	2.574					
(U) Adjustments from the President's Budget:									
(U) Congressional Program Reductions			-0.731						
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings		-0.117		0.018					
(U) SBIR/STTR Transfer		-0.112	-0.049						
(U) Minor Affordability Adjustment			-0.026						
(U) FY 2009 President's Budget:		4.248	3.977	2.592					
CHANGE SUMMARY EXPLANATION:									
(U) Funding: See Above.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(U)PMC BLI 463400 Communications Switching and Control Systems									
NPM (JNMS)	11.327	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.327
ECCS	0.000	0.000	6.950	10.069	8.545	0.000	0.000	0.000	25.564
TSM	87.726	43.711	19.344	61.382	1.903	0.000	0.000	0.000	214.066
TACTICAL DATA NETWORK (TDN)	111.598	44.378	12.839	35.419	25.234	20.473	3.506	Cont	Cont

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2276 Communications Switching & Control Systems
<p>(U) Related RDT&E: Not Applicable.</p> <p>(U) D. ACQUISITION STRATEGY NPM: NPM uses the Joint Army-led acquisition strategy for JNMS. This is an evolutionary strategy with an initial Build to include all KPP and Threshold requirements. It is followed by pre-planned Builds to incorporate Objective requirements. The JNMS contract method is competitive with a Cost Plus contract for development that is centrally funded by the Army, except for any unique Service requirements. Services are responsible for procurement, fielding and support costs. The production contract is Fixed Price and the fielding and support is Time and Material (T&M). The JNMS acquisition strategy emphasizes the use of Commercial Off The Shelf (COTS) and Government-off-the-Shelf (GOTS) products. The SPEED acquisition strategy is for spiral development. The SPEED contract method is through a sole source Basic Purchase Agreement (BPA) using Fixed Price Task Orders based on the developers GSA schedule for manhours.</p> <p>(U) D. ACQUISITION STRATEGY TSM: calls for the use and integration of proven commercial switching technologies of sufficient maturity for production. After completing DT/SIT using FY06 funds, this program will achieve milestone C and begin an Urgent and Compelling Procurement/Production and Fielding. This program will begin full-rate production and fielding in FY07. All R&D efforts will be tested prior to incorporating them into the TSM, or delivering support to the Op Forces.</p> <p>(U) D. ACQUISITION STRATEGY ECCS: 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 developing and integrating "miniaturized" version of existing components. Emerging technologies such as VoIP and Secure Wireless will also be addressed in the out year R&D effort.</p> <p>(U) D. ACQUISITION STRATEGY FICCS: FICCS is an evolutionary acquisition strategy. RDTE funds in FY07 will be used to test and evaluate Commercial Off the Shelf (COTS) emerging technology items for possible integration into the JECCS production units.</p> <p>(U) D. ACQUISITION STRATEGY TDN: TDN's is a evolutionary acquisition strategy. As new products and industry standards are produced, they are to be tested and integrated into TDN equipment. RDTE funding in FY08 and FY09 are to be used to test and evaluate Commercial Of The Shelf (COTS) items which will be integrated into TDN Gateways and Data Distribution Systems (DDS) to fulfill ORD requirements.</p> <p>(U) E. Major Performers: FY 08/09 - (TSM) EDO/Darlington, Wando, SC. Develop training documentation and test package, MAR 06/FEB 08/DEC 08 FY07/08 (ECCS) - Contractor TBD. Develop and test miniaturized components that provide DISN services while On-The-Move/Enroute. NOV 06/NOV 07 FY07 (FICCS) - EDO/Darlington, Inc., Wando, SC. Integration of VoIP, Secure Wireless, and ATM Technologies, FEB 07 FY08/09 (TDN) - Cornerstone Building Group, San Diego CA, New equipment testing and support. APR 06/ JAN 08/ JAN 09</p>		

Exhibit R-3 Cost Analysis							DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Comm		C2276 Communications Switching & Control Systems							
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
NPM (JNMS)	CP	CECOM, Monmouth, NJ	0.597	0.550	01/07	0.000		0.000		Cont	Cont	
NPM (SPEED)	FFP	MCSC, Quantico, Va	2.193	0.881	01/07	2.156	01/08	0.018		Cont	Cont	
ECCS	FFP	Tecolote Research, CA	0.096	0.000	01/07	0.600	03/08	0.400	11/08	Cont	Cont	
FICCS	CPFF	EDO/Darlington, Inc. SC	0.381	0.000		0.000		0.000	02/09	Cont	Cont	
TSM	FFP	EDO/Darlington, Inc. SC	7.617	0.692	02/07	0.185	02/08	0.941	12/08	Cont	Cont	
Subtotal Product Dev			10.884	2.123		2.941		1.359		Cont	Cont	
Remarks:												
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
NPM (Program Support)	WR	MCSC/MCTSSA	0.538	0.150	01/07	0.000		0.000		Cont	Cont	
NPM (Support Contractor)	FP	OSEC, Stafford, Va	1.031	0.253	01/07	0.000		0.000		Cont	Cont	
TSM (Support Contractor)	RC	TITAN, Stafford, Va	0.563			0.000		0.000				
ECCS	FFP	Tecolote Research, CA		0.000		0.609	03/08	0.308	11/08	Cont	Cont	
FICCS	CPFF	Support Contractor	0.450	0.364	01/07	0.000		0.000		Cont	Cont	
Subtotal Support			2.582	0.767		0.609		0.308		Cont	Cont	
Remarks:												
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
ECCS	MP	Ft. Huachuca, AZ	0.000	1.350	01/07	0.278	03/08	0.300	12/08	Cont	Cont	
FICCS	WR	MCTSSA	0.257	0.000		0.000		0.000		Cont	Cont	
TDN	FFP	MCTSSA	0.555	0.008	03/07	0.149	01/08	0.625	01/09	Cont	Cont	
Subtotal T&E			0.812	1.358		0.427		0.925		Cont	Cont	
Remarks:												
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Subtotal Management			0.000	0.000		0.000		0.000		0.000	Cont	
Remarks:												
Total Cost			14.278	4.248		3.977		2.592		Cont	Cont	

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2276 Communications Switching & Control Systems

TRANSITION SWITCH MODULE



Program Funding Summary

(APPN, BLI #,

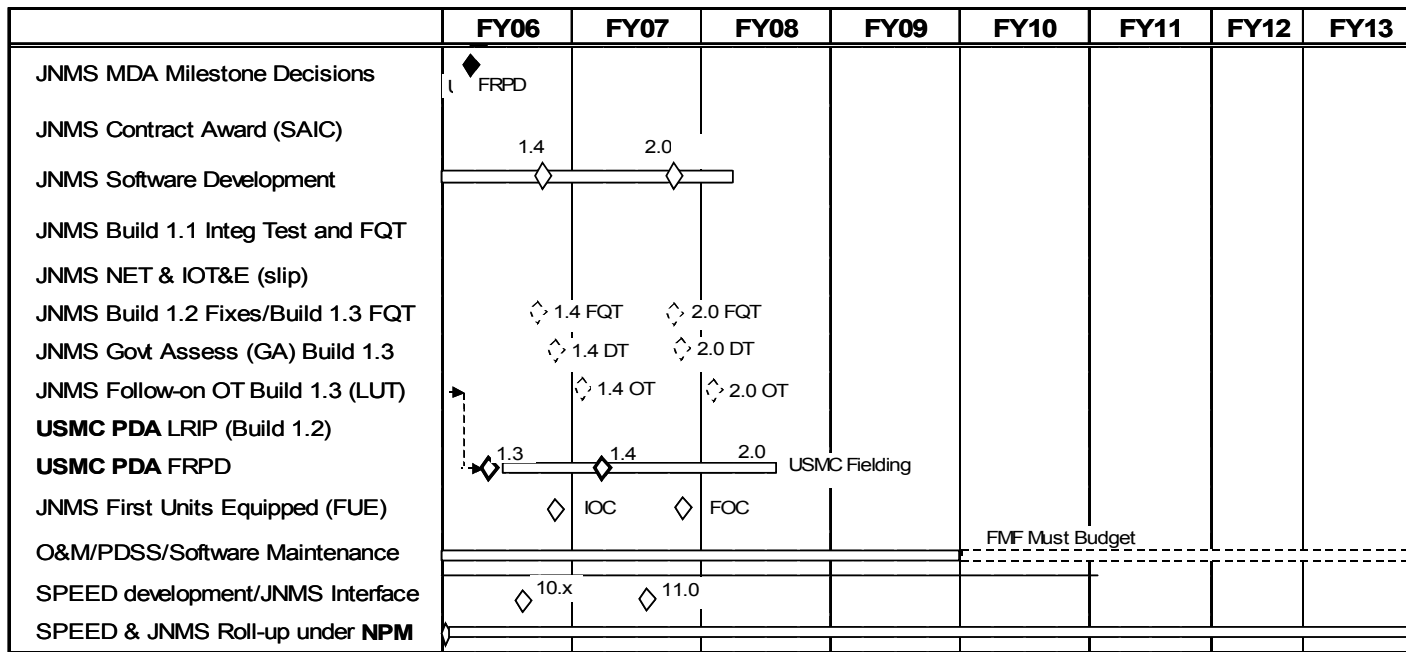
(U) RDT&E,N

(U) PMC BLI# 463400 Comm Switch & Control Sys TSM

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N	0.692	0.185	0.941	0.307	0.322	0.326	0.335	Cont	Cont
(U) PMC BLI# 463400 Comm Switch & Control Sys TSM	87.726	43.711	19.344	61.382	1.903	0.000	0.000	0.000	214.066

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2276 Communications Switching & Control Systems

NPM (JNMS)



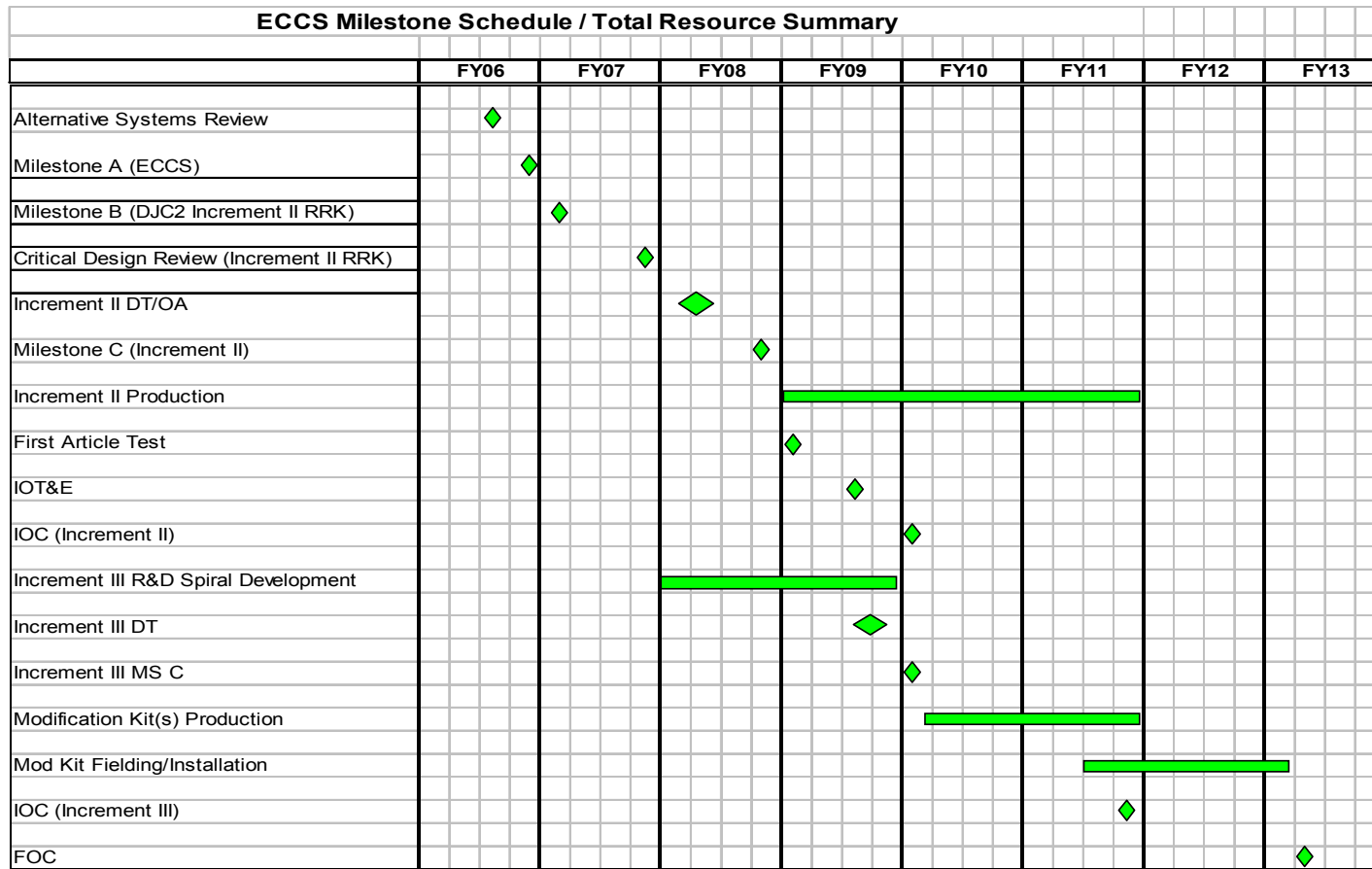
Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N	1.834	2.156	0.018	0.000	0.000	0.000	0.000	Cont	Cont
(U) PMC BLI# 463400 CommSwitch& Ctl Sys -NPM (JNMS)	11.327	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.327

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206313M Marine Corps Communications Sys	PROJECT NUMBER AND NAME C2276 Communications Switching & Control Systems

ECCS



Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N	1.350	1.487	1.008	0.504	0.504	0.000	0.000	0.000	4.853
(U) PMC, BLI#463400 Comm Switch & Control Sys (ECCS)	0.000	0.000	6.950	10.069	8.545	0.000	0.000	0.000	25.564

Exhibit R-4/4a Schedule Profile/Detail		DATE:	February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME	
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2276 Communications Switching & Control Systems	

ECCS SCHEDULE DETAIL	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Alternative Systems Review			3Q							
Milestone A (ECCS)			4Q							
Milestone B (DJC2RRK)				1Q						
Critical Design Review (DJC2RRK)					4Q					
DT/OA					1Q-2Q					
Milestone C (Increment II)					4Q					
Increment II Production, Delivery & Fielding						1Q-----4Q				
First Article Testing						1Q				
Initial Operation T&E						3Q				
Initial Operation Capability (increment II)							1Q			
Increment III R&D Spiral Development					1Q-----4Q					
Increment III DT						3Q-4Q				
Milestone C (Increment III)							1Q			
Modification Kit(s) Production							2Q-----4Q			
Mod Kit Fielding/Installation								3Q-----1Q		
IOC Increment III								4Q		
FOC										2Q

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND 0206313M Marine Corps Communica	PROJECT NUMBER AND NAME C2277 Systems Engineering & Integration						
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		8.899	6.660	7.027	7.197	7.409	8.852	9.097
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
(U) 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 across programs.								
Joint Distributed Engineering Plant (JDEP) JDEP directly supports the DoD mandated directive CJCSI 6212.01D, to evaluate the interoperability of the MAGTF C4I Capability produced by MARCORSSYSCOM. This evaluation will be accomplished via the MAGTF C4I Capability Certification process where system of systems are evaluated for supporting joint forces, interoperability of new and fielded acquisition systems and provide an environment for engineering analysis to correct capability deficiencies and develop new capabilities that can operate in a joint environment.								
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). iaw Commander Joint Chiefs of Staff (CJCSI) 6610.01C and CJCS16241.04 for USMTF.								
Coalition Warrior Interoperability Demonstration (CWID) (a.k.a. Joint Warrior InterOperability Demonstration (JWID)) is a Joint Chiefs-of-Staff (JCS) and a Chairman of the Joint annual event. CWID remains the premier event to investigate interagency and coalition interoperability problems. CWID defines solutions that can be applied in the operational community. CWID's mission is to conduct military operations to deter, prevent, and defeat threats and aggressions aimed at the US, its territories and assigned areas of responsibilities as directed by the President or Secretary of Defense.								
Marine Air-Ground Task Force Command, Control, Communications, Computers, and Intelligence Systems Engineering and Integration, 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 is used to conduct an annual system of systems testing called the Federation-of-Systems (FedOS) to ensure joint interoperability and the performance of critical Marine Corps systems directly supporting the Marine Corps Operating Forces. It is used to conduct direct MEU/MEF support in system integration testing with USN (Part of Deploying Group Systems Integration Testing (DGSIT)) and workups for MEF deployments. It is also used to support our coordination and involvement in DoD initiatives that include ForceNet, Global Information Grid Enterprise Services (GIGES), and other Deployable Information Systems Architecture DISA/NETWARCOM efforts.								
(U) B. ACCOMPLISHMENTS/ PLANNED PROGRAM:								
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost		0.170	1.469	1.533				
RDT&E Articles Qty								
JDEP: Conducted development of the MAGTF C4I Capability Certification process which involved the creation of capability based test threads. Additionally created Joint Test Threads and participated in a JFCOM sponsored joint distributed test event. Plans are to conduct the first formal MAGTF C4I Capability certification event in FY 08.								
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost		1.193	1.554	1.625				
RDT&E Articles Qty								
JINTACCS: Joint development, implementation, and testing of data links under the direction of the JCS and OASD/NII.								

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND 0206313M Marine Corps Communica	PROJECT NUMBER AND NAME C2277 Systems Engineering & Integration		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.036	1.265	1.323
RDT&E Articles Qty				
CWID: to deter, prevent, and defeat threats and aggressions aimed at the US.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		6.500	2.372	2.546
RDT&E Articles Qty				
MAGTF SEI&C: Engineering and technical support for configuration management of MAGTF C4I systems. Review and submittal of multiple ISPs and TISPs. Pre deployment assistance to I MEF and multiple MEUs. Participation in ForceNet, NCES, GIGES and other Joint DoD initiatives. Plans are continued support of activities to support the interoperability and jointness of the USMC Enterprise IT/NSS systems.				
(U) Total \$		<u>8.899</u>	<u>6.660</u>	<u>7.027</u>
(U) PROJECT CHANGE SUMMARY:				
	FY2007	FY 2008	FY 2009	
(U) FY 2008 President's Budget:	8.855	6.833	6.988	
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	0.238			
(U) SBIR/STTR Transfer	-0.194	-0.094		
(U) Minor Affordability Adjustment		-0.079	0.039	
(U) FY 2009 President's Budget:	8.899	6.660	7.027	
CHANGE SUMMARY EXPLANATION:				
(U) Funding: See Above.				
(U) Schedule: Not Applicable.				
(U) Technical: Not Applicable.				
(U) C. OTHER PROGRAM FUNDING SUMMARY: N/A				
(U) Related RDT&E:				
(U) PE 0206623M, Marine Corps Ground Combat/Supporting Arms Systems				
(U) D. ACQUISITION STRATEGY:				
JDEP, JINTACCS, CWID, & MAGTF SE&IC: N/A as these are non-acquisition programs.				
(U) E. Major Performers: FY06-FY07 Northrup Grumman, Stafford VA and OSEC, Stafford VA - Level of effort contracted for MAGTF C2 and GWOT related UUNS for Systems Engineering, Capability Certification, Architecture Development, Logistics Support, Acquisition and Program Management support for all 700+ USMC MAGTF C2 program. FY08 and beyond is planned to be re-competed.				

Exhibit R-3 Cost Analysis						DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev				0206313M Marine Corps Communication Systems			C2277 Systems Engineering & Integration						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost
CWID	MIPR	NSWC Dahlgren	3.978			0.500	12/06	0.751	12/07	0.750	12/08	Cont	Cont
CWID	WR	MCSC Quantico, VA	0.149			0.150	12/06	0.105	12/07	0.119	12/08	Cont	Cont
CWID	MIPR	JTIC -INDIAN HEAD	0.189			0.000	12/07	0.000	12/07	0.050	12/08	Cont	Cont
Subtotal Product Dev			4.316			0.650		0.856		0.919		Cont	Cont
Remarks:													
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost
CWID	C/FFP	NGIT, Stafford VA	2.300			0.386	12/06	0.325	12/07	0.404	12/08	Cont	Cont
MAGTF SEI&C	C/FFP	NGIT, Stafford VA	9.660			2.572	10/06	1.000	10/07	1.230	10/08	Cont	Cont
MAGTF SEI&C	WR	MCSC, Quantico, VA	0.940			0.165	10/06	0.125	10/07	0.145	10/08	Cont	Cont
MAGTF SEI&C	WR	MCTSSA, Cp Pndltm, CA	2.465			0.210	10/06	0.436	10/07	0.310	10/08	Cont	Cont
MAGTF SEI&C	C/FFP	GD-AIS, Stafford VA	1.015			0.000		0.000		0.000			
MAGTF SEI&C	C/FFP	OSEC, Carlsbad CA	0.000			1.726	01/07	0.000		0.000			
MAGTF SEI&C	MIPR	DISN, Arlington, VA				0.146	04/07		04/08	0.146			
JDEP	T&M	SENSIS Syracuse NY	0.714			0.000		0.000		0.000		Cont	Cont
JDEP	MIPR	NSWC - Crane	0.646			0.000		0.500		0.000		Cont	Cont
JDEP		NSWC, Dahlgren, VA				0.000		0.500		0.000			
JDEP	C/FFP	OSEC, Carlsbad CA				0.170	11/06	0.000	11/07	0.716	11/07	Cont	Cont
JINTACCS	C/FFP	NGIT, Stafford VA	2.088			0.180	10/06	0.554	10/07	0.840	10/08	Cont	Cont
JINTACCS	WR	MCTSSA, Cp Pndltm, CA	2.125			0.823	10/06	1.000	10/07	0.785	10/08	Cont	Cont
Subtotal Support			21.953			6.378		4.440		4.576		Cont	Cont
Remarks:													
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost
JDEP	WR	MCTSSA, Cp Pndltm, CA	2.89			0.000	10/06	0.000		0.000		Cont	Cont
JDEP	WR	SSCC, Charleston SC				0.000		0.469	11/07	0.817	11/08	Cont	Cont
JDEP	WR	MCSC, Quantico, VA	0.000			0.000	10/06	0.000	10/07	0.000	10/08	Cont	Cont
MAGTF SEI&C	MIPR	MITRE	4.387			0.592	10/06	0.500	10/07	0.421	10/08	Cont	Cont
MAGTF SEI&C	C/FFP	EMA, Lexington Park MD				0.589	01/07	0.000		0.000			
JINTACCS	C/FFP	EMA, Lexington Park MD				0.190	01/07	0.000		0.000			
Subtotal T&E			7.277			1.371		0.969		1.238		Cont	Cont
Remarks:													
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost
MAGTF SEI&C	C/FFP	NGIT, Stafford VA	1.066			0.500	10/06	0.395	10/07	0.294	10/08	Cont	Cont
Subtotal Management			1.066			0.500		0.395		0.294		Cont	Cont
Remarks:													
Total Cost			34.612			8.899		6.660		7.027		Cont	Cont

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications System				PROJECT NUMBER AND NAME C2278 Air Defense Weapons Systems			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost		5.567	1.213	4.617	3.967	3.723	3.823	3.910	
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>(U) This project encompasses two sub-element programs which are part of the Integrated Air Defense System for the Marine Corps.</p> <p>The Complementary Low Altitude Weapons System (CLAWS) is a mobile ground based air defense missile system designed to defeat threat cruise missiles, unmanned aerial vehicles, rotary wing and fixed wing aircraft. CLAWS shall provide a rapidly deployable, mobile, high firepower, all-weather, standoff air defense system to defend Marine Expeditionary Forces and Naval Forces from attack by cruise missiles, aircraft and Unmanned Aerial Vehicles (UAVs). It will complement existing Short Range Air Defense (SHORAD) capabilities and will interface with current and proposed Marine Command and Control Systems, sensors, and data paths. Note: As of 2 May 06, the CLAWS program was suspended prior to fielding.</p> <p>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 four 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; and 4) Replacing the unsupported and obsolete Stinger Missile Night Sight with the PAS-13 Thermal Sight. R&D is required to incorporate the Stinger Missile reticule and hardware interface and execute developmental testing.</p> <p>Battlefield Target Identification System (BTIS)/Mounted Cooperative Target ID System(MCTIS) in FY-08 and beyond - will be a cooperative battlefield target identification device that employs encrypted, Ka band, millimeter wave, question and answer technology. It will consist of interrogator and transponder antennae, transceiver, and communications/electrical interface unit. It will be fielded as two variants: interrogator/transponder system for Expeditionary Fighting Vehicles (EFVs), Light Amphibious Vehicles (LAVs), and M1A1s; and transponder-only system for combat support and combat service support vehicles. When fielded, mounted weapon systems will have the capability to identify targets as friendly or unknown, at ranges to 6 km, before engaging them. They and all other designated vehicles will also possess the capability to rapidly identify themselves as friendly to weapon systems equipped with comparable systems prior to being engaged. As a result, incidents of fratricide and collateral damage will decline, while the range at which targets may be engaged without fear of misidentification will increase dramatically. The system will be interoperable with Joint, Allied, and Coalition forces' cooperative target identification systems. Funding in FY08 and beyond reside in C2273 within the same P.E.</p> <p>The Joint Combat Identification Evaluation Team (JCIET) is an opportunity to conduct quality assurance testing of services' systems operating in a joint environment. It conducts assessments in a number of venues including: Military Operations in Urban Terrain (MOUT) exercises, Advanced Concept Technology Demos (ACTD), Joint Training exercises, Combined Armed Training Exercises (CAXs), and Weapons Tactics Instruction (WTI) events. Its mission is to improve Tactics, Techniques and Procedures (TTP) across all Combat Identification mission areas. (It is not an acquisition program; therefore, it does not have specific milestone dates.) The JCIET program resides in C2273 in FY06 within the same P.E.</p>									
(U) B. ACCOMPLISHMENTS/ PLANNED PROGRAM:									
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost			1.510	0.000	0.000				
RDT&E Articles Qty									
CLAWS: Program Management Support.									

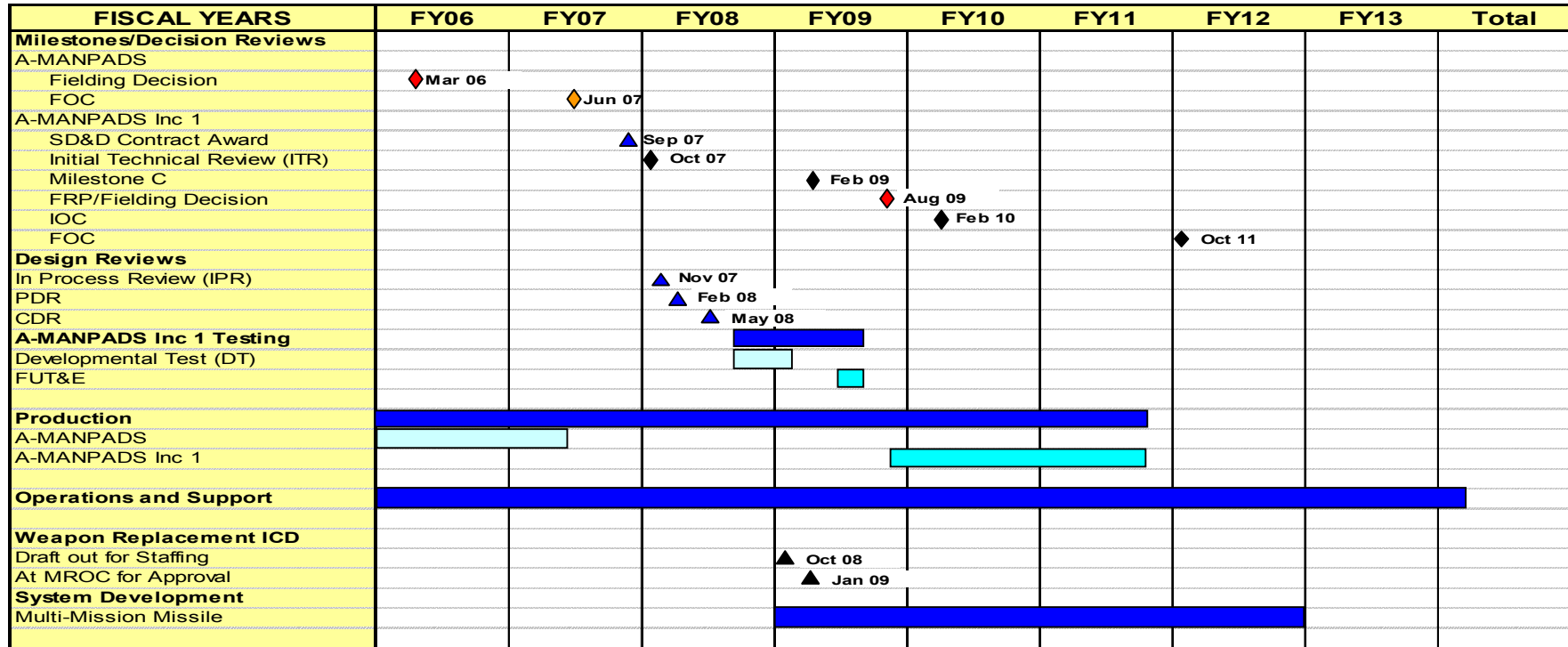
EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2008	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications System	C2278 Air Defense Weapons Systems		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.260	0.278	0.483
RDT&E Articles Qty				
JCIET: Data and analysis for exercise. Funding prior to FY07 is found in Project C2273 within this PE.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.277	0.283	0.506
RDT&E Articles Qty				
JCIET: Logistical Support for exercises. Funding prior to FY07 is found in Project C2273 within this PE.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.105	0.093	0.161
RDT&E Articles Qty				
JCIET: Program Management. Funding prior to FY07 is found in Project C2273 within this PE.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.024	0.000	0.115
RDT&E Articles Qty				
GBAD TRANSFORMATION: Program Management Services				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.350	0.110
RDT&E Articles Qty				
GBAD TRANSFORMATION: Product Development (CAC2S Integration)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.196	0.209	0.000
RDT&E Articles Qty				
GBAD TRANSFORMATION: Product Development (Remote Terminal Unit Replacement)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.045	0.000	0.000
RDT&E Articles Qty				
GBAD TRANSFORMATION: Integration development/test (PAS-13 Integration)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.470
RDT&E Articles Qty				
GBAD TRANSFORMATION: Support Costs (MCTSSA/MCCDC/Crane support)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.982
RDT&E Articles Qty				
GBAD TRANSFORMATION: Product Development (Multi Mission Missile)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	1.760
RDT&E Articles Qty				
GBAD TRANSFORMATION: Test and Evaluation (Remote Terminal Unit Replacement)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.275	0.000	0.030
RDT&E Articles Qty				
BTIS: Program Management Support. Funding is found in Project C2273 within the same P.E. in FY08 and beyond.				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications System	C2278 Air Defense Weapons Systems							
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		0.650	0.000	0.000					
RDT&E Articles Qty									
BTIS: Test and evaluation as part of the coalition Combat ID Adv Conecpt Tech Demo (CID ACTD) analysis. Funding is found in Project C2273 within the same P.E. in FY08 and beyond									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		1.145	0.000	0.000					
RDT&E Articles Qty									
BTIS: Engineer Design Model. Funding is found in Project C2273 within the same P.E. in FY08 and beyond.									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		0.080	0.000	0.000					
RDT&E Articles Qty									
BTIS: Life Cycle Cost Estimate. Funding is found in Project C2273 within the same P.E. in FY08 and beyond.									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000					
RDT&E Articles Qty									
MCTIS (BTID): Support software development.									
(U) Total \$		5.567	1.213	4.617					
(U) PROJECT CHANGE SUMMARY:									
		<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>					
(U) FY 2008 President's Budget:		6.399	1.859	4.587					
(U) Adjustments from the President's Budget:									
(U) Congressional Program Reductions			-0.623						
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings		-0.728							
(U) SBIR/STTR Transfer		-0.104	-0.015						
(U) Minor Affordability Adjustment			-0.008	0.030					
(U) FY 2009 President's Budget:		5.567	1.213	4.617					
CHANGE SUMMARY EXPLANATION:									
(U) Funding: See Above.									
(U) Schedule: Not Applicable									
(U) Technical: CLAWS program was suspended prior to fielding.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) PMC LINE BLI 300600 GBAD-T	6.801	1.975	12.569	11.625	14.443	14.746	15.088	Cont	Cont
(U) PMC LINE BLI 464000 BTID	0.895	0.000	6.370	9.117	7.408	8.117	8.229	0.000	40.136

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications System	PROJECT NUMBER AND NAME C2278 Air Defense Weapons Systems
(U) D. ACQUISITION STRATEGY:		
<p>(U) 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).</p> <p>(U) MCTIS (BTID): Economy of scales dictate a strategy that highly leverages Joint/coalition evolutionary development and acquisition efforts. The FY03- FY05 Coalition Combat ID Advanced Concept Technology Demonstration (CCID ACTD) completed in October 2005 resulted in a process that evaluated the Military Utility of a STANAG 4579 Compliant millimeter wave (mmW) Target Identification system and other technologies with the objective of identifying the best system to satisfy the Marine Corps requirement. FY04/05 efforts focused on unique system integration efforts and participation in the JFCOM sponsored operation Exercise Urgent Quest. The resultant analysis and action by the Army Marine Corps Board in March 2006 directed a Army led Component Program, which will compete for resources in the FY-08 Service POMs. As a Component lead activity the Marine Corps will resource unique Marine Corps integration and Programmatic requirements through the System Development and Demonstration (SDD) Phase of the Program. The designated Milestone Decision Authority is anticipated to be PEO IEWS and managed by PMTIMS at Fort Monmouth, NJ.</p>		
(U) E. MAJOR PERFORMERS		
CLAWS:		
FY07 Raytheon, Tewksbury, MA. Program closeout.		
GBAD Transformation:		
FY07 NSWC, Crane, IN. Technical Engineering Services.		
FY08 L3 San Diego, CA CAC2S Integration and RTU Replacement		
FY08 NSWC, Crane, IN. Technical Engineering Services		
FY09 TBD, Product Development (Multi Mission Missile)		
MCTIS:		
FY05-FY07 NSWC, Crane, IN Engineering Services.		
FY05-FY07 MarCorSysCom (PA&E) LCCE Effort. Contractor Techolote		
FY05-FY07 MarCorSysCom CEOSS support contract recompleted in Sep 04. Contractor Anteon		

Exhibit R-3 Cost Analysis						February 2008							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev			0206313M Marine Corps Communication Sys				C2278 Air Defense Weapons Systems						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Comp	Total Cost
CLAWS	RCP	Raytheon, Andover, MA	6.226									Cont	Cont
CLAWS	RCP	MCSC Quantico, VA	1.726									Cont	Cont
CLAWS	MIPR	White Sands, NM	4.320									Cont	Cont
CLAWS	WR	MCOTEA, Quantico, VA	2.348									Cont	Cont
CLAWS	MIPR	JSPO, Eglin, AFB, FL	5.053									Cont	Cont
CLAWS	MIPR	Pt. Mugu, CA	2.492									Cont	Cont
CLAWS	MIPR	PEO ASMD	1.906									Cont	Cont
CLAWS	MIPR	SHORAD	1.494									Cont	Cont
CLAWS	MIPR	Aberdeen, Maryland	0.142										
GBAD TRANSFORMATION	MIPR	WSMR, NM	0.138							1.270	1Q 09		
GBAD TRANSFORMATION	MIPR	Aberdeen, MD	0.047									0.000	0.047
GBAD TRANSFORMATION	WR	MCOTEA, Quantico, VA	0.000							0.550	1Q 09		
BTID (MCTIS)	WR	MCOTEA, Quantico, VA	0.160										
JCIET	RCP	MCSC, Quantico, VA	0.000			0.318	1Q 07	0.490	1Q 08	0.851	1Q 09	Cont	Cont
JCIET	WR	4th MAW	0.000			0.077	1Q 07	0.079	1Q 08	0.138	1Q 09	Cont	Cont
JCIET	RCP	MCSC, Quantico, VA	0.000			0.124	3Q 07						
JCIET	WR	NSWC, Crane, IN	0.000			0.036	1Q 07						
Subtotal T&E			26.052			0.555		0.569		2.809		Cont	Cont
Remarks:													
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Comp	Total Cost
CLAWS	WR	MCTSSA Cp Pendleton CA	0.264									Cont	Cont
CLAWS	WR	NSWC Crane, IN	1.064									Cont	Cont
CLAWS	MIPR	AMRDEC Redstone Arsenal, AL	2.075									Cont	Cont
CLAWS	WR	MCSC, Quantico, VA	0.922									Cont	Cont
GBAD TRANSFORMATION	WR	MCTSSA, Camp Pendleton, CA								0.091	1Q 09	Cont	Cont
GBAD TRANSFORMATION	WR	MCSC, Quantico, VA	0.031			0.069	1Q 07			0.024	1Q 09	Cont	Cont
BTID (MCTIS)	RCP	MCSC, Quantico, VA	3.211			0.500	2Q 07			0.030	4Q 09	Cont	Cont
BTID (MCTIS)	RCP	Tecolote, Goleta, CA	0.155			0.070	2Q 07					0.000	0.075
BTID (MCTIS)	RCP	CACI, Chantilly, VA	0.033										
Subtotal Management			7.755			0.639		0.000		0.145		Cont	Cont
Remarks:													
Total Costs			67.668			5.567		1.213		4.617		Cont	Cont

Project Schedule GBAD-T

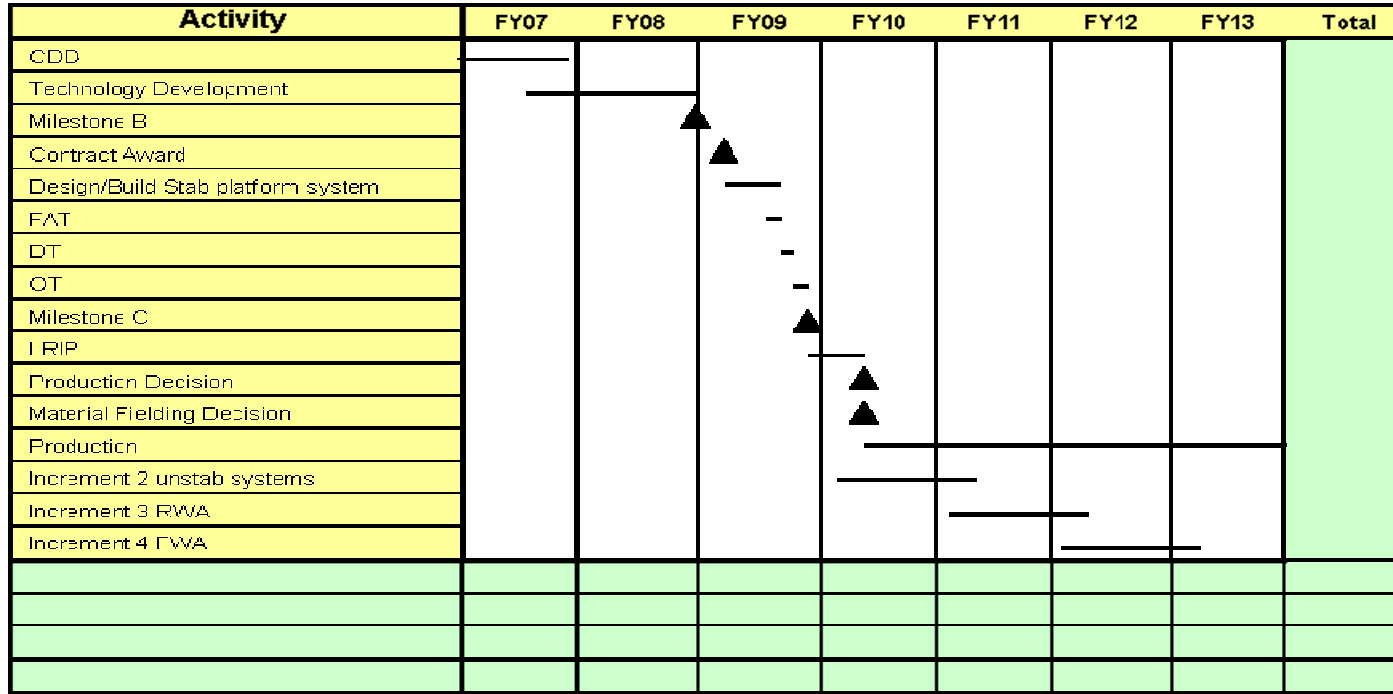


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(APPN, BLI #)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDTEN	1.265	0.559	3.437	2.837	3.303	3.384	3.460	Cont	Cont
(U) PMC LINE BLI	6.801	1.975	12.569	11.625	14.443	14.746	15.088	Cont	Cont
300600 GBAD-T									

GBAD TRANSFORMATION SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Advanced MANPADS (AAP)								
Milestone C/ Full Rate Production	1st Qtr							
Fielding Decision	2nd Qtr							
IOC	3rd Qtr							
FOC		3rd Qtr						
Advanced MANPADS Increment 1								
IOC					2nd Qtr			
FOC							1st Qtr	
Multi Mission Missile								
Technology Development				1st Qtr				

BTID Program Schedule



<u>Summary</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(APPN, BLI #,									
(U) RDTEN	2.150	0.000	0.030	0.000	0.000	0.000	0.000	0.000	5.542
(U) PMC LINE BLI	0.895	0.000	6.370	9.117	7.408	8.117	8.229	0.000	40.136
464000 BTID									

BTID SCHEDULE DETAIL	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone A	1st Qtr									
Milestone B					4th Qtr					
Milestone C						4th Qtr				
Production Decision							2nd Qtr			
Material Decision							2nd Qtr			

(U) FY 2009 President's Budget:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Systems Dev		0206313M Marine Corps Communications Systems				C2510 MAGTF CSSE & SE			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013	
Project Cost		35.230	34.927	15.233	11.891	27.078	35.693	21.684	
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>(U) The 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 contribute to the Combatant Commander's Common Operating Picture (COP) to support rapid accurate decision making.</p> <p>Marine Common Hardware Suite (MCHS) centralizes and standardizes management and acquisition of all Tactical common computer hardware and infrastructure by adopting the Joint Defense Information Infrastructure (DII) Common Operating Environment (COE) with consolidated Integrated Logistics Support. Ensures the environment remains in synchronization with computer hardware technology hardware improvements. The mission supports the Commandant's Planning Guidance and the Marine Corps Master Plan.</p> <p>Global Combat Support System-Marine Corps (GCSS-MC) is the physical implementation of the enterprise information technology architecture designed to support both improved and enhanced MAGTF Combat Service Support functions and MAGTF Commander and Combatant Commander/Joint Task Force (JTF) combat support information requirements. As such, GCSS-MC is not a single system but a portfolio of information technology capabilities tied to discrete performance measures that support required combat service support mission objectives. The Integrated Logistics Concept (ILC) Analysis provided the foundation for logistics transformation within the Marine Corps and established a compliance response to Defense Reform Initiative Directive (DRID) 54, directing that logistics transformation be accomplished throughout the service components. Immediately following the guidance of DRID 54, the GCSS-Capstone Requirements Document (CRD) was approved by the JROC. GCSS-MC is the IT solution to accomplish the transformation and GCSS objectives. GCSS-MC is an integrated set of capabilities. The capabilities will be implemented within a bottoms-up (programs of record) approach within a portfolio of systems. The portfolio of systems contributes to the primary capabilities of GCSS-MC. External portfolios will also contribute secondary to GCSS-MC capabilities through integration strategies. Primary capabilities are supply chain and combat service support oriented.</p> <p>Secondary capabilities and aspects of some of the above are achieved through integration with the Manpower, Acquisition and other portfolios as well as integration with Joint and other Service systems. This integration will migrate the current Shared Data Environment (SDE), Total Force Structure Management System (TFSMS), and Automated Information Technology (AIT) to an integrated Detailed Planning and Current Operations System over the long-term. The capabilities are to be matched against systems remaining after the system realignment and categorization process and then assessed for compliance, alignment and cost effectiveness versus readily available COTS and GOTS products. The GCSS-MC portfolio seeks to most effectively achieve the mandated requirements through provisioning of the capabilities not extending specific systems.</p> <p>GCSS-MC is the IT solution for logistics transformation being developed by the Integrated Logistics Center (ILC). The ILC Analysis was completed during an 18-week engagement beginning in late October 1998 to early February 1999. This analysis concluded with a high-level Business Case Analysis (BCA). The BCA concluded conservatively that accomplishing the ILC actions (including re-engineered IT among others) would reduce Marine Corps inventories and reduce support requirements allowing the shifting of (2000) Marines from logistics to the battlefield by 2004 (given the current timelines). ILC action will also result in: lighter, more flexible and easier to move MAGTF; Higher Combat Service Support (CSS) responsiveness: reduced stocks and CSS footprint inside the MAGTF; Less equipment for Warfighter to manage; Rapidly scaleable and deployable CSS units that have worldwide inventory visibility. Access to more reliable, accurate and actionable information that clarifies the logistics situation awareness; near real time visibility of requests for products and services allowing higher confidence and trust in logistics; and the ability to operate with greater certainty. The resulting capability is referred to as a shared data environment.</p>									

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Systems Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Systems	PROJECT NUMBER AND NAME C2510 MAGTF CSSE & SE
<p>Transportation Systems Portfolio (formerly known as TC-AIMS II) funding supports the development, refinement, fielding, maintenance and sustainment of two Joint deployment programs—Integrated Computerized Deployment System (ICODES) and Aircraft Air Load Planning System (AALPS); Three Joint Sustainment programs - Cargo Movement Operations System (CMOS), Automated Manifest System - Tactical (AMS-TAC), and Global Air Transportation and Execution System (GATES); and One Bridging Technology Program Warehouse - To - War Fighter (W2W). TSP also supports software maintenance and sustainment of our existing legacy systems—MAGTF Deployment Support System II (MDSS II).</p> <ul style="list-style-type: none"> - Integrated Computerized Deployment System (ICODES). Ship load planning software application. - Automated Air Load Planning System (AALPS). Allows military air load planners to quickly and efficiently estimate airlift requirements, plan force packages, and modify aircraft loads. - Cargo Movement Operations System (CMOS) A combat support system that automates and streamlines installation level cargo movement processes for both peacetime and deployment/contingency cargo Workstations in ITO/TMO functional areas support one-time data capture for the preparation of documentation for all modes of shipment. - Automated Manifest System – Tactical (AMS-TAC). Transportation tool that utilizes AIT technologies to facilitate In-transit Visibility/ Total Asset Visibility (ITV/TAV) for DLA, US Army, USN, and USMC. - Global Air Transportation and Execution System (GATES) - provides automated cargo and passenger processing, the reporting of in-transit visibility data to the Global Transportation Network and billing to Air Mobility Command's financial management directorate. - Warehouse - To - War Fighter (W2W). Provides In-transit Visibility (ITV) for the last tactical mile of secondary repair parts. W2W is a Bridge System that provides near real-time capture of cargo movement/location through a feed to Battle Command Control System (BCS3) and provides the AS-1 transactions to the Supply Management Unit . - MDSS II (MAGTF Deployment Support System II) allows planners at the unit level to rapidly create lists of deploying equipment and personnel in response to taskings received from higher headquarters. Unit planners can compare on-hand assets to requirements and assign equipment and personnel to specific carriers for both sea deployments and air embarkations. It also provides the Marine Air Ground Task Force (MAGTF) Commander with the automated ability to plan, coordinate, manage and execute the MAGTF operations relevant to various phases of transportation. <p>Joint Forces Requirement Generation II (JFRG II) JFRG II is a GCCS segmented software application designed to provide the Department of Defense (DoD) with a Joint Services, state-of-the-art, integrated, and deployable Automated Information System (AIS) that supports strategic force movements. The JFRG II software application is based on the Marine Corps' Marine Air-Ground Task Force II (MAGTF II) software application. MAGTF II has been in existence since 1991 and is used for task planning, Time Phased Force Deployment Data (TPFDD) editing, and Joint Operational Planning and Execution System (JOPES) interfacing. JFRG II assists in the notional planning process, permits the assignment of actual units to fill notional slots, and generates TPFDD for use in executing Joint Operation Plans. JFRG II provides rapid force list creation and interfaces with the Transportation Coordinators' Automated Information for Movement System (TC-AIMS II) and JOPES. It includes a Joint Deployment Data Library (JDDL) containing reference data required to produce a JOPES-compatible TPFDD extract file. JFRG II also contains modules that include the Unit Line Number (ULN) Summary for rapid force list creation and the Force Module Summary for rapid ULN grouping. JFRG II can generate standard, executive, and ad hoc reports, perform database queries, and export or import TC-AIMS II, MDSS II and JOPES. JFRG II operates and functions in either a classified or unclassified environment. JFRG II provides Joint Services with an automated tool supporting an interim capability to meet the Chairman, Joint Chiefs of Staff (CJCS) 72-hour TPFDD generation requirement.</p> <p>Public Key Infrastructure (PKI) provides security objects and mechanisms used by PK-enabled systems and applications. The primary products of PKI are public key certificates and other certified objects used in conjunction with public key certificates (e.g. CA public key certificates, subscriber public key certificates, and CRLs). In addition to public key certificates, PKI provides on-line services (e.g.; on-line certificate status checking), and supplies authenticated attributes in public key certificates and / or attribute certificates. PKI is one of a number of security solutions used to protect information and provide attributes to enable to critical resources in the GIG, and is used concurrently with other solutions (e.g.; in-line network encryptores [INEs] 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.</p> <p>business processes within the Marine Corps. Program Office Vision: to be a supporting asset to the operation forces and program managers in the implementation of AIT solutions. This is accomplished by: 1. Maintaining a viable AIT Lab, with subject matter experts, to stay abreast of emerging technologies, test new equipment, and perform integration analysis and testing. 2. Establishing the Program Office as the central procuring activity for AIT hardware for the Marine Corps, and 3. Managing the USMC portion of the Radio Frequency Intransit Visibility (RF-ITV) fixed infrastructure. The AIT Program Office does the following to support its mission and vision: 1. Manages the USMC Radio Frequency Identification Devices In-transit Visibility (RFID ITV) system. This system consists of fixed RFID interrogators mounted at various bases and stations throughout the Marine Corps. The interrogators collect information from RFID tags and pass that information to the National ITV System. 2. The AIT Program Office is the central procuring office for AIT hardware in the Marine Corps. This will enable the Marine Corps to standardize hardware (such as bar-code scanners or passive RFID interrogators and across the Marine Corps. 3. The AIT Program Office also conducts research and development of new technologies and assists in technology insertion into applications. This R&D capability enhances the Marine Corps' capability to quickly assimilate emerging technologies and leverage them to support more efficient, accurate business processes and data capture.</p>		

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Systems Dev	0206313M Marine Corps Communications Systems	C2510 MAGTF CSSE & SE		
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.890	0.778	1.014
RDT&E Articles Qty				
MCHS: Environmental testing of CISC/RISC workstations.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.460	0.344	0.565
RDT&E Articles Qty				
MCHS: Environmental testing of CISC/RISC servers.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		31.702	30.160	6.366
RDT&E Articles Qty				
GCSS-MC Logistics Chain Management: Program/Engineering support, analysis, integration, development, testing, and enhancements for blocks one (1) through three (3).				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.815	0.543	0.600
RDT&E Articles Qty				
Transportation System Portfolio : Supports the development, refinement, fielding, maintenance and sustainment of two Joint deployment programs—Integrated Computerized Deployment System (ICODES) and Aircraft Air Load Planning System (AALPS); Three Joint S				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.344	0.882	1.714
RDT&E Articles Qty				
Joint Forces Requirement Generation II (JFRG II) : Funds are for software development and integration into GCCS 4.X and legacy systems from all services to pass deployment data to GCCS.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	2.121	1.873
RDT&E Articles Qty				
Public Key Infrastructure (PKI): Based on an ASD ADM, DoD PKI development will be conducted through a series of block upgrades. Transition to this approach commences in FY 06 with the initiation of Increment 1. Increment 1 will contain two enhancement c				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.019	0.099	3.101
RDT&E Articles Qty				
AIT: Development of software with AIT capabilities in conjunction with the DOD AIT implementation plan.				
(U) Total \$		35.230	34.927	15.233

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008								
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME								
RDT&E, N /BA-7 Operational Systems Dev		0206313M Marine Corps Communications Systems				C2510 MAGTF CSSE & SE								
(U) PROJECT CHANGE SUMMARY:						<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>						
(U) FY 2008 President's Budget:						35.178	36.647	38.841						
(U) Adjustments from the President's Budget:														
(U) Congressional Program Reductions							-1.072							
(U) Congressional Rescissions														
(U) Congressional Increases														
(U) Reprogrammings						0.901	0.000	-23.648						
(U) SBIR/STTR Transfer						-0.849	-0.422							
(U) Minor Affordability Adjustments							-0.226	0.040						
(U) FY 2009 President's Budget:						35.230	34.927	15.233						
CHANGE SUMMARY EXPLANATION:														
(U) Funding:														
(U) Schedule:														
(U) Technical:														
(U) C. OTHER PROGRAM FUNDING SUMMARY:														
<u>Line Item No. & Name</u>						<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
PMC BLI 463000 CCR: MCHS Svrs/Wkstns						70.079	85.304	95.074	84.485	50.976	46.213	65.460	Cont	Cont
PMC BLI 461700 COMBAT SPT SYS: GCSS						13.399	0.000	18.271	8.131	5.520	2.789	2.115	Cont	Cont
PMC BLI 463500 COMM & ELEC INFRA SPT: PKI						0.347	0.720	0.802	0.969	1.140	1.340	1.532	Cont	Cont
PMC BLI 461700 COMBAT SPT SYS: AIT						2.331	14.358	12.470	14.167	16.857	19.113	19.069	Cont	Cont
PMC BLI 461700 COMBAT SPT SYS: TSP						1.674	0.000	0.000	0.000	0.000	0.000	0.000	Cont	Cont

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Systems Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communications Systems	PROJECT NUMBER AND NAME C2510 MAGTF CSSE & SE
<p>(U) Related RDT&E: Not Applicable.</p> <p>(U) D. ACQUISITION STRATEGY:</p> <p>Marine Corps Hardware Suites (MCHS): To ensure computer hardware in the operating forces keeps pace with industry computer hardware technical improvements.</p> <p>GCSS-MC: Is a portfolio of systems. The approach is to enable Marine Corps Logistics Modernization through two main programs, Logistics Chain Management (LCM) and Logistics Command and Control (LOG C2). LOG C2 will end in FY06. GCSS-MC will pursue an Evolutionary Acquisition (EA) strategy in order to field operationally suitable and supportable capabilities in the shortest time possible. 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 fielded systems' strengths and weaknesses. In addition - quicker fielding, an EA approach is particularly well suited to software intensive programs and offers these benefits: rapidly delivers an initial capability with the explicit intent of delivering continuously improved capability in the future and reduces "cycle time" from identification of emergent user requirements, priorities and fielding. The GCSS-MC acquisition strategy for each program will be to deliver capabilities in Blocks. Each Block is divided into two main phases: Planning/Blueprinting and Realization/Transition. More substantial software improvement/system upgrades will be fielded with each Block, as required and prioritized by the user community. Blocks will include emergent user priorities, advanced technology improvements and expanded functionality. Each Block will repeat the complete acquisition program cycle starting with Milestone (MS) A for the first Block for LCM and MS B thereafter going through a MS C Full Rate Production Decision Review (FRPDR) for each Block. LCM is an ACAT IAM program. LCM has passed MS A. The tentative date are for LCM MS B is during the 3rd quarter FY07 and MS C during the 4th quarter FY08, with fielding to begin in the 4th quarter FY08 with continued block upgrades thereafter. FOC is validated when all Marine Corps ground components are using capabilities provided by GCSS-MC LCM to include formal schools, and selected Marine Reserve Components and the following systems are no longer used operationally: SASSY, ATLASS I, MIMMS, and PC MIMMS.</p> <p>Transportation Systems Portfolio: Develop, refine, field, maintain and sustain of two Joint deployment programs—Integrated Computerized Deployment System (ICODES) and Aircraft Air Load Planning System (AALPS); Three Joint Sustainment programs - Cargo Movement Operations System (CMOS), Automated Manifest System - Tactical (AMS-TAC), and Global Air Transportation and Execution System (GATES); and One Bridging Technology Program Warehouse - To - War Fighter (W2W). Support software maintenance and sustainment of our existing legacy systems—MAGTF Deployment Support System II (MDSS II). Prepare applications and programs for GCSS-MC Integration.</p> <p>Joint Forces Requirement Generation II (JFRG II): JFRG II develops requirements provided by all services as it becomes necessary. Software is tested for functionality with service users then passed on to DISA for security & interoperability testing and release as a GCCS mission application. This is conducted based on a 6-month release schedule of GCCS, with a 6-month lead time for each JFRG II version release.</p> <p>Public Key Infrastructure (PKI): Is a DoD ACAT IAM Program. At the service level, the USMC PKI program has been run as an Advanced Acquisition Plan (AAP). Based on an ASD ADM, DoD PKI development will be conducted through a series of block upgrades. Transition to this approach commences in FY6 with the initiation of Increment 1. This increment will contain two enhancement categories: functional enhancements, changes that result in increased capability or functionality for the PKI and assurance enhancements, changes that result in increased levels of security and assurance and that affects the mitigation of identified risks with PKI. There are 13 functional and five (5) assurance enhancements. Additionally, PKI functionally will be expanded to the SIPERNet.</p>		

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Systems Dev	0206313M Marine Corps Communications Systems	C2510 MAGTF CSSE & SE
<p>(U) E. MAJOR PERFORMERS:</p> <p>MCCHS:</p> <p>FY07 - SPAWAR, Charleston, SC Environmental testing of servers and workstations Jan 07 FY08 - SPAWAR, Charleston, SC Environmental testing of servers and workstations Jan 08 FY09 - SPAWAR, Charleston, SC Environmental testing of servers and workstations Jan 09</p> <p>GCSS:</p> <p>FY07 - Oracle, Reston, VA - Software, Training and Consulting; Northrop Grumman, Stafford, Va - Consulting and Engineering Support; SI Nov 06 Marine Corps Operational Testing & Evaluation Activity (MCOTEA) - Testing & Evaluation - Jan 07 FY08 - Oracle, Reston, VA - Software, Training and Consulting; Northrop Grumman, Stafford, Va - Consulting and Engineering Support; SI Oct 07; Marine Corps Operational Testing & Evaluation Activity (MCOTEA) - Testing & Evaluation - Oct 07 FY09 - Oracle, Reston, VA - Software, Training and Consulting; Northrop Grumman, Stafford, Va - Consulting and Engineering Support; SI Oct 08; Marine Corps Operational Testing & Evaluation Activity (MCOTEA) - Testing & Evaluation - Oct 08</p> <p>Transportation Systems Portfolio:</p> <p>FY07 - SAVI Technology, Global Services Corp, (MDSS II/ICODES), Army (AALPS), SDDC (ICODES), ANTEON (AMS-TAC and CMOS) Dec 06 FY08 - SAVI Technology, Global Services Corp, (MDSS II/ICODES), Army (AALPS), SDDC (ICODES), ANTEON (AMS-TAC and CMOS) Dec 07 FY09 - SAVI Technology, Global Services Corp, (MDSS II/ICODES), Army (AALPS), SDDC (ICODES), ANTEON (AMS-TAC and CMOS) Dec 08</p> <p>Joint Forces Requirement Generation II (JFRG II) :</p> <p>FY07 TBD (Software Developers) Oct 06 FY08 TBD (Software Developers) Oct 07 FY09 TBD (Software Developers) Oct 08</p> <p>Public Key Infrastructure (PKI):</p> <p>FY08 - DoD PKI PMO, Joint Interoperability Test Command, Common Criteria Test Laboratories, Independent contractor test & development laboratories Oct 07 FY09 - DoD PKI PMO, Joint Interoperability Test Command, Common Criteria Test Laboratories, Independent contractor test & development laboratories Oct 08</p> <p>Automated Information Technology (AIT):</p> <p>FY07 - Contracting information will be determined at a later date FY08 - Contracting information will be determined at a later date FY09 - Contracting information will be determined at a later date</p>		

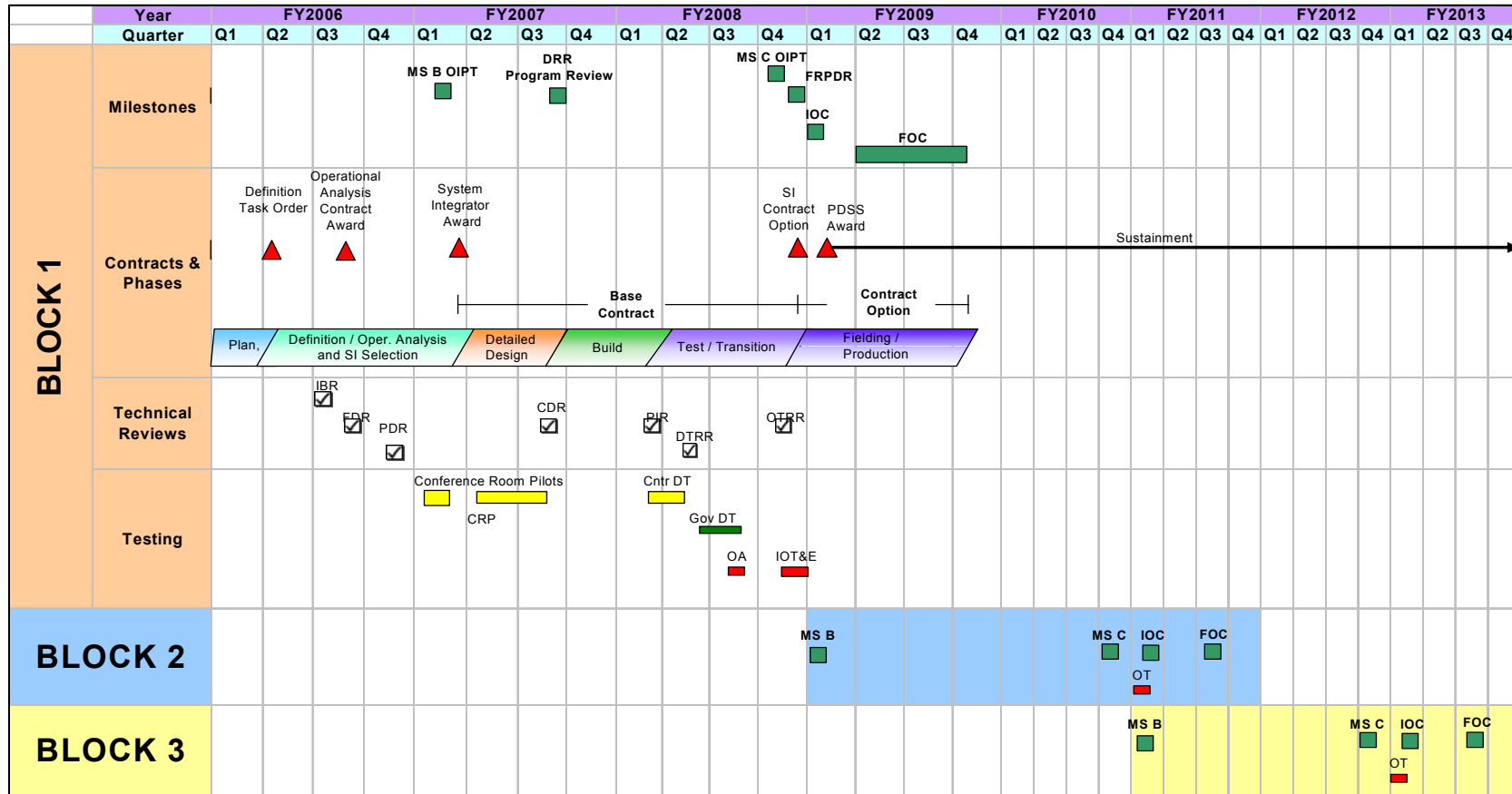
Exhibit R-3 Cost Analysis							DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev				0206313M Marine Corps Communications Systems				C2510 MAGTF CSSE SE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Transportation System Portfolio	C/FFP	MCSC, Quantico, VA	0.715			0.438	12/06	0.136	12/07	0.149	12/08	Cont	Cont	
GCSS Logistics Chain Man-Block 1	C/FFP	Oracle USA, Reston VA	25.265			29.879	11/06	22.460	10/07				77.604	
GCSS Logistics Chain Man-Block 2	C/FFP	TBD	0.000							3.356	10/08	Cont	Cont	
GCSS Log C2 Systems	C/FFP	EDO Corp	4.066										4.066	
JFRG II	RCP	MCSC, Quantico, VA	1.443			0.200	10/06	0.882	06/08	0.500	10/08	Cont	Cont	
PKI	FFP	MCSC, Quantico, VA	0.000					2.121	TBD	1.873	TBD	Cont	Cont	
AIT	FFP	TBD	0.000							1.000	12/08	Cont	Cont	
Subtotal Product Dev			31.489			30.517		25.599		6.878				
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
GCSS Logistics Chain Man	C/FFP	IMPACT RES< Bethesda MD	0.000			0.143	02/07	0.143	01/08	0.143	01/09	Cont	Cont	
GCSS Logistics Chain Man	C/FFP	SMARTRONIX, California, MD	0.000			0.200	06/07	0.200	01/08	0.200	01/09	Cont	Cont	
AIT	TBD	TBD	0.000			0.019	01/07	0.099	01/08		01/09	Cont	Cont	
Subtotal Support			0.000			0.362		0.442		0.343				
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
MCHS	WR	SPAWAR, Charleston SC	4.219			1.350	01/07	1.122	01/08	1.579	01/09	Cont	Cont	
Transportation System Portfolio	MIPR	SDDC	0.505			1.229	01/07	0.136	12/07	0.150	12/08	Cont	Cont	
Transportation System Portfolio	MIPR	ARMY	0.350					0.136	12/07	0.150	12/08	Cont	Cont	
Transportation System Portfolio	RCP	ANTEON	0.271			0.148	12/06	0.135	12/07	0.151	12/08	Cont	Cont	
GCSS Logistics Chain Man	WR	MCOTEA, Quantico,VA	6.381			0.300	01/07	6.157	10/07	1.467	10/08	Cont	Cont	
GCSS Log C2 Systems	WR	MCOTEA, Quantico,VA	1.436										1.436	
AIT	RCP	TBD								1.101	12/08	cont	Cont	
JFRG II	RCP	MCSC, Quantico, VA				0.144				1.214	01/09	Cont	Cont	
Subtotal T&E			13.162			3.171		7.686		5.812		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
AIT	FFP	TBD								1.000	12/08	Cont	Cont	
GCSS Logistics Chain Man	C/FFP	LOGIS-TECH, Manassas VA	2.400			1.180	02/07	1.200	10/07	1.200	10/08	Cont	Cont	
GCSS Log C2 Systems	C/FFP	Northrop, Stafford VA	0.478										0.478	
Subtotal Management			2.878			1.180		1.200		2.200		Cont	Cont	
Remarks:														
Total Cost						35.230		34.927		15.233		Cont	Cont	

UNCLASSIFIED

DATE: **February 2008**

Exhibit R-4-4a Project Schedule/Detail

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communications Systems	C2510 GCSS-MC Modernization



Program Funding Summary
(APPN, BLI #, NOMEN)

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Program</u>
(U) RDT&E,N	31.702	30.160	6.366	4.107	19.376	27.099	14.320	Cont	Cont
(U) PMC BLI 461700 COMBAT SPT SYS: GCSS	13.399	0.000	18.271	8.131	5.520	2.789	2.115	Cont	Cont

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Exhibit R-4-4a Project Schedule/Detail		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communications Systems	C2510 GCSS-MC Modernization

GCSS-MC Logistics Chain Management (LCM)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
LCM Block 1 Milestone B	1st Qtr						
LCM Block 1 Milestone C		4th Qtr					
LCM Block 1 IOT&E		4th Qtr					
LCM Block 1 IOC			1st Qtr				
LCM Block 1 FOC			2Q - 4Q				
LCM Block 2 Milestone B			1st Qtr				
LCM Block 2 Milestone C				4th Qtr			
LCM Block 2 OT					1st Qtr		
LCM Block 2 IOC					1st Qtr		
LCM Block 2 FOC					3rd Qtr		
LCM Block 3 Milestone B					1st Qtr		
LCM Block 3 Milestone C						4th Qtr	
LCM Block 3 OT							1st Qtr
LCM Block 3 IOC							1st Qtr
LCM Block 3 FOC							3rd Qtr

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 OPERATIONAL SYS DEV			0206313M Marine Corps Communication Systems			C3099 RADAR SYSTEMS			
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost			46.201	102.428	103.725	69.171	84.690	38.742	34.354
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>The Aviation Radar (AN/TPS-59(V)3) is a national asset. It is the only fielded ground-based sensor which can detect and track long range Air Breathing Targets (ABT) within 300 nautical miles, as well as Tactical Ballistic Missiles (TBM) at ranges of 400 nautical miles for 360 degrees and up to one million feet in elevation. Highly Expeditionary Long Range Air Surveillance Radar (HELRASR) the modernization initiative to replace the AN-TPS 59 Radar was not funded in POM 08. The Program Office intends to address Diminishing Manufacturing Sources (DMS) issues by continuing with the Post Production Support Program (PPSP) and they will also continue R&D efforts that will modernize the radar with advanced technology and performance capabilities.</p> <p>Ground Weapons Locating Radar (GWL R) is an up-grade to the current AN/TPQ-46A radar. The system will acquire threat indirect fire weapons including mortars, artillery, rocket and missile systems at greater ranges than the current radar. The principle function of the system will be to detect, track, classify and accurately determine the origin of enemy weapon platforms and forward the location data to the counterfire element. The upgrades will focus on achievement of greater detection ranges as well as increased communication, security, and system availability.</p> <p>Ground/Air Task Oriented Radar (G/ATOR) (formerly known as the Multi-Role Radar System (MRRS)): G/ATOR is an Evolutionary Acquisition / Incremental Development Program designed to reduce the Total Ownership Costs associated with the four increments/missions. Increment I will fill the Short Range Air Defense (SHORAD) mission and medium range Air Surveillance mission. Increment II will fill the Ground Weapons Locating and Counter Fire / Counter Battery missions. Increment III will develop Tactical Enhancements to Increment I's design. Increment IV will fill the Air Traffic Control missions. Programmatically, MRRS & GWL R merged into a single requirement/capability (G/ATOR) as the GWL R Capability Development Document (CDD) was merged into the MRRS Operational Requirement Document (ORD) as Annex A. System Development and Demonstration (SDD) for Increment I began in the 4th Quarter of FY 05 and is scheduled to be completed in the 2nd Quarter of FY 10. IOT&E for Increment I is scheduled for the 2nd and 3rd Quarters of FY 11.</p> <p>The Short/Medium Range Air Defense Radar AN/TPS-63B 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(V)3 three-dimensional, long-range, air surveillance radar system. The Short/Medium Range Air Defense Radar will develop engineering change proposals related to improved system performance with the specific purpose of meeting increased fleet operational requirements. AN/TPS-63 modifications and system improvements will be researched and analyzed to determine which complement existing components to preclude an expensive USMC investment in solid-state radar technology.</p>									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)					FY 2007	FY 2008	FY 2009		
Accomplishment/Effort Subtotal Cost					5.034	3.294	14.943		
RDT&E Articles Qty									
AN/TPS-59 (Sustainment): Develop Engineering Change Proposals for software improvements and Diminishing Manufacturing Sources issues.									
COST (\$ in Millions)					FY 2007	FY 2008	FY 2009		
Accomplishment/Effort Subtotal Cost					0.750	0.750	0.750		
RDT&E Articles Qty									
AN/TPS-59 (Sustainment): Contractor service support.									
COST (\$ in Millions)					FY 2007	FY 2008	FY 2009		
Accomplishment/Effort Subtotal Cost					0.000	0.000	0.000		
RDT&E Articles Qty									
AN/TPS-59 HELRASR SUP BALLISTIC: Modernization Develop Engineering, Technical Development.									

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTEMS			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.052	0.000	0.000	
RDT&E Articles Qty					
HELRSR (Modernization): Perform Risk Mitigation analysis.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.294	0.000	0.000	
RDT&E Articles Qty					
HELRSR (Modernization): Develop Life Cycle Cost Estimate, System Test Plan.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	
RDT&E Articles Qty					
HELRSR (Modernization): Acquisition Support.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	
RDT&E Articles Qty					
HELRSR (Modernization): System development and demonstration for Risk Mitigation.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.774	0.000	0.000	
RDT&E Articles Qty					
GWLR: Radar Processor Redesign.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		1.454	0.000	0.000	
RDT&E Articles Qty					
GWLR: AN/TPQ-46A Recap/Upgrade.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.050	0.050	0.050	
RDT&E Articles Qty					
GWLR: Program office management/travel.					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	
RDT&E Articles Qty					
GWLR: Contractor Technical, Programmatic, Engineering and Logistics Support					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.000	0.808	0.763	
RDT&E Articles Qty					
GWLR: Software/Hardware ECP's					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.000	0.907	0.967	
RDT&E Articles Qty					
GWLR: System Diminishing Manufacturing Sources (DMS)					

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTEMS			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		32.657	88.333	65.897	
RDT&E Articles Qty					
G/ATOR: Contractor Technical, Development Engineering/EDM					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.000	0.00	12.000	
RDT&E Articles Qty					
G/ATOR: Test and Evaluation					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.625	0.625	0.875	
RDT&E Articles Qty					
G/ATOR: In-house Program Management (Govt Salaries)					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.150	0.200	0.225	
RDT&E Articles Qty					
G/ATOR: Program Office Management & Travel Costs					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.930	0.600	0.600	
RDT&E Articles Qty					
G/ATOR: Gov't Tech Support					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.225	0.225	0.000	
RDT&E Articles Qty					
G/ATOR: Government Furnished Equipment (GFE)					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		2.614	6.400	6.400	
RDT&E Articles Qty					
G/ATOR: Engineering, Management, & Logistics Support					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.350	0.116	0.135	
RDT&E Articles Qty					
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Program Management Support					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.242	0.120	0.120	
RDT&E Articles Qty					
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Engineering and technical support					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	
RDT&E Articles Qty					
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Feasibility study for Power Distribution					
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	
RDT&E Articles Qty					
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Feasibility study for the Frequency Generator					
(U) Total \$ (C3099 Radar Systems)		46.201	102.428	103.725	

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EXHIBIT R-2a, RDT&E Project Justification

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 OPERATIONAL SYS DEV	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication Systems	PROJECT NUMBER AND NAME C3099 RADAR SYSTEMS
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(U) PROJECT CHANGE SUMMARY:	FY 2007	FY 2008	FY 2009
(U) FY 2008 President's Budget:	55.527	112.005	92.552
 (U) Adjustments from the President's Budget:			
(U) Congressional Reductions		-7.246	
(U) Congressional Rescissions			
(U) Congressional Undistributed Rescissions/Reductions		-0.724	
(U) Congressional Increases			
(U) Reprogrammings	-7.975		11.173
(U) SBIR/STTR Transfer	-1.351	-1.607	
(U) Minor Affordability Adjustment			
(U) FY 2009 President's Budget:	46.201	102.428	103.725

CHANGE SUMMARY EXPLANATION:

- (U) Funding: See Above.
- (U) Schedule: Not Applicable.
- (U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Comp</u>	<u>Total Cost</u>
(U) PMC, BLI#465000, AN/TPS-59 Sustainment	41.234	5.955	12.506	6.952	7.380	2.929	3.012	Cont	Cont
(U) PMC, BLI#465000, Grnd Weapons Locating Radar	9.650	123.425	2.149	2.566	2.868	2.163	2.160	Cont	Cont
(U) PMC, BLI#465000, Short/Medium Range Radar	4.287	0.451	0.421	0.410	0.342	0.702	0.561	Cont	Cont
(U) PMC, BLI#465000, Gmd/Air Task Oriented Radar	0.000	0.000	17.440	23.973	131.681	149.534	155.243	Cont	Cont

(U) Related RDT&E:

(U) PE 0206313M (Marine Corps Communication Systems) PROJECT C9639A PROJECT C9860A

(U) D. ACQUISITION STRATEGY:

(U) AN/TPS-59 Radar Sustainment: The Program Office intends to address Diminishing Manufacturing Sources (DMS) issues by continuing with the Post Production Support Program (PPSP) and they will also continue R&D efforts that will modernize the radar with advanced technology and performance capabilities. A Business Case Analysis (BCA) was completed which incorporated two independent obsolescence/DMS studies that identified critical components which will severely impact the system performance and readiness. Based upon the BCA, the program office intends to sustain systems. The refurbishing and sustaining of systems will extend system life cycle and lower the radars' overall operating cost and maintain the supporting establishment.

(U) Ground Weapons Locating Radar (GWLR): GWLR is a sustainment and upgrade program for the current AN/TPQ-46A radar. The upgrade will be accomplished through a series of engineering change proposals (antenna transceiver group re-cap, Radar Processor re-host, and the lightweight computer unit replacement). Engineering Change Proposals (ECPs) will be conducted by the equipment Primary Inventory Control Agent (PICA) (Army PM Firefinder) with USMC participation. Joint procurement of hardware will realize economy of scale savings and ensure common configuration. Army and Marine Corps Depot facilities will be utilized to perform hardware installation. Purpose of the upgrade is to enhance performance and availability.

(U) The Ground/Air Task Oriented Radar (G/ATOR), formerly known as Multi-Role Radar System (MRRS), is an Evolutionary Acquisition / Incremental Development Program. G/ATOR is comprised of four Increments which will fill the MRRS and GWLR requirements. Four legacy systems (TPS-63, MPQ-62, TPS-73/79 and TPQ-46A) will be replaced by a single material design that offers an opportunity to reduce development cost and combine training & logistics assets. MRRS Authorized Acquisition Objective (AAO) is 41 systems replacing the TPS-63, MPQ-62 and TPS-73/79 systems as well as additional systems in support of the SHORAD mission (CLAWS weapon cue); GWLR's AAO is 22 systems, a one for one replacement of the TPQ-46A. The Increment System Development & Demonstration (SDD) phases are staggered to allow for technology insertion due to obsolescence and technology growth issues. Early Increment I builds will be back fitted to current then year technology as required. As they become available, Increment III Tactical Enhancements will parallel field to then year Increment I builds and back fitted to earlier builds. Two Engineering Development Models (EDM) will be developed during the Increment I and Increment II SDD phases and flowed down to support later increments.

(U) SHORT/MEDIUM RANGE AIR DEFENSE RADAR This effort requires R&D funds to develop modifications to keep the Short/Medium Range Air Defense Radar System's electronics and hardware viable and safe, providing sustainment for the fielded system. Efforts are underway to award a sole source Engineering Services and procurement contract with the AN/TPS-63's Original Equipment Manufacturer, Northrop Grumman. The main focus of the contract will be the development and procurement of replacement sub-assemblies currently identified as containing obsolete components, as well as those assemblies experiencing reliability, maintainability and safety related issues.

(U) E. MAJOR PERFORMERS:

(U) Lockheed Martin Corp, Syracuse, NY. Contract awarded in 2005 for AN/TPS-59 to develop ECPs for software improvements and DMS issues. FY05, FY06, FY07 and FY08 project contract with LMC in Jan of each year to develop ECPs for software improvements.

(U) Sensis Corp was awarded the contract in 2006 to support risk mitigation efforts for the 3DELRR requirement (AN/TPS-59 system development risk mitigation).

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 OPERATIONAL SYS DEV	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication Systems	PROJECT NUMBER AND NAME C3099 RADAR SYSTEMS	
<small>(U) G/ATOR contract was awarded in March 2007. Northrop Grumman Corporation is the Prime Contractor and Sensis is the major subcontractor.</small>			

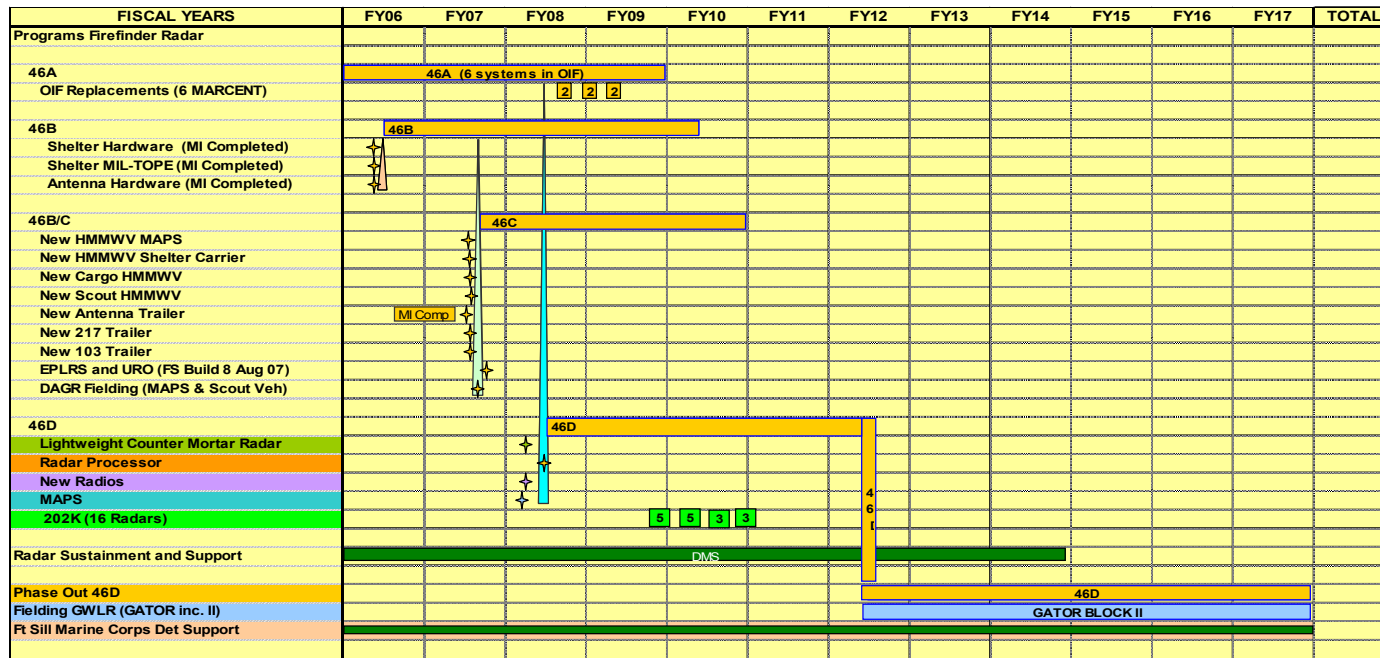
Exhibit R-3 Cost Analysis										DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 OPERATIONAL SYS DEV				0206313M Marine Corps Communication Systems				C3099 RADAR SYSTEMS						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
AN/TPS-59 Sustainment	C/CPFF	Lockheed, Syracuse NY	10.547			5.034	01/07	3.294	01/08	4.419	01/09	Cont	Cont	
AN/TPS-59 Sustainment	C/CPFF	Sensis, Syracuse NY	0.000			0.000	NA	0.000	NA	10.524	01/07	Cont	Cont	
AN/TPS-59 HELRASR	C/CPFF	Sensis, Syracuse NY	4.780			0.000	NA	0.000	NA	0.000	NA		2.820	
AN/TPS-59 HELRASR	C/CPFF	FT MONMOUTH NJ	0.100			0.000	NA	0.000	NA	0.000	NA		0.150	
SHORT/MEDIUM RANGE	RCP	Northrop Grumman	1.362			0.000	N/A	0.000	N/A	0.000	N/A	Cont	Cont	
G/ATOR	CPIF	Northrop Grumman	21.676			32.657	03/07	88.333	11/07	66.074	11/08	Cont	Cont	
G/ATOR (GFE)	MIPR	FT MONMOUTH NJ	0.800			0.000	N/A	0.200	11/07	0.000	N/A	Cont	Cont	
Subtotal Product Dev			39.265			37.691		91.827		81.017		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
GWLR	WR	NSWC, Dahlgren, VA	3.665			0.305	11/06	0.614	11/07	0.640	11/08	Cont	Cont	
GWLR	MIPR	US Army CECOM	0.912			1.020	11/06	0.400	11/07	0.350	11/08	Cont	Cont	
GWLR	WR	MCLB Barstow	0.298			0.902	11/06	0.330	11/07	0.350	11/08	Cont	Cont	
GWLR	WR	NSCW, Crane, IN	0.565			0.000	N/A	0.408	11/07	0.413	11/08	Cont	Cont	
HELTRASR (Modernization)	WR	MCSC, Quantico, VA	0.000			0.200	03/06	0.000	N/A	0.000	N/A	0.000		
SHORT/MEDIUM RANGE	WR	NSWC, Crane, IN	0.289			0.302	01/07	0.120	01/08	0.120	01/09	Cont	Cont	
G/ATOR (PBL)	C/FFP	EG&G Tech, Dumfries, VA	0.600			0.900	10/06	0.900	11/07	0.900	11/08	Cont	Cont	
G/ATOR (RADAR ENGINEER)	WR	NRL, Washington, DC	0.624			0.200	10/06	0.200	11/07	0.200	11/08	Cont	Cont	
G/ATOR	MIPR	MITRE, Boston, MA	0.700			0.350	11/06	0.350	11/07	0.350	11/08	Cont	Cont	
G/ATOR (RADAR ENGINEER)	WR	NAVAIR-John Lee	0.305			0.200	01/07	0.200	11/07	0.200	11/08	Cont	Cont	
G/ATOR	RCP	MCR Federal, MCSC	0.207			0.100	10/06	0.000	11/07	0.000	11/08	Cont	Cont	
G/ATOR	WR	NSWC-CRANE	0.720			0.200	12/06	0.200	11/07	0.200	11/08	Cont	Cont	
G/ATOR	C/FFP	MCSC, Quantico, VA	3.550			0.480	01/07	0.450	11/07	0.475	11/08	Cont	Cont	
G/ATOR	C/FFP	MCSC, Quantico, VA	4.006			0.200	01/07	0.200	11/07	0.200	11/08	Cont	Cont	
Subtotal Support			16.441			5.359		4.372		4.398		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
G/ATOR	MIPR	MCOTEA, Quantico, VA	0.325			0.000	01/07	0.000		12.000		Cont	Cont	
Subtotal T&E			0.325			0.000		0.000		12.000		Cont	Cont	
Remarks:														

Exhibit R-3 Cost Analysis										DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 OPERATIONAL SYS DEV				0206313M Marine Corps Communication Systems				C3099 RADAR SYSTEMS						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
AN/TPS-59 Sustainment	C/CPFF	General Dynamics Information	4.691			0.750	10/06	0.713	01/08	0.750	01/09	Cont	Cont	
HELRSR (Modernization)	C/CPFF	General Dynamics Information	0.000			0.152	10/06	0.000	N/A	0.000	N/A			
HELRSR (Modernization)	WR	MCSC, Quantico, VA	2.195			0.000	NA	0.000	N/A	0.000	N/A	Cont	Cont	
SHORT/MEDIUM RANGE	C/CPFF	General Dynamics Information	0.202			0.170	10/06	0.090	10/07	0.112	10/08	Cont	Cont	
SHORT/MEDIUM RANGE	WR	MCSC, Quantico, VA	0.064			0.115	12/06	0.026	12/07	0.023	12/08	Cont	Cont	
GWLR	WR	MCSC, Quantico, VA	0.324			0.050	10/06	0.050	10/07	0.050	10/08	Cont	Cont	
G/ATOR	RCP	Anteon, Stafford, VA	7.848			0.614	10/06	4.200	10/07	4.200	10/08	Cont	Cont	
G/ATOR (CAPDEV)	RCP	MCCDC, Quantico, VA	0.330			0.200	11/06	0.000	N/A	0.000	N/A	Cont	Cont	
G/ATOR (SALARIES)	MIPR	MCSC, Quantico, VA	0.745			0.650	01/07	0.650	10/07	0.650	10/08	Cont	Cont	
G/ATOR (TAD)	RCP	MCSC, Quantico, VA	0.291			0.150	10/06	0.200	10/07	0.225	10/08	Cont	Cont	
G/ATOR	C/CPFF	MCSC, Quantico, VA	0.200			0.300	10/06	0.300	10/07	0.300	10/08	Cont	Cont	
Subtotal Management			16.890			3.151		6.229		6.310		Cont	Cont	
Remarks:														
Total Cost			72.921			46.201		102.428		103.725			Cont	Cont

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Exhibit R-4-4a Project Schedule/Detail		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTEMS

GROUND WEAPONS LOCATING RADAR SCHEDULE PROFILE



Program Funding Summary

(APPN, BLI #, NOMEN)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N, C3099, GWLR	2.278	0.702	1.780	1.847	1.890	0.551	0.609	Cont	Cont
(U) PMC, BLI#465000, GWLR	9.650	123.425	2.149	2.566	2.868	2.163	2.160	Cont	Cont

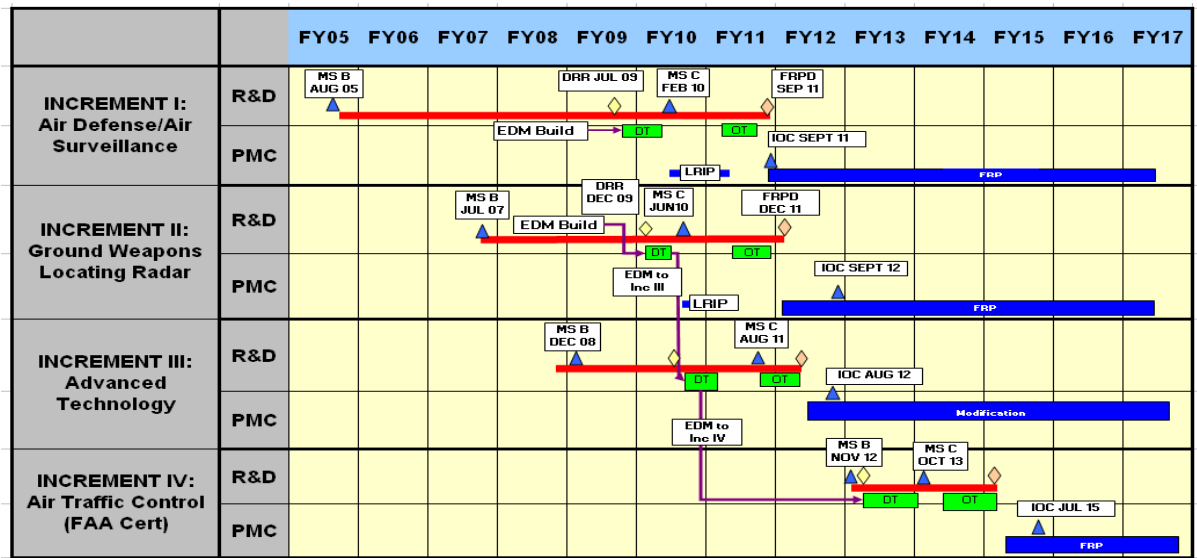
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Exhibit R-4-4a Project Schedule/Detail							DATE:							
APPROPRIATION/BUDGET ACTIVITY							PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 OPERATIONAL SYS DEV							0206313M Marine Corps Communication Systems				C3099 RADAR SYSTEMS			
							February 2008							
GWLR SCHEDULE DETAIL		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011				
Re-Cap				3rd Q-----3rd Q										
LCU Replacement				3rd Q-----3rd Q				2nd Q-----2nd Q						
MILTOPE 750M Refresh								1st Q						
Radar Processor ECP			2nd Q-----1st Q											
Radar Processor Refresh								2nd Q						
Software PDSS				4th Q-----										
MARCENT EDL AAO Increase (6 Systems)					4th Q-----4th Q									
202K AAO Increase (16 Systems)							1st Q-----4th Q							
LCMR Procurement (46 Systems)					4th Q-----4th Q									
Radar Processor Procurement							1st Q-----1st Q							
IOC Upgrade ECPs						4th Q								
FOC Upgrade ECPs								3rd Q						

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Exhibit R-4-4a Project Schedule/Detail		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTEMS

G/ATOR Overall Program Schedule



<u>Program Funding Summary</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
<u>(APPN, BLI #, NOMEN)</u>									
(U) RDT&E,N, C3099, G/ATOR	37.201	96.383	85.997	51.581	59.679	12.616	5.835	3.300	352.592
(U) PMC, BLI#465000, G/ATOR	0.000	0.000	17.440	23.973	131.681	149.534	155.243	Cont	Cont

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Exhibit R-4-4a Project Schedule/Detail		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTEMS

G/ATOR SCHEDULE DETAIL	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Increment I								
Concept & Technology Developmental Phase		-----3rd Q						
Selection Process	3rd Q	-----3rd Q						
Milestone B		4th Q						
System Development and Demonstration Phase		4th Q	-----2nd Q					
System Integration (EDM)			2nd Q	-----2nd Q				
System Demonstration (DT)					3rd Q	-----2nd Q		
Long Lead Items (EDM, LRIP & Production)					2nd Q	-----Cont		
Milestone C						2nd Q		
Production Phase						2nd Q	-----Cont	
LRIP						2nd Q	-----2nd Q	
IOT&E							2nd--3rd Q	
IOC								4th Q
Program Support							1st Q	-----Cont
Increment II								
Concept & Technology Developmental Phase			----4th Q					
Milestone B				4th Q				
System Development and Demonstration Phase				4th Q	-----1st Q FY12			
System Demonstration (DT)							1st-2ndQ	
Long Lead Items						4th Q		
Milestone C							3rd Q	
Increment III								
Concept & Technology Developmental Phase					1st Q	-----1st Q		
Milestone B						1st Q		
System Development and Demonstration Phase						1st Q	-----3rd Q FY11	
System Demonstration (DT)							3rd Q	
Milestone C							4th Q FY11	
Production Phase							4th Q FY11	
IOT&E							4Q FY12-2Q FY13	
Increment IV								
Milestone B							1stQFY13	
System Development and Demonstration Phase							1stQ FY13-1stQ FY14	
System Demonstration (DT)							2ndQ FY13-1stQ FY14	
Milestone C							1stQ FY14	
Production Phase							2ndQ FY15--	
IOT&E							2ndQ FY14-1stQ FY15	

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	C9999 CONGRESSIONAL ADDS						
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication							
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		15.782	10.433	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>Global Command and Control System is USMC Battlefield Fusion C9640 - is the dynamic effort to combine and coordinate the effects of all Electronic Warfare (EW) assets, present and future, that reside in any given area of operation. Ideas to facilitate this include the creation of a combined EW trainer and the use of common software/hardware solutions/applications for EW systems coordination. The results of this endeavor will better use and economy of legacy and new and emerging EW platforms. The effort will be used by Communication Emitters Sensing Attacking System (CESAS) operators to continuously calculate electromagnetic wave emission and propagation, antenna beam shape, scan patterns, and emitter audio. It will provide necessary training in the Techniques, Tactics, and Procedures required to attack, in a realistic training environment, targets of interest.</p> <p>Ground/AirTask Oriented Radar G/ATOR C9860 - Ground/Air Task Oriented Radar (G/ATOR) – The G/ATOR program will develop an procure 41 air component radar systems and 22 ground component radar systems. The radar system is a 3-Dimensional, HMMWV-based short to medium range radar designed to detect targets such as cruise missiles, Air Breathing Targets, rockets, mortars and artillery. It is an all-in-one rapidly deployed system that replaces four existing systems with better performance, Combat Identification, reduced logistical footprint, increased mobility and reduces O&M costs through commonality of maintenance concepts and parts. The system will provide supplemental 3-Dimensional radar coverage for those areas out of view of the fielded AN/TPS-59(V)3 Radar system due to terrain masking. The supplemental funding will allow the Marine Corps to begin the development of an additional Engineering Development Model to help mitigate technical risk for Increment II.</p> <p>Marine Corps Composite Tracking Network Engineering Development (CTN) C9861– The MC Composite Tracking Network Eng/Dev Systems funds are required to provide non-personal technical services. The services consist of design engineering, systems integration, program management, logistics, test management, test support, and technical documentation to develop and demonstrate equipment to physically remote a phased array antenna from its associated terminal (radio).</p> <p>Simulation Center Infrastructure Program is MC DCGS & Net Centric Center 9862N - DCGS-Distributed Common Ground/Surface System – Marine Corps (DCGS), formerly known as Distributed Common Ground/Surface-Integration (DCGS-1), is a collection of Service Systems that will contribute to joint and combined war fighter needs for Intelligence, Surveillances and Reconnaissance (ISR) support, with the global Information Grid (GIG) providing unconstrained communications circa 2010 to support the Department of Defense (DOD), ISR Enterprise end-state. The DCGS Integrated Backbone (DIB) is the architecture that will tie the Service DCGS systems together into one Family of Systems (FOS). The DIB will provide the tools, standards, architecture, and documentation for the DCGS community to achieve Multi-Intelligence (Multi-INT) (e.g. Imagery Intelligence (IMINT), Signal Intelligence (SIGINT), Measurement/Measuring and Signature Intelligence (MASINT), Counterintelligence/Human Intelligence (CI/HUMINT)), network centric environment with the interoperability to afford individual nodes' access to the information needed to execute their respective missions.</p> <p>Recon, Target & Surveillance Veh RST-V C2273 - 9864N - The RST-V is a 4x4 hybrid electric drive vehicle with reconnaissance, surveillance, targeting and C3I (command, control, communications and intelligence) capability coupled with integrated stealth and survivability features. The communications systems include an ITT SINGARS ASIIP VHF transponder and satellite communications.</p> <p>Basic Remote Access Terminal is Remote Tactical Collection & Transmission Sys C9865N - The intent is to procure the Swedish system as a gap filler bandwidth provider to the Radio Battalions (RADBNs). Evaluation of the system will be conducted as a Field User Evaluation (FUE). The SWEDISH family of systems comprise a complete suite of Very Small Aperture Terminals (VSAT) systems and subcomponents that will be used to provide secure, high bandwidth to the Radio Battalions. The initial intent is to provide a 'hub and spoke' delivery concept that will be comprised of a 2.5m system at the Battalion Headquarters and numerous Fly Away, (1.5m system), and Vehicle Based, (.9m system) systems for use during Marine Expeditionary Units (MEU) and Operation Iraqi Freedom (OIF) deployments.</p>								

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication	C9999 CONGRESSIONAL ADDS			
<p>Battlefield Sensor Netting (currently showing in controls as Battlefield Target ID System) - Sensor netting will provide for increased timeliness and accuracy as well as greatly improved tactical continuity, with more consistent identification, and better engagement decision and prosecution. Access to forcewide composite tracks will allow the unit that is in the best position to intercept enemy aircraft and/or engage cruise and tactical ballistic missiles - and do so earlier. The data net is a wideband multi-point to multi-point meshnet which operates in the C band. It is registered with the Joint Spectrum Center. It can act as a highly jam resistant "mobile wireless internet" connecting joint forces over an area of thousands of square miles. It is designed with very low latency so that it can provide fire control data relay, such as from a Unmanned Aerial Vehicle (UAV) to a ground battery or a fighter plane. It is mounted on vehicles, masts, rotary wing (Cobra Gunship) and fixed wing aircraft both manned and unmanned.</p> <p>Battlefield Management System (BMS)/Advanced Situational Awareness System (AS2) C9A87 - This add supports the Battlefield Management System (BMS)/Advanced Situational Awareness System (AS2)</p> <p>Foliage Penetrating Synthetic Aperture Radar C9A88 - This add will support the development of the Foliage Penetrating Synthetic Aperture Radar</p> <p>Improved Marine Communications C9A89 - This add will support the development of Improved Marine Communications</p> <p>Trident - Soldier Training C9A90 - This add provides funding for Trident - Soldier Training</p> <p>Wireless Tactical Remote Video/Sensor Surveillance System C9A91 - Funding for Development of Wireless Tactical Remote Video/Sensor Surveillance System</p> <p>Performance Enhancements for Info Assurance and Info Systems: Supports the development and testing of Wide Area Network (WAN) Connection Assurance and Acceleration (WCAA) software.</p> <p>Counterintelligence and Human Intelligence Equipment Program (CIHEP): This add provides the Marine Corps CI/HUMINT companies with the capability to rapidly collect, process and disseminate intelligence information in support of military operations. CIHEP is comprised of modular groupings of Commercial Off the Shelf (COTS)/Government Off the Shelf (GOTS)/Non-Developmental Item (NDI) components that will enhance the Operating Force CI/HUMINT collection capabilities and improve interoperability within the Joint CI/HUMINT communities. The modularity allows personnel to perform myriad collection missions to support Commanders while only carrying the items needed to accomplish the specific tasking. This particular budget item responds to the certain forensic document/media exploitation and intelligence collection capabilities that have been added to the CIHEP Baseline as a result of Humint Exploitation Team employments in Counter Insurgency and Irregular Warfare against non-traditional enemies. The improvement, integration, design and evaluation of these technologies will improve Document and Media Exploitation (DOMEX) capabilities in the CIHEP Suite of equipment and result in a greater synergy between HUMINT and SIGINT in irregular warfare.</p>					
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:					
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost			1.311	0.000	0.000
RDT&E Articles Qty					
USMC Battlefield Fusion - C9640 Development and Integration of Electronic Warfare Scenario Simulator (EWSS).					
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost			2.671	0.000	0.000
RDT&E Articles Qty					
Ground/AirTask Oriented Radar G/ATOR C9860: Analytical, Acquisition, Admin Sup for Increment II					
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost			1.000	0.000	0.000
RDT&E Articles Qty					
Composite Tracking Network C9861: Administrative Support on contract					

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication	C9999 CONGRESSIONAL ADDS		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.137	0.000	0.000
RDT&E Articles Qty				
Composite Tracking Network C9861: Develop and demonstrate equip to physically remote a phased array antenna from its associated terminal (radio)				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		2.331	0.000	0.000
RDT&E Articles Qty				
Remote Tactical Collection and Transmission System C9865- Field User Evaluation of prototypes.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	2.384	0.000
RDT&E Articles Qty				
Battlefield Management System (BMS)/Battlefield Sensor Netting C9999 - Funds the development of increasing timeliness and accuracy to better engage enemy aircraft and missiles earlier.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		3.157	0.000	0.000
RDT&E Articles Qty				
Battlefield Management System (BMS)/Advanced Situational Awareness System (AS2) C9A87 - Add supports Battlefield Management System (BMS)/Advanced Situational Awareness System				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.971	0.000	0.000
RDT&E Articles Qty				
Foliage Penetrating Synthetic Aperture Radar C9A88 - This add will support the development of the Foliage Penetrating Synthetic Aperture Radar				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		1.262	0.000	0.000
RDT&E Articles Qty				
Improved Marine Communications C9A89 - This add will support the development of Improved Marine Communications				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.971	0.000	0.000
RDT&E Articles Qty				
Trident - Soldier Training C9A90 - This add provides funding for Trident - Soldier Training				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.971	0.000	0.000
RDT&E Articles Qty				
Wireless Tactical Remote Video/Sensor Surveillance System C9A91 -Funding for Development of Wireless Tactical Remote Video/Sensor Surveillance System				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	6.066	0.000
RDT&E Articles Qty				
(U) Performance Enhancements for Info Assurance and Info Systems: Development and testing of Wide Area Network (WAN) Connection Assurance and Acceleration (WCAA) software. Provides capability to support advanced software configurations of WCAA that improve network performance within existing connectivity as well as harden, test, certify, and improve tactical configurations of the existing underlying technology. Perform testing to identify selected information systems including NCES compatible collaboration services and measure anticipated performance improvements across wide-area networks with high latency and noise characteristics.				

EXHIBIT R-2a, RDT&E Project Justification		DATE:							
		February 2008							
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	C9999 CONGRESSIONAL ADDS							
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication								
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		0.000	1.983	0.000					
RDT&E Articles Qty									
<p>CIHEP: This funding will support development, engineering and integration of key capabilities for document and media exploitation already resident in the System For Triaging Key Evidence with other software and hardware items already used to accomplish this mission in the Counter Intelligence Human Intelligence Equipment Program and the Radio Battalion Modernization Project. These upgrades and enhancements will be accomplished primarily through software enhancements and design of minor hardware configuration items to allow interoperability and integration with HUMINT and SIGINT systems.</p>									
(U) Total \$		15.782	10.433	0.000					
(U) PROJECT CHANGE SUMMARY:									
		FY 2007	FY 2008	FY 2009					
(U) FY 2008 President's Budget		16.189	0.000	0.000					
(U) Congressional Reductions									
(U) Congressional Rescissions									
(U) Congressional Increases			10.500						
(U) Reprogrammings									
(U) Reprogramming for Execution									
(U) SBIR/STTR Transfer		-0.407							
(U) Minor Affordability Adjustment			-0.067						
(U) FY 2009 President's Budget:		15.782	10.433	0.000					
CHANGE SUMMARY EXPLANATION:									
Congressional Add FY06 9862N for \$1.0M is being executed by ONR									
(U) Funding: See above.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
PMC BLI# 474700 CIHEP	18.402	15.397	5.106	6.681	11.682	6.051	5.698	0.000	69.017
(U) Related RDT&E:									
0206313M, C2272 CIHEP	126	103	130	131	133	137	141	Cont	Cont
(U) D. ACQUISITION STRATEGY:									
CIHEP: Funding will be placed on an existing USMC Contract with IDEAL CORPORATION managed through SPAWAR Systems Center Charleston (SSCC) for Software and hardware modifications to the System For Triaging Key Evidence (STRIKE).									
(U) E. MAJOR PERFORMERS:									
CIHEP: Ideal Corporation, Orlando FL; US Navy, SPAWAR Systems Center Charelston, Charelston SC									

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems				C1555 Light Armored Vehicle (LAV) PIP			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013	
Project Cost		4.956	11.198	32.119	83.509	85.500	66.200	0.000	
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>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-Command & Communication (LAV-C2) Upgrade Program, the LAV Lethality Program, the MARINE Personnel Carrier (MARINE PC) Program and the LAV Reliability, Availability & Maintainability (LAV RAM) Program. These programs will ensure that the LAV FOV will be capable of conducting its assigned missions through FY 2025 by enhancing lethality and survivability; reliability, availability, maintainability and durability; as well as reducing operations and support costs. The Marine Personnel Carrier Program will provide mobility for 6 Infantry Battalions with LAV FOV based Infantry Carriers.</p>									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		0.000	9.959	26.500					
RDT&E Articles Qty									
MARINE-PC: Develop Marine-PC fording capabilities with Applique Armor, fabricate prototypes, PMO & matrix support, PMO travel, and conduct DT/OT of Marine-PC prototypes.									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		2.037	1.239	5.619					
RDT&E Articles Qty									
LAV-RAM: Research and development of numerous LAV RAM projects to address minor modification, safety, and obsolescence issues.									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		2.174	0.000	0.000					
RDT&E Articles Qty									
LAV-C2: LAV-C2 prototype fabrication, conduct DT/OT, PMO & matrix support, PMO travel, CAAS in support of LAV-C2.									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		0.745	0.000	0.000					
RDT&E Articles Qty									
LAV LETHALITY: System Development, Demonstration and integration efforts, PMO & matrix support, PMO travel & test ammo procurement in support of the LAV Lethality program.									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000					
RDT&E Articles Qty									
LAV Sense & Respond Support System: Focuses on the integration of readiness modeling, reliability centered maintenance, condition based maintenance, system health monitoring, and interactive electronic technical manuals.									
(U) Total \$		4.956	11.198	32.119					

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems				C1555 Light Armored Vehicle (LAV) PIP				
(U) PROJECT CHANGE SUMMARY:						<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>		
(U) FY 2008 President's Budget:						5.487	11.440	8.460		
(U) Adjustments from the President's Budget:										
(U) Congressional Program Reductions										
(U) Congressional Rescissions										
(U) Congressional Increases										
(U) PR09 Program Review								23.659		
(U) Reprogrammings						-0.393				
(U) SBIR/STTR Transfer						-0.138	-0.170			
(U) Minor Affordability Adjustments							-0.072			
(U) FY 2009 PB09 Budget:						4.956	11.198	32.119		
CHANGE SUMMARY EXPLANATION:										
(U) Funding: See Above.										
(U) Schedule:										
(U) Technical:										
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) PMC, 203800, LAV PIP		87.975	100.948	64.526	35.250	3.810	0.000	80.710	Cont	Cont
(U) PAN,MC, 138800, LAV LETHALITY		9.536							0.000	9.536
(U) Related RDT&E:										
C9A95 Particulate Matter Sys		0.486							0.000	0.486
C9A97 LAV IDE		2.137							0.000	2.137
C9999 Ultrasonic Emb Sensors			1.200							

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C1555 Light Armored Vehicle (LAV) PIP
<p>(U) D. ACQUISITION STRATEGY: The Marine Personnel Carrier (MPC) program will utilize Full and Open competition. The MPC is a family of vehicles consisting of a personnel carrier, a command and control platform and a recovery vehicle. After Milestone A, a source selection will be held to select three contractors. Each of these contractors will provide a prototype personnel carrier vehicle that will be subjected to Government evaluation. The results of this evaluation will be used to support both a Milestone B decision as well a another source selection to choose the two best competitors that will be carried through the SDD phase (on the personnel carrier only). The results of the two competitor's SDD efforts will be used to support a Milestone C decision as well as another source selection to choose the ultimate personnel carrier LRIP and recovery and command and control vehicle SDD source.</p> <p>(U) D. ACQUISITION STRATEGY: The LAV-C2 upgrade will be utilizing commercial off-the-shelf, government off-the-shelf, and non-developmental item hardware and software to provide an integrated suite capable of enhanced voice and data transmissions. The majority of the effort will be the integration of existing hardware and software for this upgrade. To the maximum extent possible, components from both the Marine Corps and Army Common Hardware Suites will be utilized to reduce acquisition and support costs. The system architecture has been determined through a Tailored Executive Analysis. One contractor has been selected to fabricate a prototype which will be subjected to DT/OT.</p> <p>(U) D. ACQUISITION STRATEGY: The LAV RAM project 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 Sustainment Readiness Team uses multi-disciplined integrated project teams consisting of engineering, logistical, contracting and financial personnel to manage RAM projects. The majority of contracts issued under the RAM line are subject to the competitive acquisition process.</p> <p>(U) D. ACQUISITION STRATEGY: The LAV Lethality upgrade will increase the lethality of the LAV-25's M242 gun through the use of depleted uranium (DU) ammunition during combat operations. The Bradley Fighting Vehicle (BFV) uses the M242 and currently has the capability to fire DU ammunition. PM, LAV will buy existing standard components for the M242 and have them installed. A sole source contract will be initiated with Raytheon to insert the DU firing tables into the Improved Thermal Sight System utilized by the LAV-25. This contract will also include taking the Army's existing technical manual (TM) data on the upgraded M242 components and incorporate it into the LAV-25 TM data base.</p> <p>(U) E. MAJOR PERFORMERS:</p> <p>Marine-PC FY08-FY12 TBD</p> <p>LAV RAM FY06-FY10 Various</p> <p>LAV C2 Upgrade FY06 Lockheed-Martin Systems Integration, Owego, NY. Prototype Fabrication. Apr 06. Yuma Proving Grounds/Electronic Proving Grounds, Yuma, AZ. Developmental Testing. Sep 06. FY07 Yuma Proving Grounds/Electronic Proving Grounds, Yuma, AZ. Operational Testing. Oct 07.</p> <p>LAV LETHALITY FY07 Raytheon Company, McKinney, TX. Integration of Depleted Uranium firing tables into Improved Thermal Sight System (ITSS). Apr 07.</p>		

Exhibit R-3 Cost Analysis							DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Sys Dev				0206623M Marine Corps Ground Combat/Supporting Arms Systems			C1555 Light Armored Vehicle (LAV) PIP							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract	
Product Development (MPC)	Various	TBD					6.970	Various	2.021	Various	Cont	Cont		
Product Development (RAM)	Various	Various	3.386		0.388	Various	0.957	Various	4.438	Various	Cont	Cont		
Product Development (C2-GFE)	Various	Various	3.398								0.000	3.398		
Product Development (C2)	Various	Lockheed-Martin, Owego, NY	14.484		1.921	1Q07					0.000	16.405		
Product Development (S&R)	Various	TBD	0.546								0.000	0.546		
Product Development (Lethality)	Various	Raytheon-McKinney, TX			0.204	2Q07					0.000	0.204		
CAAS	MIPR	SURVICE, Belcamp, MD	0.838								0.000	0.838		
Subtotal Product Dev			22.652		2.513		7.927		6.459		Cont	Cont		
Remarks: Major product development efforts include Applique Armor and Manufacturing 11 Prototype vehicles.														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract	
Technical Eng Services (C2)	MIPR	TACOM, Warren, MI	0.380		0.592	2Q07					0.000	0.972		
Technical Eng Services (S&R)	MIPR	TACOM, Warren, MI	0.394								0.000	0.394		
Technical Eng Services (MPC)	MIPR	TACOM, Warren, MI					0.191	1Q08	0.391	1Q09	Cont	Cont		
Technical Eng Services (RAM)	MIPR	TACOM, Warren, MI					0.025	1Q08	0.175	1Q09	Cont	Cont		
Subtotal Support			0.774		0.592		0.216		0.566		Cont	Cont		
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract	
Dev/Oper Test & Eval (RAM)	MIPR	Aberdeen Proving Ground, MD	2.731		0.100	Various	0.220	Various	0.375	Various	Cont	Cont		
Dev/Oper Test & Eval (S&R)	MIPR	TBD	0.060								0.000	0.060		
Dev/Oper Test & Eval (C2)	MIPR	MCOTEA, Quantico, VA	1.293		0.170	1Q07					0.000	1.463		
Dev/Oper Test & Eval (C2)	MIPR	YPG/EPG/JITC	0.107								0.000	0.107		
Dev/Oper Test & Eval (MPC)	MIPR	TBD							13.033	2/3Q09	Cont	Cont		
Dev/Oper Test & Eval (Lethality)	MIPR	TBD			0.450	3Q07					0.000	0.450		
Subtotal T&E			4.191		0.720		0.220		13.408		Cont	Cont		
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract	
Program Management (MPC)	Various	TACOM, Warren, MI	0.000				2.797	Various	11.056	Various	Cont	Cont		
Program Management	Various	TACOM, Warren, MI	5.008		1.036	Various	0.038	Various	0.530	Various	Cont	Cont		
Matrix Support	MIPR	TACOM, Warren, MI	1.278		0.095	Various	0.000	Various	0.100	Various	Cont	Cont		
Subtotal Management			6.286		1.131		2.835		11.686		Cont	Cont		
Remarks:														
Total Cost			33.903		4.956		11.198		32.119		Cont	Cont		

Exhibit R-4-4a Project Schedule/Detail		DATE:							
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C1555 Light Armored Vehicle (LAV) PIP							
(U) D. SCHEDULE PROFILE:									
<u>MARINE PC</u>									
Milestone A:	2nd Qtr, FY 2008	Milestone C: 1st Qtr, FY 2013							
Milestone B:	1st Qtr, FY 2010	Contract Award: 1st Qtr, FY 2013							
DT	3rd Qtr, FY 2011	IOC: 4th Qtr, FY 2015							
OT	1st Qtr, FY 2015	FOC: 4th Qtr, FY 2019							
<u>LAV C2</u>									
Milestone A:	2nd Qtr, FY2000	Contract Award: 3rd Qtr, FY 2008							
Milestone B:	2nd Qtr, FY2005	IOC: 3rd Qtr, FY 2010							
DT / OT:	4th Qtr, FY 2006	FOC: 2nd Qtr, FY 2012							
Milestone C:	2nd Qtr, FY 2008								
<u>LAV LETHALITY</u>									
Milestone A:	Not Required	Contract Award: 3rd Qtr, FY 2008							
Milestone B:	1st Qtr, FY 2007	IOC: 3rd Qtr, FY 2009							
DT / OT:	3rd Qtr, FY2007	FOC: 2nd Qtr, FY 2010							
Milestone C:	3rd Qtr, FY2008								
Program Funding Summary									
	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
<u>(APPN, BLI #, NOMEN)</u>									
<u>(U) RDT&E,N</u>	4.956	11.198	32.119	83.509	85.500	66.200	0.000	Cont	Cont
<u>(U) RDT&E, N Ultrasonic Embedded Sensors</u>	0.000	1.200	0.000	0.000	0.000	0.000	0.000	0.000	1.200
<u>(U) RDT&E, N #C9A95 Particulate Matter Sys</u>	0.486	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.486
<u>(U) RDT&E, N #C9A97 LAV IDE</u>	2.137	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.137
<u>(U) PMC, BLI# 203800 LAV</u>	87.975	100.948	64.526	35.250	3.810	0.000	80.710	Cont	Cont
<u>(U) PANMC, 138800, LAV LETHALITY</u>	9.536	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.536

DATE: February 2008

Exhibit R-4-4a Project Schedule/Detail

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 C1555 Light Armored Vehicle (LAV) PIP
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LAV SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MARINE PC								
Milestone A:			2Q					
Milestone B:					1Q			
DT/OT						3Q		
Milestone C:								1Q
Contract Award:								1Q
IOC:								
FOC:								
LAV C2								
DT / OT:	4Q							
Milestone C:			2Q					
Contract Award:			3Q					
IOC:					3Q			
FOC:							2Q	
LAV LETHALITY								
Milestone B:		1Q						
DT / OT:		3Q						
Milestone C:			3Q					
Contract Award:			3Q					
IOC:				3Q				
FOC:					2Q			

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EXHIBIT R-2a, RDT&E Project Justification				DATE:							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev				PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat Arms Systems				February 2008			
				C2086 Marine Enhancement Program (MEP)							
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost				2.315	3.607	4.178	4.406	4.635	4.758	4.893	
RDT&E Articles Qty											
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:											
<p>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 and the Special Operations Command.</p> <p>Marine Expeditionary Rifle Program (MERS) goal and mission is to plan for and treat the infantry rifle squad as a "system" - much as other complex systems - tanks, aircraft, and C4I. This approach ensures integration is designed in, as opposed to being at best an afterthought or worse, handed to the operating forces as stove-piped material solutions are fielded piecemeal. MERS evolved from the old IICS program which was focused on monitoring and keeping pace with the U.S. Army and other soldier as a system programs. MERS is focused on integration issues within the whole squad and is focused on the following activities: 1) Track other Soldier/Marine as a System Initiatives in DoD and throughout the world; 2) Conduct analysis and highlight integration issues with current and future equipment; 3) Strategic Planning - plan for modernization in a coordinated and systematic way; 4) Continue to develop the processes and procedures required to conduct Configuration Management; and 5) Capability Prioritization - ensure we address the capability needs with the Infantrymen's highest priority.</p>											
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:											
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost				2.315	2.617	2.757					
RDT&E Articles Qty											
<p>MEP - Explore NDI clothing and individual equipment, ground weapons, communications and command and control equipment that would improve the combat effectiveness and enhance safety and survivability of the Individual Marine.</p>											
COST (\$ in Millions)				FY 2007	FY08	FY09					
Accomplishment/Effort Subtotal Cost				0.000	0.990	1.421					
RDT&E Articles Qty											
<p>MERS - Conduct analysis of Soldier and Marine Infantry Systems and highlight integration issues; plan for modernization of future systems; develop processes and procedures for configuration management of the Infantry Squad.</p>											
(U) Total \$				2.315	3.607	4.178					

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EXHIBIT R-2a, RDT&E Project Justification		DATE:								
		February 2008								
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME									
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat Arms Systems									
C2086 Marine Enhancement Program (MEP)										
(U) Project Change Summary:	FY2007	FY2008	FY2009							
(U) FY 2009 OSD Budget:	2.315	3.686	4.155							
(U) Adjustments from the President's Budget:										
(U) Congressional Program Reductions		-0.024								
(U) Congressional Rescissions										
(U) Congressional Increases										
(U) FY09 Program Review										
(U) Reprogrammings										
(U) SBIR/STTR Transfer		-0.055	0.023							
(U) Minor Affordability Adjustment										
(U) FY 2009 President's Budget:	2.315	3.607	4.178							
CHANGE SUMMARY EXPLANATION:										
(U) Funding: Beginning in FY08, Marine Expeditionary Rifle Program (MERS) (formerly 63635M C2256) program moved to this project.										
(U) Schedule: Not Applicable.										
(U) Technical: Not Applicable.										
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) PMC BLI#220800 Weapons	0	21.595	3.036	4.119	3.276	3.357	4.435	4.535	Cont	Cont
(U) Total \$										
(U) Related RDT&E: N/A										
(U) D. ACQUISITION STRATEGY: NDI/COTS										

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat Arms Systems	C2086 Marine Enhancement Program (MEP)

(U) E. MAJOR PERFORMERS:

<u>Performer</u>	<u>Effort</u>	<u>FY</u>	<u>Award Date</u>	<u>(\$000) Amt</u>
RDECOM, Natick MA	Product Development	2007	Dec-06	176
RDECOM, Natick MA	DT&E	2007	Dec-06	373
NRL, Wash, DC	Product Development	2007	Various	257
RDECOM, Natick MA	DT&E	2007	Various	944
Operating Forces	OT&E	2007	Mar-07	321
RDECOM, Natick MA	Product Development	2008	Dec-07	180
RDECOM, Natick MA	DT&E	2008	Dec-07	382
TBD	Product Development	2008	Various	263
TBD	DT&E	2008	Various	966
Operating Forces	OT&E	2008	Mar-08	329
RDECOM, Natick MA	Product Development	2009	Dec-08	183
RDECOM, Natick MA	DT&E	2009	Jan-00	388
TBD	Product Development	2009	Various	267
TBD	DT&E	2009	Various	982
Operating Forces	OT&E	2009	Mar-09	334

RDECOM (Research Development and Engineering Command) formerly known as SBCCOM (Soldier Biological and Chemical Command)

Exhibit R-3 Cost Analysis							DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev				0206623M Marine Corps Ground Combat Arms Systems			C2086 Marine Enhanced Program (MEP)							
Cost Categories	Contract Method & Type	Performing Activity & Location				FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Comp	Total Cost	Target Value of Contract
Product Development	Various	Various				0.237	Various	0.516	Various	0.519	Various	Cont	Cont	
Product Development	MIPR	RDECOM, Natick, Mass				0.176	1Q07	0.183	1Q08	0.190	1Q09	Cont	Cont	
Product Development	WR	NFEC, Pt Hueneme, CA				0.051	2Q07	0.053	2Q08	0.055	2Q09	Cont	Cont	
Product Development	WR	NSWC, Crane, IN				0.081	1Q07	0.084	1Q08	0.087	1Q09	Cont	Cont	
Subtotal Product Dev						0.545		0.836		0.851		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location				FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Operational Test & Eval	WR	2nd MARDIV, CamLej, NC				0.321	2Q07	0.334	2Q08	0.337	2Q09	Cont	Cont	
Subtotal Support						0.321		0.334		0.337		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location				FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Eval	Various	Various				0.616	Various	1.150	Various	1.596	Various	Cont	Cont	
Developmental Test & Eval	MIPR	RDECOM, Natick, Mass				0.373	2Q07	0.388	1Q08	0.403	1Q09	Cont	Cont	
Developmental Test & Eval	WR	NFEC, Pt Hueneme, CA				0.109	2Q07	0.113	2Q08	0.108	2Q09	Cont	Cont	
Developmental Test & Eval	WR	NSWC, Crane, IN				0.146	1Q07	0.152	1Q08	0.148	1Q09	Cont	Cont	
Subtotal T&E						1.244		1.803		2.255		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location				FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Program Mgmt/Tech Spt	FFP	Various				0.205	1Q07	0.634	1Q08	0.735	1Q09	Cont	Cont	
Subtotal Management						0.205		0.634		0.735		Cont	Cont	
Remarks:														
Total Cost						2.315		3.607		4.178		Cont	Cont	

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems				C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost		8.968	10.049	14.857	12.265	12.495	12.732	13.050	
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>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 Operations and Maintenance Marine Corps procurement 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 (softwall, different frames and fabrics, etc.). The benefit 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.</p>									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY07		FY08		FY09			
Accomplishment/Effort Subtotal Cost		0.944		0.548		0.600			
RDT&E Articles Qty									
<p>Clothing and Flame Resistant Organizational Gear: Pursue designs, prototyping, user surveys, textile and physical properties testing and the full range of clothing design in response to new uniform initiatives.</p>									
COST (\$ in Millions)		FY07		FY08		FY09			
Accomplishment/Effort Subtotal Cost		3.724		5.552		7.020			
RDT&E Articles Qty									
<p>Family of Ballistic Protection Systems: Exploration of new commercial technologies that can be inserted into current 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 baseline current equipment and enable configuration/compatibility management of new equipment.</p>									
COST (\$ in Millions)		FY07		FY08		FY09			
Accomplishment/Effort Subtotal Cost		0.000		0.438		0.505			
RDT&E Articles Qty									
<p>Family of Improved Loadbearing Equipment: This program supports the Marine Corps requirements for a replacement load bearing system and individual water purifier and supports continual system improvement throughout the life-cycle of the equipment.</p>									
COST (\$ in Millions)		FY07		FY08		FY09			
Accomplishment/Effort Subtotal Cost		0.047		0.104		0.117			
RDT&E Articles Qty									
<p>Family of Combat Support Equipment: The purpose of the Family of Combat Support Equipment is to enhance or improve unit operational capabilities and enhance unit morale. In addition, some items such as the field tarp and poncho will greatly enhance survivability, mobility and provide significantly improved field equipment to Marines.</p>									

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES			
COST (\$ in Millions)		FY07	FY08	FY09	
Accomplishment/Effort Subtotal Cost		0.447	1.411	2.580	
RDT&E Articles Qty					
<p>Family of Mountain Cold Weather Clothing & Equipment (FMCWCE): FMCWCE 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.</p>					
COST (\$ in Millions)		FY07	FY08	FY09	
Accomplishment/Effort Subtotal Cost		0.272	0.237	0.339	
RDT&E Articles Qty					
<p>Family of Combat Field Feeding Systems: Improvements on current technology for heating individual rations is being explored to test individual ration heater concepts and equipment. Although some progress has been made in recent years to improve field feeding equipment, most current field messing equipment consists of manpower and maintenance intensive M59 ranges utilizing M2 burners setup within tents. The current Tray Ration Heater System has a large footprint, lacks a quick displacement capability, includes unsafe and hazardous components (specifically the M2 burners), and does not conform to the single fuel concept. Also, this current system is not compatible with tenets of Operational Maneuver from the Sea (OMFTS) and does not facilitate maneuverable warfare operations. Current cookware sanitizing equipment consists of 30 gallon containers used in consonance with immersion water heaters, fueled by gasoline (MOGAS).</p>					
COST (\$ in Millions)		FY07	FY08	FY09	
Accomplishment/Effort Subtotal Cost		3.369	0.400	3.548	
RDT&E Articles Qty					
<p>Family of Field Medical Equipment: Development of new Authorized Medical and Dental Allowance Lists (AMALs and ADALs) to insert new technology, to reduce weight and cube size for expeditionary maneuver warfare, and to enhance health services support to the operating forces. Completion of this block upgrade of AMAL technology.</p>					
COST (\$ in Millions)		FY07	FY08	FY09	
Accomplishment/Effort Subtotal Cost		0.000	1.013	0.000	
RDT&E Articles Qty					
<p>Family of Field Medical Equipment: Testing of Commercial-off-the-shelf/Non-developmental (COTS/NDI) medical equipment items for the Enroute Care System (based on components of an existing USAF system) to evaluate functionality for patient transportation post resuscitative surgery in forward echelons.</p>					

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES			
COST (\$ in Millions)		FY07	FY08	FY09	
Accomplishment/Effort Subtotal Cost		0.000	0.200	0.000	
RDT&E Articles Qty					
Family of Field Medical Equipment: Testing of Commerical-off-the-shelf/Non-developmental (COTS/NDI) 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.					
COST (\$ in Millions)		FY07	FY08	FY09	
Accomplishment/Effort Subtotal Cost		0.165	0.146	0.148	
RDT&E Articles Qty					
Family of Shelters and Shelter Equipment: 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. Design and engineering to increase capability, reduce weight, cost and cube of soft wall shelters. Explore and test new technologies in coordination with the US. Army for insertion into the shelter.					
(U) Total \$		8.968	10.049	14.857	
(U) Total \$					
		FY2007	FY2008	FY2009	
(U) FY 2008 President's Budget:		9.388	10.186	14.195	
(U) Adjustments from the President's Budget:					
(U) Congressional Reductions					
(U) Congressional Rescissions					
(U) Congressional Increases					
(U) Reprogrammings		-0.231		0.691	
(U) SBIR/STTR Transfer		-0.189	-0.073		
(U) PR-09 Adjustment					
(U) Minor Affordability Adjustment			-0.064	-0.029	
(U) FY 2009 President's Budget:		8.968	10.049	14.857	
CHANGE SUMMARY EXPLANATION:					
(U) Funding:	See above.				
(U) Schedule:	Not Applicable.				
(U) Technical:	Not Applicable.				

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems				C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES				
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>20.174</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) PMC Line (BLI#652200) Field Med Equip & CBRN Incident	10.922	24.616	6.623	6.953	6.915	8.248	6.109	Cont	Cont
(U) PMC Line (BLI#661300) Combat Field Feeding System	7.832	18.843	2.907	1.826	2.681	3.769	3.869	Cont	Cont
(U) Related RDT&E: Not Applicable.									
(U) D. ACQUISITION STRATEGY:									
<p>Family of Ballistic Protection Systems, Family of Mountain Cold Weather Clothing and Equipment, Family of Improved Loadbearing Equipment, Family of Combat Support Equipment, Clothing & 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 Research, Development & 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.</p> <p>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)/NDI Marine Corps Specific items.</p> <p>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.</p>									
(U) E. MAJOR PERFORMERS:									
<p>Family of Ballistic Protection Systems, Family of Mountain Cold Weather Clothing and Equipment, Family of Improved Loadbearing Equipment, Clothing & Flame Resistant Organizational Gear, and Family of Combat Support Equipment: U.S. Army Natick Research, Development and Engineering Center, Natick, Mass., and the Naval Research Laboratory, Washington DC.</p> <p>Shelters: TBD based on current technologies.</p> <p>Family of Field Medical Equipment: TBD based on current technologies.</p>									
(U) SCHEDULE PROFILE: Not Applicable.									

Exhibit R-3 Cost Analysis					DATE: February 2008									
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT		PROJECT NUMBER AND NAME								
RDT&E, N /BA 7 Operational Sys Development				0206623M Marine Corps Ground Combat/ Supporting Arms Systems		C2503 Initial Issue - Family of Combat Equip Support & Services								
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development/Tech Insertion	MIPR	USASSCOM Natick, MA	3.815			1.463	1Q/07	2.049	1Q/08	2.700	1Q/09	Cont	Cont	
Development/Tech Insertion	WR	NRL, Washington DC	0.748			1.598	2Q/07	2.475	2Q/08	3.982	2Q/09	Cont	Cont	
Development/Tech Insertion	WR	ONR, Arlington VA	0			0.060	2Q/07	0.000		0.000				
Development/Tech Insertion	FFP	Various (Test Articles)	4.513			3.418	3Q/07	1.480	2Q/08	3.271	2Q/09	Cont	Cont	
Subtotal Product Dev			9.076			6.539		6.004		9.953		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Program Support	WR	NHRC, SAN DIEGO, CA	0.412			0.126	1Q/07	0.099	1Q/08	0.211	1Q/09	Cont	Cont	
Subtotal Support			0.326			0.126		0.099		0.211		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Operational Test & Eval	MIPR	USASSCOM Natick, MA	1.590			1.451	2Q/07	0.590	2Q/08	0.892	2Q/09	Cont	Cont	
Field User Evaluations	WR	FMF	3.137			0.000		2.376	2Q/08	2.660	2Q/09	Cont	Cont	
Field User Evaluations	RCP	MCSC, Quantico VA	0.184			0.148	2Q/07	0.180	2Q/08	0.217	1Q/09	Cont	Cont	
Operational Test & Eval	MIPR	USA Ft Belvoir, PEO Soldier	0.000			0.300	3Q/07	0.000		0.000		0.000		
Operational Test & Eval	RCP	ALBANY, GA	0.000			0.008	2Q/07	0.000		0.000		Cont	Cont	
Subtotal T&E			4.911			1.907		3.146		3.769		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Contractor Eng Suppt	FFP/O	MCSC, Quantico VA	0.759			0.376	1Q/07	0.461	1Q/08	0.509	1Q/09	Cont	Cont	
Travel	DTS*	MCSC, Quantico VA	0.465			0.020	*	0.339	*	0.415	*	Cont	Cont	
Subtotal Management			0.811			0.396		0.800		0.924		Cont	Cont	
Remarks:														
*DTS (Defense Travel System) Obligates throughout the execution year														
Total Cost			11.205			8.968		10.049		14.857		Cont	Cont	

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supt Arms	C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)					
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	3.912	1.176	2.443	0.525	0.545	2.151	2.448
RDT&E Articles Qty							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>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 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. 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.</p>							
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:							
COST (\$ in Millions)		FY07	FY08	FY09			
Accomplishment/Effort Subtotal Cost		1.794	0.610	1.987			
RDT&E Articles Qty							
Primary and Ancillary Hardware Development and Systems Engineering Support, includes Navy, Marine Corps, Army and contractor R&D efforts.							
COST (\$ in Millions)		FY07	FY08	FY09			
Accomplishment/Effort Subtotal Cost		0.150	0.000	0.000			
RDT&E Articles Qty							
Develop Support Equipment, Army program office support, contractor provided logistics support.							
COST (\$ in Millions)		FY07	FY08	FY09			
Accomplishment/Effort Subtotal Cost		1.425	0.413	0.303			
RDT&E Articles Qty							
Support Test and Evaluation Program with Army. Support Test and Evaluation Program for Marine Corps Principle End Items.							
COST (\$ in Millions)		FY07	FY08	FY09			
Accomplishment/Effort Subtotal Cost		0.543	0.153	0.153			
RDT&E Articles Qty							
Program Management at Quantico, USMC Liaison Office at Army Program, USMC Test Unit at Ft Sill, and contractor support.							
(U) Total \$		3.912	1.176	2.443			

EXHIBIT R-2a, RDT&E Project Justification		DATE:							
		February 2008							
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supt Arms	C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)							
PROJECT CHANGE SUMMARY									
	FY2007	FY2008	FY2009						
(U) FY 2008 President's Budget:	6.156	1.191	2.432						
(U) Adjustments from the President's Budget:									
(U) Congressional Program Reductions									
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings	-2.144								
(U) SBIR/STTR Transfer	-0.100	-0.007							
(U) Minor Affordability Adjustment		-0.008	0.011						
(U) FY 2009 President's Budget:	3.912	1.176	2.443						
CHANGE SUMMARY EXPLANATION:									
(U) Funding: SBIR reduction, reprogramming, and minor affordability adjustments. USMC testing requirement decreased in FY07 due to benefits of common Army Testing.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) PMC (BLI 221200) HIMARS SYSTEMS AND ROCKETS	237.619	30.443	109.460	172.549	50.394	22.409	6.997	Cont	Cont
(U) Related RDT&E: Not Applicable.									
(U) D. ACQUISITION STRATEGY:									
(U) Total \$									
(U) E. MAJOR PERFORMERS:									
FY-07 Lockheed Martin Missile, Dallas, TX. Modifications to Launcher, GMLRS Development									
FY-07 Lockheed Martin Missile, Dallas, TX. Systems Engineering Support for Development and testing									

Exhibit R-3 Cost Analysis						DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT			PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Development				0206623M Marine Corps Ground Combat/Supt Arms			C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Primary Hardware Dev	SS/CPAF	Lockheed Martin, Dalla	12.735	0.085	04/07	0.075	12/07	1.661	12/08	Cont	Cont	
Ancillary Hardware Dev	MIPR	RTTC, Redstone, AL	0.070	0.994	12/06	0.225	12/07	0.120	12/08	Cont	Cont	
Systems Engineering	WR	NSWC-Dahlgren, VA	2.720	0.341	10/06	0.195	10/07	0.206	10/08	Cont	Cont	
Systems Engineering	WR	NSWC-Earle, NJ	0.621	0.275	10/06					0.000	0.896	
Systems Engineering	CPAF	Lockheed Martin, Dalla	0.395	0.210	12/06	0.115	12/07			0.000	0.720	
Subtotal Product Dev			16.541	1.905		0.610		1.987		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Integ Logistics Support	WR	NSWCIH, Earle NJ	0.000	0.140	12/06					0.000	0.140	
Subtotal Support			0.000	0.140		0.000		0.000		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Dev Test & Eval	WR	NSWC-Dahlgren, VA	1.544	0.800	10/06	0.213	10/07	0.180	10/08	Cont	Cont	
Dev Test & Eval	WR	Redstone Test Ctr, Hur	0.878	0.315	12/06	0.200	12/07	0.123	12/08	Cont	Cont	
Dev Test & Eval	WR	NSWC-Carderock, MD	0.015	0.079	10/06					0.000	0.094	
Dev Test & Eval	MIPR	DAC, McAlester, OK	0.055	0.090	10/06					0.000	0.145	
Operational Test & Eval	WR	MCOTEA, Quantico, V	1.034	0.040	12/06					0.000	1.074	
Subtotal T&E			3.526	1.324		0.413		0.303		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Program Mngmnt	WR	MCSC, Quantico, VA	1.680	0.316	10/06	0.075	10/07	0.075	10/08	Cont	Cont	
Program Mngmnt	FFP	CEOSS, Quantico VA	4.696	0.227	10/06	0.078	10/07	0.078	10/08	Cont	Cont	
Subtotal Management			6.376	0.543		0.153		0.153		Cont	Cont	
Remarks:												
Total Cost			26.443	3.912		1.176		2.443		Cont	Cont	

Exhibit R-4/4a Schedule Profile/Detail						DATE: February 2008																										
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev			PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supt Arms			PROJECT NUMBER AND NAME C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)																										
Fiscal Year	FY06				FY07				FY08				FY09				FY10				FY11				FY12				FY13			
Quarter	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
LRIP Delivery		♦																														
FRP	♦																															
FRP System Deliveries									◀																							
Interim Capability	◀											▶																				
IOC												♦																				
FOC																♦																
M30 FRP Munitions Deliveries									◀																							
USMC GMLRS Unitary DT, Army DT/OT	◀											▶																				
GMLRS Unitary Urgent Material Release (UMR)	◀											▶																				
GMLRS Unitary M31 LRIP								♦																								
GMLRS Unitary M31 FRP												♦																				
GMLRS Unitary M31 Deliveries									◀																							
HIMARS P3I	◀																															
Program Funding Summary												<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>												
(U) RDT&E,N, 0206623M, HIMARS												3.912	1.176	2.443	0.525	0.545	2.151	2.448	Cont	Cont												
(U) PMC, (BLI 221200), HIMARS SYSTEMS AND ROCKETS												237.619	30.443	109.460	172.549	50.394	22.409	6.997	Cont	Cont												

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supt Arms	C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)						
HIMARS SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
LRIP Deliveries	---2Q							
Interim Capability	1Q-----	-----	-----4Q					
USMC Full Rate Production (FRP) Decision	1Q							
USMC FRP Deliveries		2Q----	-----	-----	-----	---2Q		
GMLRS (M30) Munitions Deliveries		2Q----	-----	-----	-----	-----	-----	-----
Initial Operational Capability			4Q					
Full Operational Capability				1Q				
GMLRS Unitary Munitions								
USMC DT, US Army DT/OT	-----	-----	----3Q					
GMLRS Unitary LRIP		2Q						
GMLRS Unitary FRP				1Q				
Unitary Deliveries			2Q-----	-----	-----	-----	-----	-----
HIMARS Pre-Planned Product Improvements (P3I)								
Comm Upgrades	2Q-----	-----	-----	-----	-----4Q			
Hybrid Electric					1Q-----	-----	-----	----3Q
GMLRS Capability Improvements								
Insensitive Munition (IM)	-----	-----	----4Q					
Self Destruct Fuze	-----	-----	-----	1Q				
Multi-Mission Round						1Q-----	-----	-----

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supt Arms			C3098 Fire Support Systems			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	6.335	6.377	8.884	7.674	5.612	7.551	7.758
RDT&E Articles Qty							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
(U) This Project develops joint and Marine Corps unique improvements to artillery technology, USMC unique Amphibious Armor Systems (AAS), and international weapons developments.							
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:							
COST (\$ in Millions)	FY 2007		FY 2008		FY 2009		
Accomplishment/Effort Subtotal Cost	0.273		0.291		0.299		
RDT&E Articles Qty							
Family of Artillery Munitions (FAM): Support R&D of ACAAP (Advanced Cannon Artillery) and Excalibur to include approved IM (Insensitive Munitions) and WSESRB (Weapons Systems Explosives Safety Review Board) testing, program support, and travel. Actively monitor U.S. Army artillery ammunition development programs in order to leverage off of and influence army developmental efforts.							
COST (\$ in Millions)	FY 2007		FY 2008		FY 2009		
Accomplishment/Effort Subtotal Cost	1.036		1.718		1.773		
RDT&E Articles Qty							
Fire Support Sustainment: (Formerly known as Fire Support Mods) Joint participation in artillery and fire support improvement projects for legacy systems, i.e., the M198 Howitzer and LW 155mm Howitzer.							
COST (\$ in Millions)	FY 2007		FY 2008		FY 2009		
Accomplishment/Effort Subtotal Cost	0.361		0.380		0.386		
RDT&E Articles Qty							
Fire Support Sustainment - Fielded System Readiness: (Formerly known as Readiness) Joint participation in artillery and fire support improvement projects for replacement capabilities. Projects include the Digital Aiming Circle and more accurate gun laying technology.							
COST (\$ in Millions)	FY 2007		FY 2008		FY 2009		
Accomplishment/Effort Subtotal Cost	3.761		3.003		5.416		
RDT&E Articles Qty							
Expeditionary Fire Support System (EFSS): Program entered Milestone B in November 2004 and the award of a contract with cost plus award fee and firm fixed price line items. EFSS entered the System Development and Demonstration (SD&D) with a single vendor - General Dynamics Ordnance and Tactical Systems. Milestone C decision made in June 2005. Functional Configuration Audit began May 2006. LRIP decision made June 2006. Operation Testing (OT) completed on July 2007. Limited Full Rate Production Decision made in September 2007. Follow On Test and Evaluation (FOT&E) scheduled for February to March 2008. EFSS supports irregular warfare and distributed operations.							
COST (\$ in Millions)	FY 2007		FY 2008		FY 2009		
Accomplishment/Effort Subtotal Cost	0.904		0.985		1.010		
RDT&E Articles Qty							
Tactical Meteorological Manager (TM2): (Formerly know as Meteorological Measuring Sets (MMS) -Profiler) The RDT&E dollars listed above will be utilized to adapt the Air Force Weather Agency Predictive Weather Model as required input to howitzer fire control. It will also be used to develop meteorological sensors conducive to battlefield operations.							
(U) Total \$	6.335		6.377		8.884		

EXHIBIT R-2a, RDT&E Project Justification

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supt Arms	PROJECT NUMBER AND NAME C3098 Fire Support Systems
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(U) PROJECT CHANGE SUMMARY:	FY 2007	FY 2008	FY 2009
(U) FY 2008 President's Budget:	7.688	6.494	8.825
(U) Adjustments from the President's Budget:			
(U) Congressional Program Reductions			
(U) Congressional Rescissions			
(U) Congressional Increases			
(U) Reprogrammings	-1.216		
(U) SBIR/STTR Transfer	-0.137	-0.076	
(U) Minor Affordability Adjustment		-0.041	0.059
(U) FY 2009 President's Budget:	6.335	6.377	8.884
CHANGE SUMMARY EXPLANATION:			
(U) Funding: See above.			
(U) Schedule: Not Applicable.			
(U) Technical: Not Applicable.			

(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
PMC BLI# 473300 CLRF	16.203	5.789	0.000	0.000	0.000	0.000	0.000	0.000	21.992
PMC BLI# 473300 Muzzle Velocity System	0.000	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.113
PMC BLI# 473300 Meterological Measuring Sets (FSS)	0.212	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.212
PMC BLI# 473300 Laser Target Designator	33.778	0.000	0.000	0.000	0.000	0.000	0.000	0.000	33.778
PMC BLI# 473300 Fire Supp Sys (IPADS)	0.000	0.299	0.000	0.000	0.000	0.000	0.000	0.000	0.299
PMC BLI# 473300 Fire Supp Sustainment	28.380	3.490	2.654	2.681	4.815	6.937	5.068	Cont	Cont
PMC BLI# 473300 GLTD II	15.073	6.089	0.000	0.000	0.000	0.000	0.000	0.000	21.162
PMC BLI# 473300 PEI Procurement	0.000	9.276	0.000	0.000	0.000	0.000	0.000	0.000	9.276
PMC BLI# 473300 PIAFS	0.336	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.336
PMC BLI# 206400 Expeditionary Fire Support Sys	16.291	3.869	22.102	0.000	0.000	0.000	0.000	0.000	42.262
PMC BLI# 700000 Prime Vendor Spares - (CLRF)	1.312	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.312
PMC BLI# 700000 Fire Support Sustainment	2.402	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.402
PMC BLI# 700000 Prime Vendor Spares - (EFSS)	0.432	0.769	0.000	0.000	0.000	0.000	0.000	0.000	1.201

(U) Related RDT&E:

(U) D. ACQUISITION STRATEGY: These programs range from off-the-shelf modifications to developmental items. Fire power enhancement used selected upgrades from Army developmental programs to create a system that more readily meets Marine Corps requirements. EFSS will use an evolutionary acquisition approach fielding a near term capability in FY07 while leveraging emerging technologies to mature the technology by FY09 and beyond.

(U) E. MAJOR PERFORMERS:

General Dynamics Ordnance and Tactical Systems (EFSS) - St. Petersburg, FL

Exhibit R-3 Cost Analysis						DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems			C3098 Fire Support Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT			SEE BELOW									
EFSS	RCP	GDOTS, St. Petersburg, FL	14.489	2.000	1Q07	1.500	1Q08	2.530	1Q09	Cont	Cont	
EFSS	VAR	VARIOUS	1.130	0.500	2Q07	0.379	2Q08	0.703	2Q09	Cont	Cont	
Fire Spt Sustainment	RCP	Smith Indus, Gd Rapids, MI	2.635	0.290	4Q07	0.867	TBD	0.922	TBD	Cont	Cont	
Fielded System Readiness	VAR	VARIOUS	0.400	0.361	3Q07	0.380	TBD	0.386	TBD	Cont	Cont	
TM2	MIPR	TBD	0.000	0.704	3Q07	0.785	TBD	0.810	TBD	Cont	Cont	
Subtotal Product Dev			18.654	3.855		3.911		5.351		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
PROGRAM SUPPORT			SEE BELOW									
EFSS	RCP	CTQ, Quantico, Va	2.944	0.314	1Q07	0.305	1Q08	0.500	1Q09	Cont	Cont	
EFSS	WR	NSWCDD, Dahlgren, VA	2.164	0.100	1Q07	0.100	1Q08	0.300	1Q09	Cont	Cont	
Fam Artillery Munitions	WR/RCP	BAEST, Stafford, VA	0.345	0.273	1Q07	0.291	1Q08	0.299	1Q09	Cont	Cont	
Fire Spt Sustainment	WR/RCP	BAEST, Stafford, VA	1.681	0.403	1Q07	0.508	1Q08	0.508	1Q09	Cont	Cont	
TM2	RCP	CEOSS	0.000	0.200	3Q07	0.200	1Q08	0.200	1Q09	Cont	Cont	
Subtotal Support			7.134	1.290		1.404		1.807		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
T&E			SEE BELOW									
EFSS	WR	NSWCDD, Dahlgren, VA	1.780	0.150	2Q07	0.119	2Q08	0.313	2Q09	Cont	Cont	
EFSS	WR	MCPD, Fallbrook, CA	1.688	0.225	2Q07	0.200	2Q08	0.500	2Q09	Cont	Cont	
Fire Spt Sustainment	WR	MCOTE, Quantico, VA	0.400	0.070	2Q07	0.070	1Q08	0.070	1Q09	Cont	Cont	
Subtotal T&E			3.868	0.445		0.389		0.883		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
MANAGEMENT			SEE BELOW									
EFSS	RCP	GDOTS, St. Petersburg, FL	3.951	0.472	1Q07	0.400	1Q08	0.570	1Q09	Cont	Cont	
Fire Spt Sustainment	WR	MCSC, Quantico, VA	0.458	0.273	2Q07	0.273	1Q08	0.273	1Q09	Cont	Cont	
Subtotal Management			4.409	0.745		0.673		0.843		Cont	Cont	
Remarks:												
Total Cost			34.065	6.335		6.377		8.884		Cont	Cont	

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

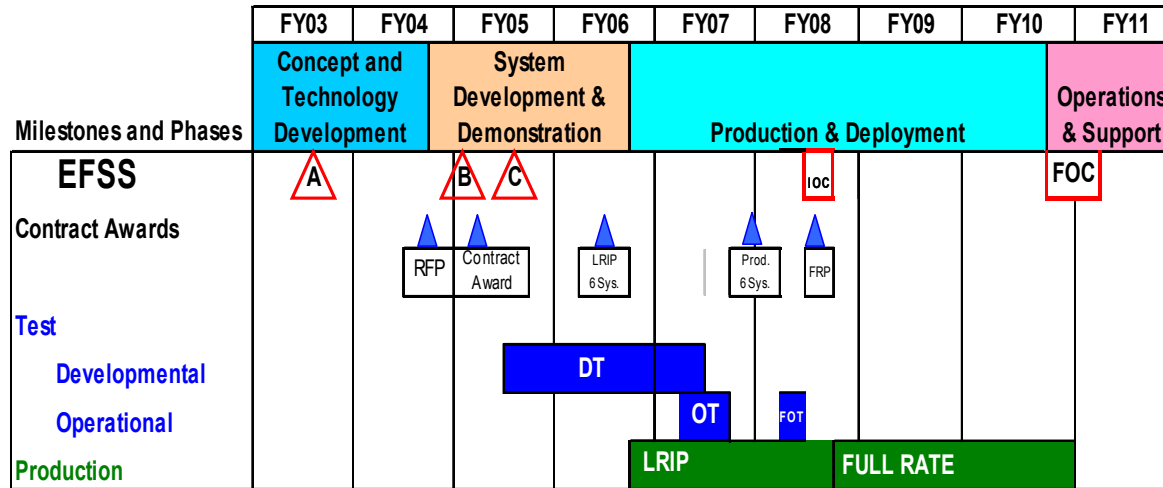
PROJECT NUMBER AND NAME

RDT&E, N /BA-7 Operational Sys Dev

0206623M Marine Corps Ground
Combat/Supporting Arms Systems

C3098 Fire Support Systems

Expeditionary Fire Support System (EFSS)



Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E,N (C3098) EFSS

PMC BLI# 206400 Expeditionary Fire Support Sys

PMC BLI# 700000 Prime Vendor Spares (EFSS)

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N (C3098) EFSS	3.761	3.003	5.416	5.169	3.065	4.940	5.077	Cont	Cont
PMC BLI# 206400 Expeditionary Fire Support Sys	16.291	3.869	22.102	0.000	0.000	0.000	0.000	0.000	42.262
PMC BLI# 700000 Prime Vendor Spares (EFSS)	0.432	0.769	0.000	0.000	0.000	0.000	0.000	0.000	1.201

EFSS SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone A - 3rd qtr 2003								
Milestone B - 4th qtr 2004								
Milestone C - 3rd qtr 2005								
Developmental Testing - 4th qtr 2005								
Low Rate Initial Production		3Q						
Operational Testing			3Q					
Initial Operational Capability				3Q				
Full Rate Production				3Q				
Full Operational Capability						4Q		

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supt Arms			C9999 PERM EFSS USMC			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost	19.665	7.154	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
(U) EFSS includes a suite of ammunition that can be safely transported and stored and that has an objective range capability of 17 kilometers. Precision Extended Range Munition (PERM) will enable the EFSS to achieve the required extended range and will provide a precision capability. Insensitive Munitions (IM) components being developed are required for all EFSS ammunition including PERM to allow for safe transport and storage.							
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:							
COST (\$ in Millions)	FY 2007		FY 2008		FY 2009		
Accomplishment/Effort Subtotal Cost	0.971		0.000		0.000		
RDT&E Articles Qty							
3-Dimensional Wall 9A25: This effort will develop the new concept/technology based on the Marine Corps Systems Command SBIR contract with Eureka Aerospace for “through-the-wall” imaging capabilities. Successful implementation will provide the capability for high-resolution 3-D visualization of objects, people, weapons and other materiel on the other side of the wall using extremely broadband microwave technology. The requirement is to be able to see who and what is inside a building prior to Marines entering. The system will also be able to spot booby traps and exit routes for the enemy, and help to validate that Marines are attacking the correct building.							
COST (\$ in Millions)	FY 2007		FY 2008		FY 2009		
Accomplishment/Effort Subtotal Cost	1.068		0.000		0.000		
RDT&E Articles Qty							
Mobile Oxygen Ventilation and External Suction device (MOVES) C9955: This effort will continue the development and subsequent testing of a light weight, portable, oxygen generator, concentrator, ventilator and full vital signs monitor.							
COST (\$ in Millions)	FY 2007		FY 2008		FY 2009		
Accomplishment/Effort Subtotal Cost	1.941		0.000		0.000		
RDT&E Articles Qty							
Amplifying Fluorescent Polymer Based IED Detection 9A92N: This Congressional Add funds the amplifying fluorescent polymer based IED detection program.							
COST (\$ in Millions)	FY 2007		FY 2008		FY 2009		
Accomplishment/Effort Subtotal Cost	1.408		0.000		0.000		
RDT&E Articles Qty							
Lightweight, multi-threat Body and Appendage Armor 9A93N: Develop a lighter weight ceramic armor solution that weighs at least 30% less than current armor at the same ballistic protection level.							

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EXHIBIT R-2a, RDT&E Project Justification		DATE:		
		February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supt Arms	C9999 PERM EFSS USMC		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		3.885	0.000	0.000
RDT&E Articles Qty				
Lightweight Prime Mover Vehicle 9A94N: This Congressional Add funds the Lightweight Prime Mover Vehicle program.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.486	0.000	0.000
RDT&E Articles Qty				
Particulate Matter Filter System 9A95N: This Congressional Add funds the Particulate Matter Filter System.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		7.769	4.373	0.000
RDT&E Articles Qty				
Precision Extended Range Munition (PERM) 9A96N: This Congressional Add funds continued uninterrupted development and qualification of ammunition components that support PERM. This development must stay on-track so that the Insensitive Munition (IM) ammunition components are certified and ready to be included in the Operational Test of the EFSS system scheduled to commence in April 07 and to support initial fielding of the basic system during FY07. Previous add commenced PERM effort with the development of compliant ammunition for EFSS. This funding will complete the IM ammunition testing and certification and commence the precision guidance capability for the EFSS ammunition.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		2.137	0.000	0.000
RDT&E Articles Qty				
USMC Light Armored Vehicles Integrated Digital 9A97N: This Congressional Add funds the Light Armored Vehicles Integrated Digital program.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	1.588	0.000
RDT&E Articles Qty				
Tractable Durable Net Complex Shaped Body & Extremity Armor: Develop low cost, highly effective ceramic armor for extended body coverage that can defend against lethal threats such as tungsten carbide core Armor-Piercing (AP) and AP-M2 rounds.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	1.193	0.000
RDT&E Articles Qty				
Ultrasonic Consolidation of Embedded Sensors: Design, development, test and fielding of consolidated/advanced embedded key sensors and tracking devices to unobtrusively monitor critical condition information to the logistics and tactical front as well as tracking the location and status of critical parts and field resources.				
(U) Total \$		19.665	7.154	0.000

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supt Arms	C9999 PERM EFSS USMC						
(U) PROJECT CHANGE SUMMARY:								
	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>					
(U) FY 2008 President's Budget:	20.182	0.000	0.000					
(U) Adjustments from the President's Budget:								
(U) Congressional Program Reductions								
(U) Congressional Rescissions								
(U) Congressional Increases		7.200						
(U) Reprogrammings								
(U) SBIR/STTR Transfer	-0.509							
(U) Minor Affordability Adjustment	-0.008	-0.046						
(U) FY 2009 President's Budget:	19.665	7.154	0.000					
CHANGE SUMMARY EXPLANATION:								
(U) Funding: See above.								
(U) Schedule: Not Applicable.								
(U) Technical: Not Applicable.								
(U) C. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
PMC BLI# 206400 Expeditionary Fire Support Sys	16.291	22.102	0.000	0.000	0.000	0.000	0.000	38.393
PMC BLI# 700000 Prime Vendor Spares (EFSS)	0.432	0.000	0.000	0.000	0.000	0.000	0.000	0.432
(U) Related RDT&E:								
PE 0206623M - FY06 Congressional Plus up C9867 RDT&E PERM: \$10.8M and \$7.97M in FY07.								
(U) D. ACQUISITION STRATEGY: EFSS will use an evolutionary acquisition approach fielding a near term capability in FY08 while leveraging emerging technologies to mature the technology by FY09 and beyond.								
(U) E. MAJOR PERFORMERS: General Dynamics Tactical and Ordnance Systems (GDOTS)								

EXHIBIT R-2, RDT&E Budget Item Justification				DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT (PE) NAME AND NO.							
RDT&E, N /BA-7 Operational System Development	0206623M Marine Corps Combat/Supporting Arms Systems							
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		65.571	63.277	136.080	177.850	129.020	114.041	49.347
C0021 Assault Amphibious Vehicle 7A1 (AAV7A1)		1.559	0.824	43.189	44.280	0.905	0.925	0.950
C1555 Light Armored Vehicle (LAV) PIP		4.956	11.198	32.119	83.509	85.500	66.200	0.000
C1901 Marine Corps Ground Weaponry PIP		7.068	6.141	7.744	7.413	7.043	7.202	7.395
C2086 Marine Enhanced Program (MEP)		2.315	3.607	4.178	4.406	4.635	4.758	4.893
B2237 Amphibious Vehicle Test Branch (AVTB)		0.835	0.882	0.922	0.942	0.959	0.977	0.984
C2315 Training Devices/Simulators		8.633	14.880	20.772	16.381	10.936	11.124	11.438
C2503 Family of Combat Equip Support & Services		8.968	10.049	14.857	12.265	12.495	12.732	13.050
C2928 EIFGSWS (HIMARS)		3.912	1.176	2.443	0.525	0.545	2.151	2.448
C3098 Fire Support Systems		6.335	6.377	8.884	7.674	5.612	7.551	7.758
C4002 Family of Raid Reconnaissance		1.325	0.989	0.972	0.455	0.390	0.421	0.431
C9999 Congressional Adds		19.665	7.154	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>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 in the ADMS, 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 because it encompasses engineering and manufacturing and manufacturing development for upgrades of existing systems.</p> <p>1. Received \$2M in FY07 GWOT. 2. FY08 funding totals do not include \$20.6M previously requested for current FY08 GWOT requirements.</p>								
B. PROGRAM CHANGE SUMMARY								
		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>				
(U) FY 2008 President's Budget:		65.486	57.177	60.857				
(U) Adjustments from the President's Budget:								
(U) Congressional Reductions								
(U) Congressional Rescissions								
(U) FY07 Emergency Supplemental		2.000						
(U) Congressional Increases		2.100	7.200					
(U) FY09 Program Review				75.289				
(U) Reprogrammings		-2.512						
(U) SBIR/STTR Transfer		-1.495	-0.683					
(U) Minor Affordability Adjustment		-0.008	-0.417	-0.066				
(U) FY 2009 President's Budget:		65.571	63.277	136.080				
CHANGE SUMMARY EXPLANATION:								
(U) Funding: See Above.								
(U) Schedule:								
(U) Technical: Not Applicable.								

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supt Arms Sys			C0021 Amphibious Assault Vehicle 7A1 (AAV7A1)					
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013		
Project Cost	1.559	0.824	43.189	44.280	0.905	0.925	0.950		
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (U) PM AAV lifecycle support and Primary Item Control Agent (PICA) functions. Apply Expeditionary Fighting Vehicle (EFV) offset funding to integrate Survivability, C4I & Environment/Habitability upgrades to the AAV.									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		0.000	0.000	42.324					
RDT&E Articles Qty									
(U) Survivability upgrades: New armor system, Integral Spall Liner, Improved Fire Suspension System, Balast Attenuation Seats. C4I Upgrades: Develop, test and field C4I upgrades to include an open systems architecture, improved battlespace Situational Awareness, Ultra High Frequency/Line of Sight (UHF/LOS), Ultra High Frequency/ Sattelite Communications (UHF/SATCOM), improved intercom and integral navigation system. Environment/Habitability upgrades include Environmental Control Unit (ECU), improved air quality and noise reduction.									
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009					
Accomplishment/Effort Subtotal Cost		1.559	0.824	0.865					
RDT&E Articles Qty									
(U) PM AAV Operations Support: Evaluation and testing of safety improvements and fact of life changes to maintain the AAV Family of Vehicles (FOV).									
(U) Total \$		1.559	0.824	43.189					
(U) PROJECT CHANGE SUMMARY:									
	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>						
(U) FY 2008 President's Budget:	0.804	0.842	0.865						
(U) Adjustments from the President's Budget:									
(U) Congressional Program Reductions									
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings	0.775		42.324						
(U) SBIR/STTR Transfer	-0.020	-0.013							
(U) Minor Affordability Adjustment		-0.005							
(U) FY 2009 President's Budget:	1.559	0.824	43.189						
CHANGE SUMMARY EXPLANATION:									
(U) Funding: See above.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>	<u>FY2011</u>	<u>FY2012</u>	<u>FY2013</u>	<u>To Compl</u>	<u>Total Cost</u>
PMC BLI# 202100 (AAV7A1)	90.570	4.074	5.441	3.841	3.072	9.322	9.582	Cont	Cont
(U) Related RDT&E: NONE									
(U) D. ACQUISITION STRATEGY: TBD									
(U) E. MAJOR PERFORMERS: TBD									

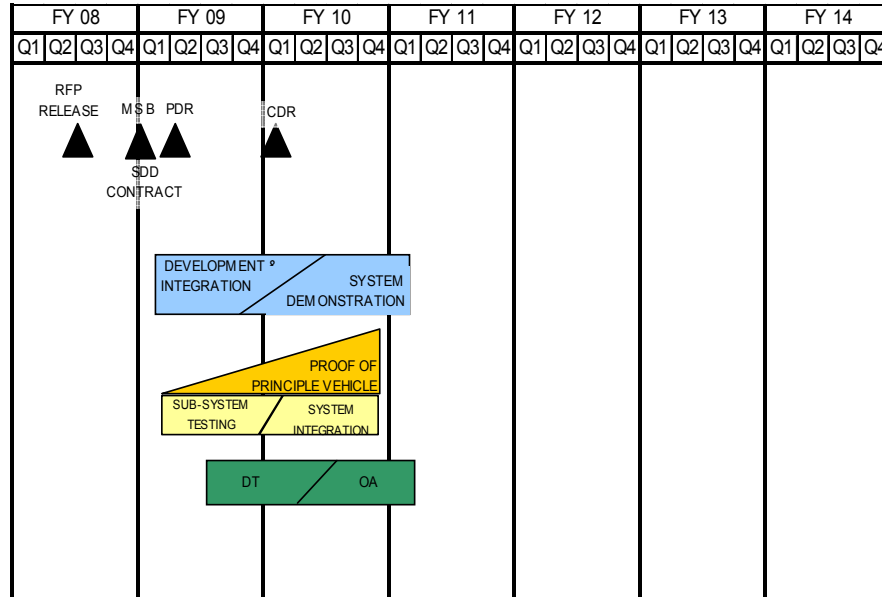
Exhibit R-3 Cost Analysis					DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems			C0021 Amphibious Assault Vehicle 7A1 (AAV7A1)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Comp I.D. and Demo/Tests	TBD	VARIOUS	0.000	0.000		0.000		17.350	TBD	Cont	Cont	
Safety Analysis	TBD	VARIOUS	0.000	0.000		0.000		2.100	TBD	Cont	Cont	
RAM/Safety	TBD	VARIOUS	0.000	0.000		0.000		11.418	TBD	Cont	Cont	
Subtotal Product Dev			0.000	0.000		0.000		30.868		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
PROGRAM SUPPORT												
Technical & Engineering Spt	CPFF	BAE SYSTEMS, TRIANGLE VA	0.000	1.559	01/07	0.824	01/08	0.865	TBD	Cont	Cont	
Documentation	TBD	BAE SYSTEMS, TRIANGLE VA	0.000	0.000		0.000		2.126	TBD	Cont	Cont	
Support	TBD	BAE SYSTEMS, TRIANGLE VA	0.000	0.000		0.000		5.100	TBD	Cont	Cont	
Subtotal Support			0.000	1.559		0.824		8.091		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
T&E												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
MANAGEMENT												
Management	TBD	VARIOUS	0.000	0.000		0.000		4.230	TBD	Cont	Cont	
Subtotal Management			0.000	0.000		0.000		4.230		Cont	Cont	
Remarks:												
Total Cost			0.000	1.559		0.824		43.189		Cont	Cont	

Exhibit R-4/4a Schedule Profile/Detail

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C0021 Amphibious Assault Vehicle 7A1 (AAV7A1)

Amphibious Assault Vehicle 7A1 (AAV7A1)



Program Funding Summary	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(APPN, BLI #, NOMEN)									
(U) RDT&E,N (C0021) AAV7A1	1.559	0.824	43.189	44.280	0.905	0.925	0.950	Cont	Cont
PMC BLI# 202100 (AAV7A1)	90.570	4.074	5.441	3.841	3.072	9.322	9.582	Cont	Cont

AAV7A1 SCHEDULE DETAIL	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY2011</u>	<u>FY2012</u>	<u>FY2013</u>
Milestone B					1Q		
Contract Award					1Q		
Preliminary Design Review					2Q		
Critical Design Review						1Q	
Developmental Test					3Q---	-----3Q	
Operational Assessment						2Q-----	1Q

EXHIBIT R-2a, RDT&E Project Justification					DATE:		DATE:							
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Systems Development					0206623M Marine Corps Ground Combat/Support Arms Systems					C1901 Marine Corps Ground Weaponry PIP				
COST (\$ in Millions)						FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013		
Project Cost						7.068	6.141	7.744	7.413	7.043	7.202	7.395		
RDT&E Articles Qty														
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:														
<p>(U) This project develops joint and Marine Corps unique improvements to infantry weapons technology, improvements for Night Vision Equipment, Rifle Combat Optics, Family of Individual Optics, Thermal Weapons Sight, Small Unit Remote Scouting System (SURSS) and monitors national and international weapons development. NOTE: SURSS has been moved to C2273 in PE 0206313M in FY08 and beyond.</p> <p>(U) MARINE CORPS AIR GROUND COMBAT CENTER (MCAGCC) RANGE INSTRUMENTATION: Converges training occurring at the Marine Air Ground Task Force Training Command (MAGTFTC), Twenty-Nine Palms, CA with training of other forces occurring at participating Joint National Training Center (JNTC) ranges and with the standing Joint Task Force (JTF), Suffolk, VA. The Marine Corps JNTC strategy is to integrate Live, Virtual, and Constructive (L-V-C) training environments currently utilized or being developed. FY04 funds developed architecture and interfaces to integrate range instrumentation and simulation to digitally capture dismounted infantry and weapon system platform operations, to record command and control communications for after action, to provide integrated targetry, battlefield effects and Military Operations in Urban Terrain (MOUT) training environments, and designed the protocol transferring the correlated digital exercise picture to other JNTC recipients and the Joint Training and Simulation Center (JTASC) within the Joint Forces Command.</p>														
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:														
COST (\$ in Millions)						FY 2007	FY 2008	FY 2009						
Accomplishment/Effort Subtotal Cost						0.024	0.000	0.000						
RDT&E Articles Qty														
Automatic Rifle: This funding will provide for testing and evaluation and program management in support of the program development for the new Marine Corps Infantry Automatic Rifle.														
COST (\$ in Millions)						FY 2007	FY 2008	FY 2009						
Accomplishment/Effort Subtotal Cost						2.290	0.997	1.519						
RDT&E Articles Qty														
Company and Battalion Mortars: This funding will be 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.														
COST (\$ in Millions)						FY 2007	FY 2008	FY 2009						
Accomplishment/Effort Subtotal Cost						1.783	1.755	2.483						
RDT&E Articles Qty														
Family of Individual Optics: This funding will be utilized to support improvements on the technology that is currently used. Research efforts will evaluate the possibility of combining / integrating disparate sensor technology to increase the overall capability. One example will be combining the Infrared (IR) and Image Intensifier (I2) technologies into one system.														
COST (\$ in Millions)						FY 2007	FY 2008	FY 2009						
Accomplishment/Effort Subtotal Cost						0.227	1.091	1.123						
RDT&E Articles Qty														
Infantry Weapons Mods: Joint participation and Marine Corps unique activities for evaluation of safety, lethality, and technology improvements for Marine Corps infantry/reconnaissance individual /crew-served weapons. Past years' efforts have impacted the safety and performance of M2 Machine Guns and M249 Squad Automatic Weapons and have included the new M40A3 Sniper Rifle, the mortar systems, and the current Marine Expeditionary Unit Special Operations Capability (MEU SOC) .45 caliber pistol efforts. Issues particularly related to safety are recurring events from year to year that require immediate attention to maintain an operational readiness posture. Likewise, we will continue to pursue potential technological advances that will significantly enhance the operational utility of both individual and crew-served weapon systems.														

EXHIBIT R-2a, RDT&E Project Justification		DATE:		DATE:	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Systems Development		0206623M Marine Corps Ground Combat/Support Arms Systems		C1901 Marine Corps Ground Weaponry PIP	
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost			0.932	0.000	0.000
RDT&E Articles Qty					
Small Unit Remote Scouting System (SURSS): Funds will be used for development, demonstration and testing of product improvements and block upgrades to meet increasingly demanding Operational Requirements Document (ORD) thresholds. NOTE: SURSS has been moved to C2273 in PE 0206313M in Fy08 and beyond.					
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost			1.534	2.298	2.318
RDT&E Articles Qty					
Night Vision Mod Line: Joint participation and Marine Corps unique activities for evaluation of safety, lethality, and technology improvements for Marine Corps night vision devices.					
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost			0.278	0.000	0.000
RDT&E Articles Qty					
Tactical Unmanned Vehicle (TUV): Funds will be used for developmental testing at Redstone Arsenal.					
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost			0.000	0.000	0.301
RDT&E Articles Qty					
Scout Sniper Capability Sets: The Scout Sniper Capability Set (SSNCS) will allow the Marine Sniper Team the capability to detect, recognize, identify, range, observe and engage targets during the day or night or in limited visibility/lighting conditions.					
(U) Total \$			7.068	6.141	7.744
(U) PROJECT CHANGE SUMMARY:		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
(U) FY 2008 President's Budget:		6.434	6.235	7.258	
(U) Adjustments from the President's Budget:					
(U) Congressional Program Reductions					
(U) Congressional Rescissions					
(U) Congressional Increases					
(U) Reprogrammings					
		0.786		0.489	
(U) SBIR/STTR Transfer		-0.152	-0.054		
(U) Minor Affordability Adjustments			-0.040	-0.003	
(U) FY 2009 President's Budget:		7.068	6.141	7.744	
CHANGE SUMMARY EXPLANATION:					
(U) Funding: See Above.					
(U) Schedule:					
(U) Technical:					

EXHIBIT R-2a, RDT&E Project Justification		DATE:					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME								
RDT&E, N /BA-7 Operational Systems Development (U) C. OTHER PROGRAM FUNDING SUMMARY:	0206623M Marine Corps Ground Combat/Support Arms Systems	C1901 Marine Corps Ground Weaponry PIP								
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>	
PMC BLI #206100 Mod Kits IWS	1.605	...Moved to BLI 222000 FY08 and out...						0.000	1.605	
PMC BLI #222000 Under \$5 Million	134.430	51.115	24.220	12.292	13.681	12.853	13.125	0.000	261.716	
PMC BLI #233400 Modular Weapon System	54.179	12.387	0.000	0.000	0.000	0.000	0.000	0.000	66.566	
PMC BLI #493000 Night Vision Equipment	296.727	40.316	24.868	22.858	23.034	14.892	16.845	Cont	Cont	
PMC BLI #464000 SURSS	0.000	11.474	0.000	0.000	0.000	0.000	0.000	0.000	11.474	
PMC BLI #474700 Intel SP EQP SURSS	15.493	0.000	15.393	4.804	4.470	5.619	3.713	0.000	49.492	
(U) Related RDT&E: Not Applicable.										
(U) All Ground Weapons and Ground Ammunition Systems: Army, Navy, Air Force, Coast Guard, and Special Operations Command										
(U) D. ACQUISITION STRATEGY:										
(U) These programs range from off-the-shelf modifications to developmental items. Modification covers safety, reliability, and technology up-grades to meet Marine Corps requirements.										
(U) E. MAJOR PERFORMERS:										
1Qtr 05, 1Qtr 06, 1Qtr 07 - NSWC, Dahlgren, VA - Product development.										
1Qtr 05, 1Qtr 06, 1Qtr 07 - AeroVironment, Simi Valley, CA - Product development.										
2Qtr 05, 2Qtr 07 - Watervliet Arsenal, Watervliet, NY - Test & Evaluation.										
1Qtr 05 - Present Office of Naval Research (ONR) with R&D for Company and Battalion Mortars										
1Qtr 05-Present - Dynamic Flow Form: Vendor for Mortar Development										
1Qtr 06; 2Qtr 06 - L3 Titan Corporation: Contractor Support for Program Manager										
3 Qtr 06 - Army ARDEC - Contracts for Infantry Automatic Rifle prototypes										
2Qtr 07 - Army Proving Ground, Yuma, AZ - Test & Evaluation.										
2Qtr 07 - Marine Corps Programs Division, Fallbrook, CA - Test & Evaluation.										
2Qtr 08 - NSWC, Crane, IN - Engineering Support for development of Mortar Fire Control System										

Exhibit R-3 Cost Analysis								DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RD&E, N /BA-7 Operational Systems Development				0206623M Marine Corps Ground Combat/Support Arms Systems				C1901 Marine Corps Ground Weaponry PIP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Inf Wpns Mods	WR/RCP	MCCDC, Quantico, VA	0.927			0.051	1Q07	0.060	1Q08	0.070	1Q09	Cont	Cont	
Inf Wpns Mods	WR	WTBN, Quantico, VA	0.234			0.000		0.050	1Q08	0.050	1Q09	Cont	Cont	
Inf Wpns Mods	MILSTRIP	MCSC, Quantico, VA	0.024			0.000		0.050	1Q08	0.050	1Q09	Cont	Cont	
Inf Wpns Mods	RCP	MCSC, Quantico, VA	0.143			0.123	2Q07	0.218	1Q08	0.220	1Q09	Cont	Cont	
Inf Wpns Mods	RCP	NSWC, Crane, IN	0.200			0.010	3Q07	0.200	2Q08	0.153	2Q09	Cont	Cont	
SURSS	RCP	AeroVironment, Simi Vall	0.693			0.115	1Q07					Cont	Cont	
SURSS	MIPR	UAVS, Redstone Arsenal,	0.130									Cont	Cont	
SURSS	MIPR	Natick, MA	0.250			0.200	2Q07					Cont	Cont	
SURSS	MIPR	MITRE, Ft. Monmouth, N	0.244											
Automatic Rifle	RCP	TBD	0.000			0.000						Cont	Cont	
Automatic Rifle	RCP	ARDEC, Picatinny, NJ	0.687			0.000						Cont	Cont	
Automatic Rifle	WR	PM Ammo, Quantico, VA	0.080			0.000						Cont	Cont	
Company/Battalion Mortar	RCP	ONR, Arlington, VA	0.105					0.213	2Q08	0.200	1Q09	Cont	Cont	
Company/Battalion Mortar	MIPR	ARDEC, Picatinny, NJ	0.000			0.070	4Q07	0.200	2Q08	0.315	1Q09	Cont	Cont	
Company/Battalion Mortar	WR	NSWC, Crane, IN				0.030	4Q07			0.200	2Q09			
Family of Individual Optics	WR/RCP	NSWC, Dahlgren, VA	0.000			0.951	1Q07	1.025	1Q08	2.047	1Q09	Cont	Cont	
Nt Vision Mod	WR/RCP	NSWC, Dahlgren, VA	2.717			1.107	1Q07	1.703	1Q08	1.604	1Q09	Cont	Cont	
Nt Vision Mod	MIPR	Night Vision Lab, Ft Belv	0.797			0.115	1Q07	0.250	1Q08	0.250	1Q09	Cont	Cont	
Scout Sniper Cap Sets	RCP	TBD	0.000						1Q08	0.247	1Q09	Cont	Cont	
TWS	MIPR	Night Vision Lab, Ft Belv	0.317											
TUV	MIPR	Redstone Arsenal, AL	2.005			0.278	1Q07					Cont	Cont	
MCAGCC Range Inst	RCP(FFP)	SRI Int'l, Menlo Park, CA	3.675									Cont	Cont	
Subtotal Product Dev			13.228			3.050		3.969		5.406		Cont	Cont	
Remarks:														

Exhibit R-3 Cost Analysis							DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Systems Development				0206623M Marine Corps Ground Combat/Support Arms Systems				C1901 Marine Corps Ground Weaponry PIP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Inf Wpns Mods	WR	MCSC, Quantico, VA	1.024			0.043	1Q07	0.100	1Q08	0.100	1Q09	Cont	Cont	
Inf Wpns Mods	RCP	BAEST, Stafford, VA	0.947									Cont	Cont	
Inf Wpns Mods	RCP	CEOSS	0.180					0.083	1Q08	0.130	1Q09	Cont	Cont	
Inf Wpns Mods	RCP	MCSC, Quantico, VA	0.351					0.150	1Q08	0.150	1Q09	Cont	Cont	
SURSS	RCP	BAEST, Stafford, VA	0.537									Cont	Cont	
SURSS	WR	NSWC, Dahlgren, VA (Ci	0.640			0.165	1Q07					Cont	Cont	
SURSS	WR	MCSC, Quantico, VA	0.041									Cont	Cont	
SURSS	RCP	MCSC, Quantico, VA	0.090									Cont	Cont	
SURSS	RCP	Aero Vironment, Simi Vall	0.094									Cont	Cont	
SURSS	MIPR	Joint Spectrum Ctr, Annap	0.081									Cont	Cont	
SURSS	RCP	CEOSS	0.000			0.452	4Q07					Cont	Cont	
Automatic Rifle	RCP	CEOSS	0.180									Cont	Cont	
Company/Battalion Mortar	RCP	CEOSS	0.360					0.234	4Q08	0.454	1Q09	Cont	Cont	
Nt Vision Mod	WR	MCSC, Quantico, VA	0.630			0.159	1Q07	0.200	1Q08	0.200	1Q09	Cont	Cont	
Nt Vision Mod	RCP	CRC, Quantico, VA	1.015			0.128	1Q07	0.000	1Q08	0.000	1Q09	Cont	Cont	
Family of Individual Optics	WR	MCSC, Quantico, VA	0.000			0.822	1Q07	0.500	1Q08	0.250	1Q09	Cont	Cont	
Scout Sniper Cap Sets	RCP	CRC, Quantico, VA	0.000						1Q08	0.045	1Q09			
Nt Vision Mod	WR	MCSC, Quantico, VA	0.020									Cont	Cont	
TWS	RCP	BAEST, Stafford, VA	0.037									Cont	Cont	
MCAGCC Range Inst	RCP (FFP)	SENSIS Corp., Dewitt, NY	0.556									Cont	Cont	
Subtotal Support			6.783			1.769		1.267		1.329		Cont	Cont	
Remarks:														

Exhibit R-3 Cost Analysis							DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Systems Development				0206623M Marine Corps Ground Combat/Support Arms Systems			C1901 Marine Corps Ground Weaponry PIP							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Inf Wpns Mods	WR	MCOTEA, Quantico, VA	0.175			0.000		0.070	2Q08	0.080	2Q09	0.000	0.140	
Inf Wpns Mods	WR	MCCDC, Quantico, VA	0.285									0.000	0.285	
Inf Wpns Mods	MIPR	Watervliet Arsenal, Water	0.300			0.000		0.070		0.080		Cont	Cont	
Inf Wpns Mods	WR	PM Ammo, Quantico, VA	0.057			0.000		0.040		0.040		Cont	Cont	
Automatic Rifle	WR	MCOTEA, Quantico, VA	0.176									Cont	Cont	
Automatic Rifle	WR	MCPD, Fallbrook, CA	0.000			0.000						Cont	Cont	
Automatic Rifle	WR	PM Ammo, Quantico, VA	0.000			0.000						Cont	Cont	
Automatic Rifle	RCP	MCSC, Quantico, VA	0.000			0.024	3Q07					Cont	Cont	
Company/Battalion Mortar	WR	MCOTEA, Quantico, VA	0.030				1Q07	0.150	2Q08	0.150	2Q09	Cont	Cont	
Company/Battalion Mortar	MIPR	Watervliet Arsenal, Water	0.167			1.263	2Q07	0.200	2Q08	0.200	2Q09	Cont	Cont	
Company/Battalion Mortar	WR	NSWC, Dahlgren, VA	0.000			0.579	1-3Q07					Cont	Cont	
Company/Battalion Mortar	WR	MCPD, Fallbrook, CA	0.000			0.100	1,3Q07					Cont	Cont	
Company/Battalion Mortar	MIPR	Army Proving Grd, Yuma	0.000			0.148	3Q07					Cont	Cont	
Company/Battalion Mortar	RCP	CTQ, Quantico, VA	0.000			0.100	2Q07					Cont	Cont	
SURSS	WR	MCOTEA, Quantico, VA	0.207									0.000	0.207	
SURSS	WR	NSWC, Carderock, MD	0.036									Cont	Cont	
Family of Individual Optics	WR	MCOTEA, Quantico, VA	0.000			0.010	2Q07	0.230	1Q08	0.186	1Q09	Cont	Cont	
Scout Sniper Cap Sets	RCP	MCOTEA, Quantico, VA	0.000							0.009	1Q09			
TWS	RCP	NSWC, Crane, IN	0.052									Cont	Cont	
Nt Vision Mod	WR	MCOTEA, Quantico, VA	0.645			0.025	2Q07	0.145	1Q08	0.264	1Q09	Cont	Cont	
Subtotal T&E			2.130			2.249		0.905		1.009		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
MCAGCC Range Inst	RCP/FFP	MKI Systems, Orlando FL	1.491									0.000	1.491	
Subtotal Management			1.491			0.000		0.000		0.000		Cont	Cont	
Remarks:														
Total Cost			23.632			7.068		6.141		7.744		Cont	Cont	

Exhibit R-4/4a Project Schedule/Detail

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /BA-7 Operational Systems
Development

PROGRAM ELEMENT
0206623M Marine Corps Ground Combat/Support Arms Systems

PROJECT NUMBER AND NAME
C1901 Marine Corps Ground Weaponry PIP

SNIPER SYSTEMS CAPABILITY SET

Fiscal Year	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total
Individual Scout Sniper Optics (SSDS Fusion Capability MS B (FY10 1st Qtr)													

Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost	
(U) RDT&E,N, C1901, Sniper System Capability Sets				0.301	0.305	0.308	0.316	0.326	0.000	1.556
(U) PMC, BLI 493000, Sniper System Capability Sets	10.470	0.031	3.165	1.433	1.127	1.158	1.191	0.000	34.326	

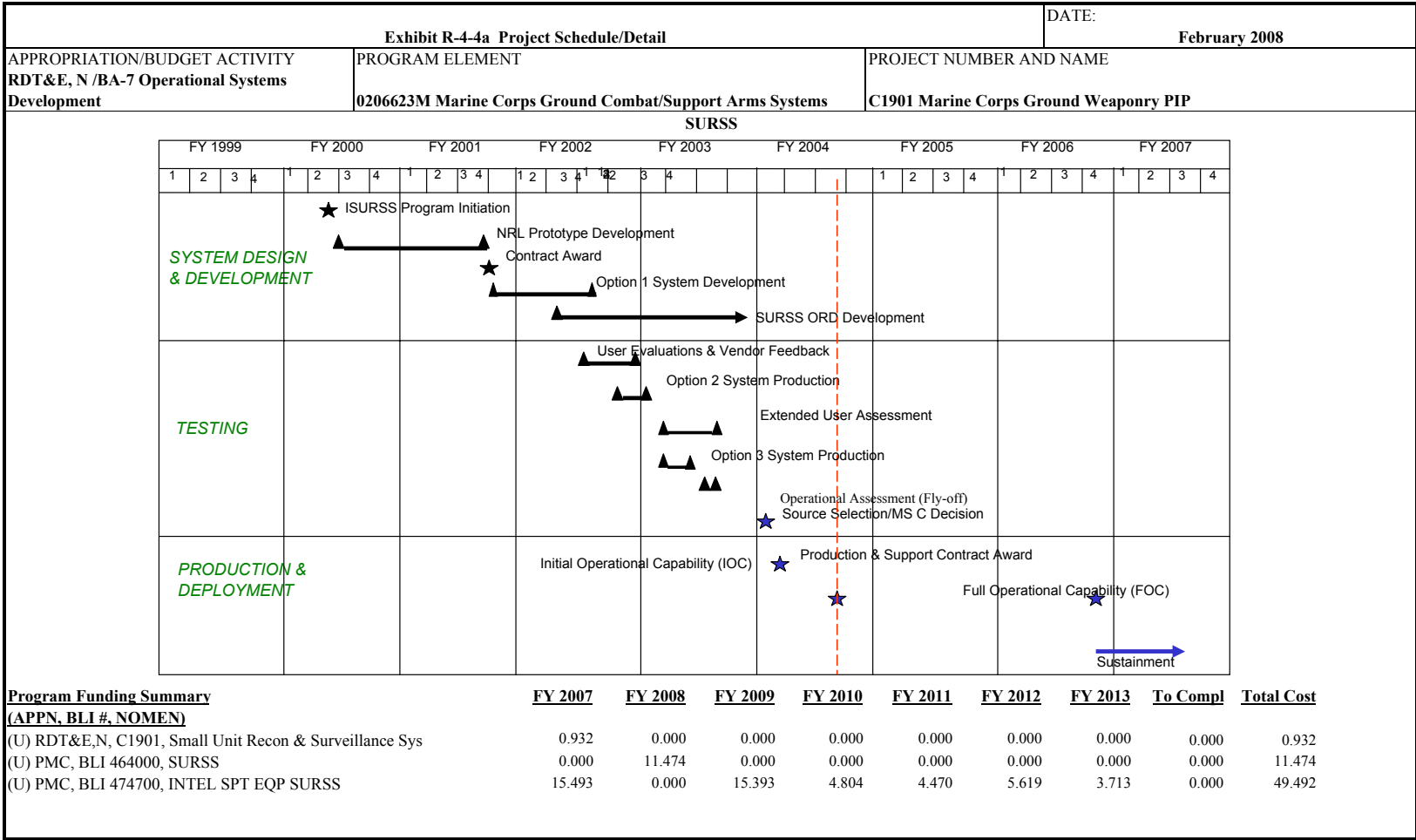


Exhibit R-4-4a Project Schedule/Detail						DATE:					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Systems Development						PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Support Arms Systems			PROJECT NUMBER AND NAME C1901 Marine Corps Ground Weaponry PIP		
						February 2008					
SURSS	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007			
Program Initiation	2Q										
NRL Prototype Development	2Q										
Contract Award		4Q									
Option 1 System Development		4Q									
SURSS ORD Development			2Q								
User Evaluations & Vendor Feedback			3Q								
Option 2 System Production			4Q								
Extended User Assessment				1Q							
Option 3 System Production				1Q							
Operational Assessment (Fly-Off)				3Q							
Source Selection / MS C Decision					1Q						
Production & Support Contract Award					2Q						
IOC					3Q						
FOC							4Q				

Exhibit R-4-4a Project Schedule/Detail											DATE:													
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Systems Development											PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Support Arms Systems MORTARS		PROJECT NUMBER AND NAME C1901 Marine Corps Ground Weaponry PIP											
Task Name	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014	
	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	
<input type="checkbox"/> Pre-MS A Activities	Pre-MS A Activities																							
Business Case Analysis	Business Case Analysis																							
Technology Research and Analysis	Technology Research and Analysis																							
Milestone A/B	◆ Milestone A/B																							
Milestone C	◆ Milestone C																							
Contract Award for 60mm and 81mm Systems	◆ Contract Award for 60mm and 81mm Systems																							
<input type="checkbox"/> LRIP	LRIP																							
Evaluation	Evaluation																							
Modifications	Modifications																							
<input type="checkbox"/> Fielding	Fielding																							
Deliveries of 60mm and 81mm Systems	Deliveries of 60mm and 81mm Systems																							
IOC Company and Battalion Mortars	◆ IOC Company and Battalion Mortars																							
FOC Company and Battalion Mortars	◆ FOC Company and Battalion Mortars																							
Program Funding Summary											FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost					
(APPN, BLI #, NOMEN)																								
(U) RDT&E,N, C1901, Company and Battalion Mortars											2.290	0.997	1.519	1.015	0.510	0.524	0.539	Cont	Cont					
(U) PMC, BLI 222000, Company and Battalion Mortars											50.042	11.341	3.234	2.237	2.234	3.329	3.423	Cont	Cont					

Exhibit R-4-4a Project Schedule/Detail									DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT					PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Systems Development	0206623M Marine Corps Ground Combat/Support Arms Systems					C1901 Marine Corps Ground Weaponry PIP					
MORTARS	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY 2012	FY 2013
Pre Milestone A Activities	2Q										
Business Case Analysis	2Q										
Technology Research and Analysis		1Q		2Q	2Q	2Q	2Q	2Q	2Q	2Q	2Q
Milestone A/B				3Q							
Milestone C					4Q						
Contract Award 60mm/81mm Systems						1Q					
LRIP						2Q					
Evaluation						2Q					
Modifications						3Q					
Fielding						3Q					
Deliveries						3Q					
IOC						4Q					
FOC								1Q			

Exhibit R-4-4a Project Schedule/Detail			DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Systems Development	0206623M Marine Corps Ground Combat/Support Arms Systems	C1901 Marine Corps Ground Weaponry PIP							
AUTOMATIC RIFLE									
Task Name	15	2006	2007	2008	2009	2010			
	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
Critical: Yes									
Prepare MS A brief/ ADM									
Draft/ Staff RFP #1									
Staff MS A brief/ ADM									
Milestone A decision/ ADM to proceed directly to MS C									
Issue RFP #1									
Vendor Response Period									
Contract Award									
Vendor Prototype Preparation									
Prototype Deliveries									
OTF Tests Prototypes									
OTF Publishes Test Report									
SBT IPT									
MCSAMP Update									
Prepare Milestone C Acquisition Decision Memorandum, See MDA									
Milestone C									
Issue RFP #2									
Vendor Response Period									
Review vendor samples and proposals for responsiveness									
Complete Safety Review/ Operational Risk Management (for DT)									
Conduct Go/No Go Verification Inspection									
Conduct Vendor Live Fire Demo									
Establish Competitive Range									
Conduct Environmental Testing									
Conduct Limited User Evaluation									
Complete Technical Evaluation Report									
SSAC Training									
SSAC makes "best value" determination and forwards to SSA									
PM Endorses SSAC results									
Contract Award (OT Quantity CLIN)									
Receive Extra Weapons from Best Value Offeror									
Complete Safe and Ready Review (for OT)									
Operational Testing									
OT Preliminary Report Issued									
OT Report Issued									
Full rate production decision preparation									
Full Rate Production Decision (MDA)									
Exercise CLIN for Full Rate Production									
Commence Total Package Fielding									
Initial Operational Capability									
Full Operational Capability									
Program Funding Summary									
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(APPN, BLI #, NOMEN)									
(U) RDT&E,N, C1901, Automatic Rifle	0.324	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.324
(U) PMC, BLI 222000, Automatic Rifle	0.655	3.750	11.233	0.002	0.000	0.000	0.000	0.000	15.640
(U) PMC, BLI 222000, Semi-Auto Sniper Weapon	0.016	0.595	0.000	0.000	0.000	0.000	0.000	0.000	0.611

Exhibit R-4-4a Project Schedule/Detail						DATE:		
						February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Systems Development	0206623M Marine Corps Ground Combat/Support Arms Systems	C1901 Marine Corps Ground Weaponry PIP						
AUTOMATIC RIFLE	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone A	2Q							
Issue RFP for Prototypes	2Q							
Contract Award	3Q							
Prototype Deliveries	4Q							
OTF Tests Prototypes	4Q							
Milestone C		1Q						
Issue RFP #2		1Q						
Verification Testing (Go/No-Go, Demos, Environs, LUE)		2Q						
Source Selection		3Q						
Contract Award		3Q						
Complete Safe and Ready Review (for OT)		3Q						
Operational Testing		4Q						
OT Preliminary Report Issued		4Q						
OT Report			1Q					
Full Rate Production Decision			1Q					
Initial Operational Capability			3Q					
Full Operational Capability					1Q			

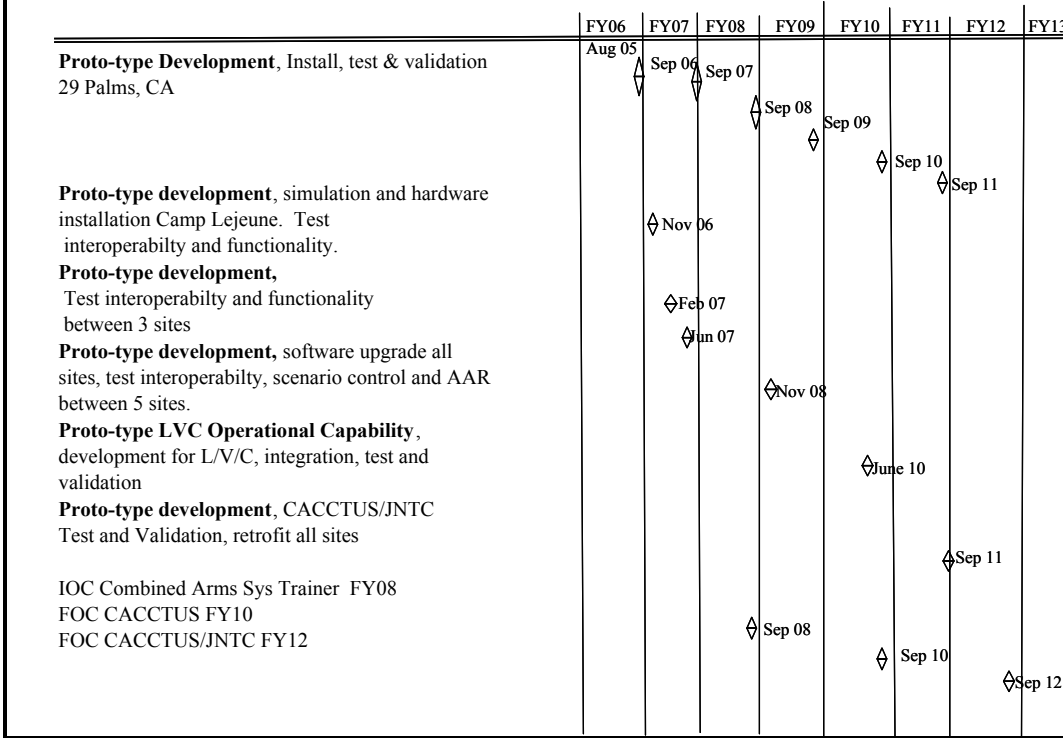
EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Development		0206623M Marine Corps Ground Combat/Supporting Arms				C2315 Training Devices/Simulators			
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
			8.633	14.880	20.772	16.381	10.936	11.124	11.438
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
(U) Training simulators supported by this program element include Multiple Integrated Laser Engagement System (MILES 2000), Combined Arms Command & Control Training Upgrade System (CACCTUS), Deployable Virtual Training Environment (DVTE), Marine Air-Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Enhancements, Range Modernization/Transformation (RMT) and Military Operations in Urban Terrain (MOUT) and Automated Language Training System (ALTS). 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, 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.									
NOTE: FY 05 and FY06 Funding is in PE 0206313M.									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost			2.742	5.436	6.196				
RDT&E Articles Qty									
CACCTUS: Initial prototype installed at 29 Palms, CA for verification and validation testing by Tactical Training Exercise Control Group (TTECG). Transitioning continues from test bed to target simulation engine. Integration of operation C4I systems with sim. Development and integration of sim interfaces and visualization tools.									
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost			1.548	0.732	0.405				
RDT&E Articles Qty									
MILES 2000 is the base technology for Range Instrumentation development that is used in Force-on-Force, Free Play, and Force-On-Targets exercises. MILES 2000 is an integral component of Position Location Instrumentation (PLI) providing individual Marine feedback and engagement adjudication. Funds will develop wireless radio frequency detectors belt, integrate MILES Integrated Target Systems (MITS) with Deployable Target System (DTS), integrate Improved Explosive Devices/Battlefield Effect Simulators (IEDs/BES) with the current MILES 2000 and MOUT instrumentation, and integrate Tactical Voice Capture System with MILES 2000.									
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost			0.000	0.000	6.500				
RDT&E Articles Qty									
DVTE: Funds will be used to develop improved system network infrastructure, graphical User Interfaces, leveraging of Graphical User Interfaces and C4I interfaces from other Services to enable Marines to training using actual operational equipment in the execution of training scenarios. New and improved semi-autonomous simulation models and ability to modify existing or emerging real world terrain databases. Develop and or leverage system interfaces to enable integration of DVTE with other Constructive and Live training systems.									
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost			2.343	3.758	2.600				
RDT&E Articles Qty									
MTWS Enhancements: The MTWS support initiative includes software and system development support, training network infrastructure support, and hardware support to include: develop an interface between MTWS and other simulation models, such as Joint Conflict and Tactical Simulation (JCATS) and other selected models; develop MTWS-C4I interoperability with Command and Control PC (C2PC), Army Field Artillery Tactical Data System (AFATDS), Theater Battle Management Corps System (TBMCS), and Common Aviation Command and Control System (CAC2S); enhanced man machine interface for efficient exercise generation and execution processes, and reduce the number of exercise operators and controllers; refresh compute hardware training suites, and supporting training communication network infrastructure; develop Course of Actions and Analyses (COAA) capability; Rules of Engagement for multi-sided warfare and organizations and Airborne Electronic Warfare and Advanced synthetic natural environment upgrades.									
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost			0.000	4.954	5.071				
RDT&E Articles Qty									
RMT: Funds will provide for the development efforts associated with modernizing major USMC base and station live training ranges by providing enhanced after action review with ground truth feedback, realistic representation of opposing forces (OPFOR) and enhanced range and exercise control capabilities. Integrating live and simulated training technologies, the fielded capabilities enhance live-fire, force-on-target, and force-on-force training. Major system components of modernization include MOUT facilities, inter-active targetry, battlefield effects simulators, individual and vehicle tracking systems, aviation tracking systems, MILES, simulated munitions, integrated simulation, and range control and exercise control information processing and situational awareness displays.									

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms			C2315 Training Devices/Simulators					
COST (\$ in Millions)				FY 2007	FY 2008	FY 2009			
Accomplishment/Effort Subtotal Cost				2.000	0.000	0.000			
RDT&E Articles Qty									
Automated Language Training System (ALTS): This FY07 Supplemental funds provides for technology development required to produce survival foreign language and culture training modules relevant to Marine Corps operational areas of responsibility. It also provides for technology development necessary to integrate these survival foreign language and culture training modules with a simulation environment that provides tactical decision making training using geo-specific terrain. A prototype of these technologies will be produced that provides a PC based training system that provides survival language and culture training, tactical decision making training and mission rehearsal capability using geo-specific simulation environments.									
(U) Total \$				8.633	14.880	20.772			
(U) PROJECT CHANGE SUMMARY:									
	FY 2007	FY 2008	FY 2009						
(U) FY 2008 President's Budget:	7.341	15.197	14.144						
(U) Adjustments from the President's Budget:									
(U) Congressional Reductions (8025 FFRDC)		-0.008							
(U) Congressional Rescissions									
(U) Congressional Increases	2.000								
(U) PR09 Programmatic Adjustment			6.500						
(U) Reprogrammings	-0.538								
(U) SBIR/STTR Transfer	-0.170	-0.212							
(U) Minor Affordability Adjustments		-0.097	0.128						
(U) FY 2009 President's Budget:	8.633	14.880	20.772						
CHANGE SUMMARY EXPLANATION:									
(U) Funding: See Above.									
(U) Schedule:									
(U) Technical:									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
RDT&E, N PE 26313M C2315	0	0	0	0	0	0	0	0	0
PMC BLI #653200 Training Devices Simulators	338.375	79.607	57.476	18.627	19.369	20.302	21.003	Cont	Cont
(U) Related RDT&E: Not Applicable.									
(U) D. ACQUISITION STRATEGY:									
(U) CACCTUS - Competitive Cost plus Fixed Fee contract (CPFF).									
(U) MILES - Competitively award Cost Plus Incentive Fee (CPIF) development contract.									
(U) MTWS Enhancements - Competitively award Cost Plus Incentive Fee (CPIF) development contract.									
(U) DVTE - Competitively award development contract.									
(U) Range Modernization/Transformation - Competitively award RM/T LSI development contract.									
(U) Automated Language Training System - Competitively award development contract.									
(U) E. MAJOR PERFORMERS:									
Not Applicable for any programs with Training Devices/Simulators, C2315.									

Exhibit R-3 Cost Analysis							DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Development			0206623M Marine Corps Ground Combat/Supporting Arms				C2315 Training Devices/Simulators							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Product Dev - RM/T	CPFF*	Competitive Acquisition						1.672	03/08	2.145	01/09			
Product Dev - MILES	SS/FP	Saab, Orlando, FL (MITS)	0.000			0.288	12/06	0.170	03/08			Cont	Cont	
Product Dev - MILES	SS/FP	Saab, Orlando, FL (Wireless)	0.000			0.257	12/06	0.100	03/08			Cont	Cont	
Product Dev - MILES	SS/FP	Sarnoff/L3 (Tac Video Capture)						0.050	03/08					
Product Dev - MILES	SS/FP	SRI (IED and BES Integration)								0.303	01/09			
Product Dev - ALTS	SS/FP	Tactical Language Training (LLC)				2.000	01/08							
Subtotal Product Dev			0.000			2.545		1.992		2.448		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
SW Dev - RM/T	CPFF*	Competitive Acquisition						3.032	01/08	2.668	01/09			
SW Dev - Miles	SS/FP	Saab, Orlando, FL (Wireless)	0.000			0.288	12/06					Cont	Cont	
SW Dev - Miles	SS/FP	Saab, Orlando, FL (MTI)	0.000			0.257	12/06					Cont	Cont	
SW Dev - Miles	SS/FP	Sarnoff/L3 (Tac Video Capture)						0.312	03/08					
Software Dev-CACCTUS	CPFF*	PM TRASYs, Orlando, FL	0.000			2.575	10/06	3.685	01/08	5.196	10/08	Cont	Cont	
SW Dev, CACCTUS	C/IDIQ	NAWC, Orlando, FL	0.000			0.167	10/06	1.751	03/08	1.000	10/08	Cont	Cont	
Dev Support - MTWS	SS/T&M	PM TRASYs, Orlando, FL	0.000			2.093	10/06	3.188	03/08	2.221	10/08	Cont	Cont	
SW Dev, DVTE	C/IDIQ	PEOSTRI, Orlando, FL	0.000							6.500	10/08	Cont	Cont	
Subtotal Support			0.000			5.380		11.968		17.585		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
T & E - MILES	WR	MCSC, Quantico, VA	0.000			0.200	04/07	0.100	06/08	0.102	06/09	Cont	Cont	
												Cont	Cont	
Subtotal T&E			0.000			0.200		0.100		0.102		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Program Support - DVTE	WR	NAWC, Orlando, FL						0.000			12/08	Cont	Cont	
Program Support - RM/T	WR	MCSC, Quantico/NAWC, Orlando						0.250	03/08	0.258	10/08	Cont	Cont	
Program Support - MTWS	SS/T&M	MCSC, Quantico, VA	0.000			0.250	10/06	0.570	03/08	0.379	10/08	Cont	Cont	
Program Spt - MILES	WR	NAWC, Orlando, FL	0.000			0.258	10/06					Cont	Cont	
Subtotal Management			0.000			0.508		0.820		0.637		Cont	Cont	
Remarks:														
Total Cost			0.000			8.633		14.880		20.772		Cont	Cont	

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 C2315 Training Devices/Simulators
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CACCTUS PROGRAM SCHEDULE



Program Funding Summary

<u>(APPN, BLI #, NOMEN)</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) RDT&E,N (CACCTUS) PE 26623M C2315	2.742	5.436	6.196	6.134	5.578	5.717	5.874	Cont	Cont
(U) PMC BLI 653200 Training Dev/Sim (CACCTUS)	3.759	5.009	4.817	4.943	4.939	5.374	5.638	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C2315 Training Devices/Simulators						
CACCTUS SCHEDULE DETAIL								
		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Software Development Reviews		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
Prototype Functionality Evaluation User, 29 Palms		2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q
Hardware Integration/Installation/Test								
Camp Pendleton		2Q	2Q	2Q	2Q	2Q	2Q	2Q
Camp Hansen Combined		4Q	4Q	4Q	4Q	4Q	4Q	4Q
MCAS Kaneohe Bay		3Q	3Q	3Q	3Q	3Q	3Q	3Q
Camp LeJeune		1Q	1Q	1Q	1Q	1Q	1Q	1Q
P3I 29 Palms				2Q			2Q	
P3I Camp Lejeune		1Q			1Q			1Q
P3I MCAS Kaneohe Bay/Camp Butler				4Q			4Q	
P3I 29 Camp Pendleton			2Q			2Q		
CACCTUS IOC			4Q					
CACCTUS FOC					4Q			
CACCTUS/JNTC FOC							4Q	

Exhibit R-4-4a Project Schedule/Detail

DATE: **February 2008**

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
C2315 Training Devices/Simulators

MILES PROGRAM SCHEDULE

	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
RF Capability (Wireless Capability)	◆	◆	◆					
Integrate MITS w/DTS		◆	◆					
Dry Fire Trigger	◆							
ASAAF	◆							
Tactical Video Capture			◆					
IED/BES Integration				◆				
Program Support	◆◆◆							
Test and Evaluation		◆	◆	◆				

Program Funding Summary
(APPN, BLI #, NOMEN)

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N (MILES) PE 26313M C2315	0.000								Cont	Cont
(U) RDT&E,N (MILES) PE 26623M C2315		1.548	0.732	0.405	0.203	0.050	0.052	0.053	Cont	Cont
(U) PMC BLI 653200 Training Dev/Sim (MILES)	8.918	12.320	9.543	0.684	0.012	0.015	0.000	0.000	0	31.492

MILES SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
RD Capability (Wireless)	3Q	1Q	2Q					
Integrate MITS with DTS		1Q	1Q					
Dry Fire Trigger	3Q							
ASAAF	3Q							
Tactical Video Capture			2Q					
IED Integration				2Q				
Program Support	1-4Q	1-4Q						
Test and Evaluation		3Q	3Q	3Q				

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2008
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 C2315 Training Devices/Simulators

MTWS PROGRAM SCHEDULE

	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Contract Awards	◆	◆	◆	◆	◆	◆	◆	◆
MTWS IPT/CCB	◆	◆	◆	◆	◆	◆	◆	◆
Version 3.4 SW Release		◆						
Version 3.5 SW Release			◆					
Version 3.6 SW Release				◆				
Version 3.7 SW Release					◆			
Version 3.8 SW Release						◆		
Version 3.9 SW Release							◆	
Version 4.0 SW Release								◆
Version 4.1 SW Release								◆
Program Spt								
HW ReFresh								

<u>Program Funding Summary</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
<u>(APPN, BLI #, NOMEN)</u>										
(U) RDT&E,N (MTWS) PE 26313M C2315	1.377								Cont	Cont
(U) RDT&E,N (MTWS) PE 26623M C2315		2.343	3.758	2.600	2.219	3.001	2.987	3.069	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail							DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E, N /BA 7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems				C2315 Training Devices/Simulators				
MTWS SCHEDULE DETAIL		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Contract Award		3Q	2Q	2Q	2Q	2Q	2Q	2Q	2Q	
MTWS IPT/CCB		2-4Q	2-4Q							
Version 3.4 SW Release		4Q								
Version 3.5 SW Release			4Q							
Version 3.6 SW Release				4Q						
Version 3.7 SW Release					4Q					
Version 3.8 SW Release						4Q				
Version 3.9 SW Release							4Q			
Version 4.0 SW Release								4Q		
Version 4.1 SW Release									4Q	
Program Support		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	
HW Refresh					1-4Q				1-4Q	

Exhibit R-4-4a Project Schedule/Detail			DATE:							
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT	PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems	C2315 Training Devices/Simulators							
DVTE PROGRAM SCHEDULE										
			FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
DVTE Contract Award (w/Options)						◆ ◆				
Program Support						████████				
Program Funding Summary										
(APPN, BLI #, NOMEN)										
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N (DVTE) PE 266XXXXXX C2315	0.000	0.000	0.000	6.500	5.500	0.000	0.000	0.000	Cont	Cont
(U) PMC BLI 653200 Training Dev/Sim (DVTE)	0.000	14.756	6.903	0.000	0.000	0.000	0.000	0.000	Cont	Cont
DVTE SCHEDULE DETAIL										
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013		
Contract Award				3Q	1Q					
Program Support				1-4Q	1-4Q					

Exhibit R-4-4a Project Schedule/Detail						DATE: February 2008					
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 C2315 Training Devices/Simulators					
<i>AUTOMATED LANGUAGE TRAINING SYSTEM</i>											
		FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13		
ALTS Contract Award				◆							
<u>Program Funding Summary</u>		<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
<u>(APPN, BLI #, NOMEN)</u>											
(U) RDT&E,N (RMT) PE 26623M C2315		0.000	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.000
(U) PMC BLI 653200 Training Dev/Sim		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
<u>AOLTS SCHEDULE DETAIL</u>		<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>		
Contract Award				2Q							

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev		0206623M Amphibious Vehicle Test Branch			B2237 Amphibious Vehicle Test Branch					
		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost to Complete	Total Program
Project Cost		0.835	0.882	0.922	0.942	0.959	0.977	0.984	Cont	Con't
RDT&E Articles Qty										
(U) 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 the Expeditionary Fighting Vehicle (EFV) Program, the Marine Corps' number one priority ground weapon system acquisition program.										
COST (\$ in Millions)		FY 2007		FY 2008		FY 2009				
Accomplishment/Effort Subtotal Cost		0.657		0.710		0.719				
RDT&E Articles Qty										
Provide the necessary support assets required to conduct safe and accurate simultaneous developmental testing on 10-EFVs. Provide the maintenance, refurbishment, upgrade, and replacement of test equipment and instrumentation as necessary to provide program support, supplies, and services at the AVTB test site as well as various off-site testing locations to support scheduled EFV 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.										
COST (\$ in Millions)		FY 2007		FY 2008		FY 2009				
Accomplishment/Effort Subtotal Cost		0.178		0.172		0.203				
RDT&E Articles Qty										
Provide funding for necessary services provided by 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).										
COST (\$ in Millions)		FY 2007		FY 2008		FY 2009				
(U) Total \$		0.835		0.882		0.922				
(U) Project Change Summary:										
		FY2007	FY2008	FY2009						
(U) FY 2008 President's Budget:		0.856	0.895	0.915						
(U) PR09 Program Review		0.000	0.000	0.007						
(U) SBIR Reduction		-0.021	-0.008	0.000						
(U) Contractor Efficiencies		0.000	-0.001	0.000						
(U) Economic Assumptions		0.000	-0.004	0.000						
(U) FY 2009 President's Budget:		0.835	0.882	0.922						
CHANGE SUMMARY EXPLANATION:										
(U) Funding: FY07 reduction for Small Business Innovative Research (SBIR). Decrease in FY08 reflects reductions for SBIR, contractor efficiencies, and revised economic assumptions.										
(U) Schedule: Not Applicable.										
(U) Technical: Not Applicable.										
(U) Related RDT&E: PE 0603611M; Marine Corps Assault Vehicles										
(U) D. ACQUISITION STRATEGY:										
Work will be led in-house. Necessary contractor support will be provided by Marine Corps Base Camp Pendleton by using existing contracts. General Services Administration will be used for vehicle leasing contract.										
(U) E. MAJOR PERFORMERS:										
MCTSSA, Camp Pendleton, CA - Maintenance, refurbishment, upgrade, and replacement of test equipment.										
(U) SCHEDULE PROFILE:										
Testing conducted at AVTB includes all aspects of Marine Corps Amphibious Assault Vehicles. During the upcoming year, AVTB will be dedicated to the Developmental Testing of the EFV, which will require intense reliability testing of all EFVs assigned to the Test Branch. In addition, AVTB will support various communications testing and operational testing of the EFV in order to prepare for the future integration of EFVs into the Fleet Marine Force (FMF).										

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT (PE) NAME AND NO. 0206624M Marine Corps Combat Services Support							
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		149.573	12.750	9.646	3.396	2.758	2.832	2.911
C0201 Logistical Vehicle System Replacement (LVSR)		7.067	4.995	4.152	0.706	0.000	0.000	0.000
C2316 Combat Service Support Engineering Equipment		133.769	3.503	0.574	0.556	0.567	0.578	0.594
C2509 Motor Transport Modernization		2.045	0.576	0.603	0.613	0.625	0.645	0.663
C2929 Testing Measuring Diagnostic Equip (TMDE) & SE		6.692	3.676	1.986	1.521	1.566	1.609	1.654
C9999 Congressional Adds		0.000	0.000	2.331	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles								

(U) 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 Battlefield.

1. Received \$14.851M in FY07 GWOT.
2. Received \$0 in FY08 from the 2008 Consolidated Appropriation.
3. FY08 funding totals do not include \$49.675M previously requested for current FY08 GWOT requirements.

B. PROGRAM CHANGE SUMMARY

	FY2007	FY2008	FY2009
(U) FY 2008 President's Budget:	17.456	12.946	7.264
(U) Adjustments from the President's Budget:			
(U) Congressional Reductions			
(U) Congressional Rescissions			
(U) Congressional Increases	7.620		
(U) FY07 Emergency Supplemental	14.851		
(U) Reprogrammings (Incl. MRAP)	110.379		
(U) PR09 Adjustment			2.384
(U) SBIR/STTR Transfer	-0.733	-0.114	
(U) Minor Affordability Adjustment		-0.082	-0.002
(U) FY 2009 President's Budget:	149.573	12.750	9.646

CHANGE SUMMARY EXPLANATION:

- (U) Funding: See Above.
- (U) Schedule: Not Applicable.
- (U) Technical: Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev	0206624M Marine Corps Combat Services Support	C0201 Logistical Vehicle Sys Replacement (LVSR)						
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost		7.067	4.995	4.152	0.706	0.000	0.000	0.000
RDT&E Articles Qty		2						
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
The Logistical Vehicle System Replacement (LVSR) program will replace the current Logistical Vehicle System (LVS) fleet. This vehicle will increase mobility, maintainability, and reliability for the heavy fleet, while increasing off-road payload. Three LVSR variants will replace the current five LVS variants. The cargo variant will be fielded prior to the LVSR 5th Wheel and Wrecker variants which will be options on the LVSR cargo variant production contract. The Flatrack Refueling Capability (FRC) program will replace the M970 Semi-Trailer refueling in both the Force Service Support Group (FSSG) and the Marine Air Wings (MAWs) for ground refueling missions.								
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost		2.057	1.411	0.000				
RDT&E Articles Qty								
LVSR: Test and Evaluation.								
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost		0.015	0.100	0.150				
RDT&E Articles Qty								
LVSR: Engineering/Program Management								
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost		0.402	0.188	2.045				
RDT&E Articles Qty								
LVSR: Engineering Support.								
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost		0.673	1.100	1.252				
RDT&E Articles Qty								
LVSR: Operational Test and Evaluation.								
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost		3.920	0.900	0.000				
RDT&E Articles Qty		2						
FRC: Prototype Development.								
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009				
Accomplishment/Effort Subtotal Cost		0.000	1.296	0.705				
RDT&E Articles Qty								
FRC: Developmental Test and Evaluation								
(U) Total \$		7.067	4.995	4.152				

Exhibit R-3 Cost Analysis						DATE: February 2008						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Dev			0206624M Marine Corps Combat Services S			C0201 Logistical Vehicle System Replacement (LVSr)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
LVSr Variant Prototypes	RCP	MCSC Quantico, VA	16.793	0.000		0.000		0.000		0.000	16.793	
LVSr Source Selection	RCP	MCSC Quantico, VA	0.248	0.000		0.000					0.248	
FRC Prototypes	RCP	DSR Systems Incorporated	0.000	3.920	05/07	0.000		0.000		0.000	3.920	
Subtotal Product Dev			17.041	3.920		0.000		0.000		0.000	20.961	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
LVSr Development Design & Test	MIPR	OshKosh, WI	0.000	0.175	05/07	0.000		0.000		0.000	0.175	
LVSr Variant Test	MIPR	TACOM, Warren, MI	0.110	0.000		0.000		0.000		0.000	0.110	
LVSr Corrosion Test	WR	NSWC Philadelphia	0.092	0.048	02/07	0.000		0.000		0.000	0.140	
LVSr Development Test	MIPR	Aberdeen Test Center	2.727	1.493	05/07	0.000		0.000		0.000	4.220	
FRC Modeling and Simulation	RCP	NSWC, Carderock, MD	0.205	0.150	03/07	0.000		0.000		0.000	0.355	
LVSr Development & Test	WR	NSWC Indian Head, MD	0.000	0.024	02/07	0.000		0.000		0.000	0.024	
FRC Developmental T&E	MIPR	TACOM, Warren, MI	0.000	0.000		2.196	02/08	0.000		0.000	2.196	
Subtotal Developmental Cost			3.134	1.890		2.196		0.000		0.000	7.220	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
LVSr Engineer & Tech Support	WR	NTSC, Orlando, FL	0.194	0.000		0.000		0.000		0.000	0.194	
LVSr Engineer & Tech Support	RCP	MCSC Quantico, VA	0.000	0.569	07/07	1.511	12/07	1.200	12/08	0.000	3.280	
Subtotal Engineer & Tech Support			0.194	0.569		1.511		1.200		0.000	3.474	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
LVSr Operational T&E	WR	MCOTEA	0.350	0.673	02/07	1.188	12/07	1.220	12/08	0.000	3.431	
LVSr Operational Assessment	TBD	TBD	0.000							0.000	0.000	
FRC Operational Analysis	TBD	MCOTEA	0.000					0.700	12/08	0.000	0.700	
Subtotal Operational Support			0.350	0.673		1.188		1.920		0.000	4.131	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
LVSr Contractor Suppt	RCP	Sverdrup, Dumfries, VA.	4.079	0.000		0.000		0.800	12/08	0.000	4.879	
LVSr Prgm Mgmt Spt	WR	MCSC Quantico, VA	0.783	0.015	08/07	0.100	02/08	0.232	12/08	0.000	1.130	
Subtotal Management			4.862	0.015		0.100		1.032		0.000	6.009	
Remarks:												
Total Cost			25.581	7.067		4.995		4.152		0.000	41.795	

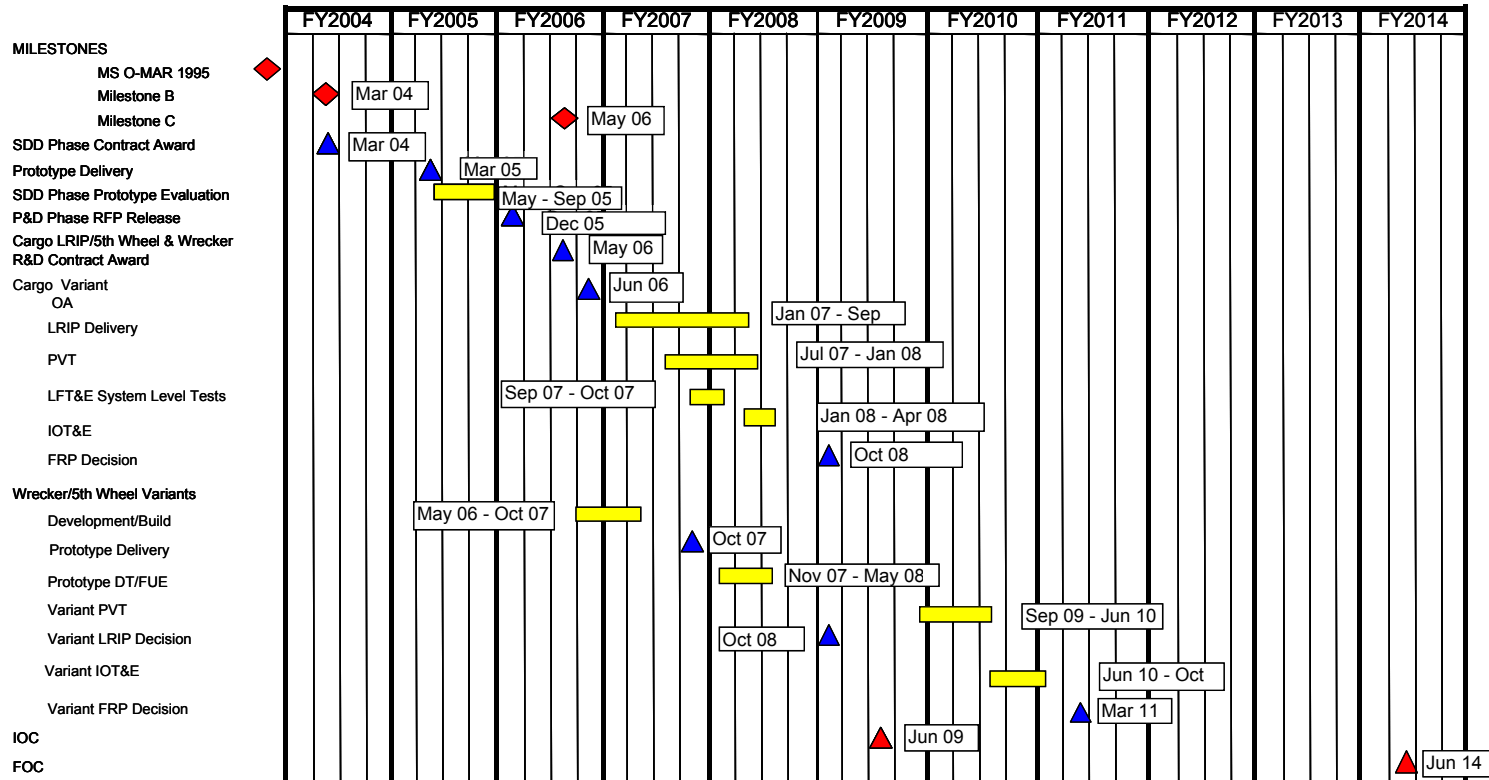
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DATE: February 2008

Exhibit R-4-4a Project Schedule/Detail

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206624M Marine Corps Combat Services Spt	C0201 Logistical Vehicle System Replacement (LVSr)

Logistical Vehicle System Replacement



Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E,N (C0201 LVSR)

(U) PMC Line (BLI# 509300) LVSR

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
(U) RDT&E,N (C0201 LVSR)	3.147	2.799	3.447	0.000	0.000	0.000	0.000
(U) PMC Line (BLI# 509300) LVSR	44.641	26.494	304.085	296.713	238.874	2.630	2.689

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Exhibit R-4-4a Project Schedule/Detail

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206624M Marine Corps Combat Services Spt	C0201 Logistical Vehicle System Replacement (LVSR)

LVSR SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY2012	FY2013	FY2014
Release RFP									
Source Selection									
Contract Award									
Cargo Prototype Delivery									
Operational Assessment	4Q								
DT/OA									
Cargo Variant									
Milestone C	3Q								
LRIP Delivery		2Q							
FAT		3Q	1Q						
IOT&E			1Q						
FRP Decision				1Q					
5th Wheel/Wrecker Variants									
Prototype Delivery		3Q							
DT/OA			1Q						
LRIP Delivery				4Q					
FAT					1Q				
FRP Decision						2Q			
IOC				3Q					
FOC									3Q

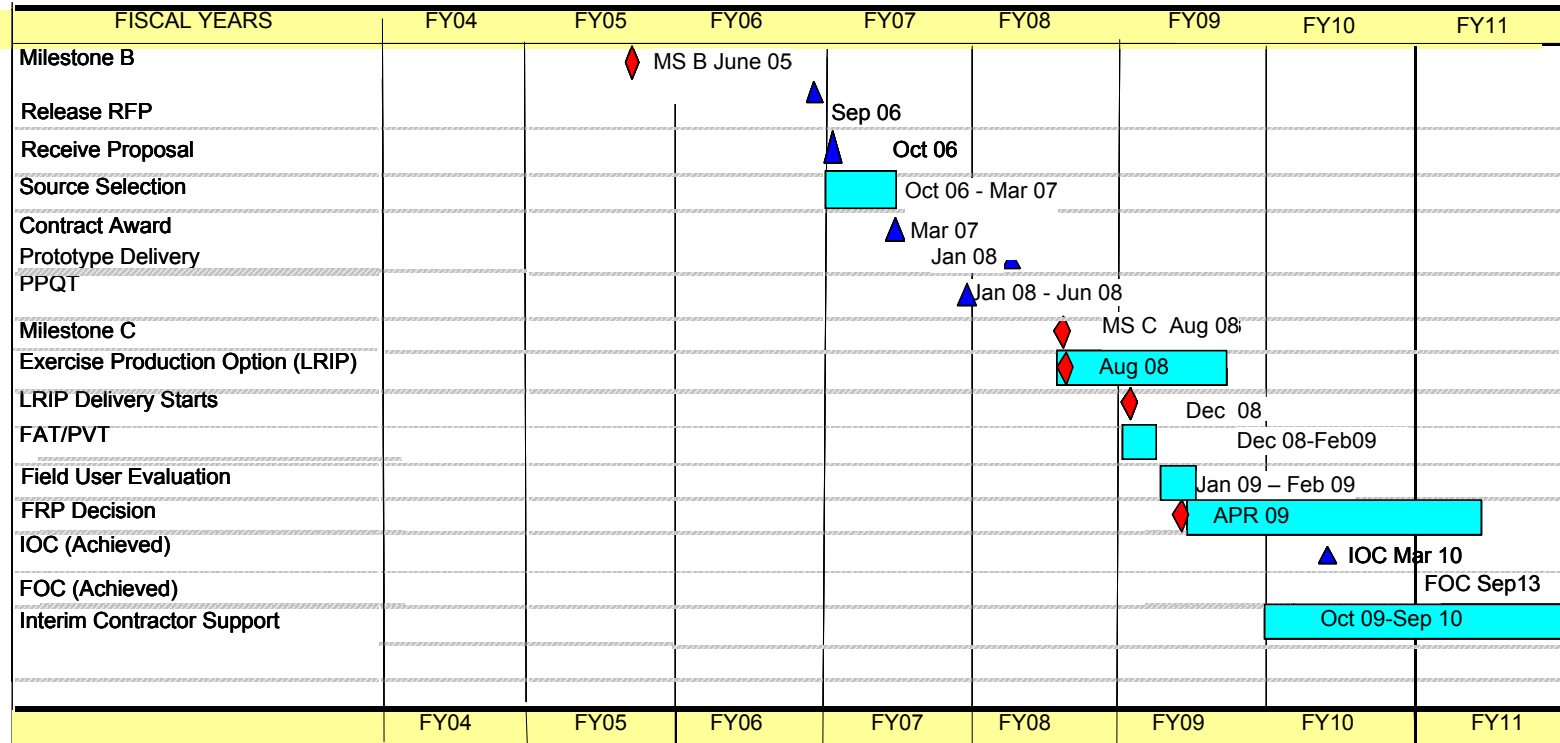
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DATE: February 2008

Exhibit R-4-4a Project Schedule/Detail

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206624M Marine Corps Combat Services Spt	C0201 Logistical Vehicle System Replacement (LVSr)

Flatrack Refueling Capability FRC



Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
(U) RDT&E,N (Flatrack)	3.920	2.196	0.705	0.706	0.000
(U) PMC Line (BLI# 509300) FlatRack	6.450	10.716	20.493	21.927	54.271

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Exhibit R-4-4a Project Schedule/Detail

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206624M Marine Corps Combat Services Spt	C0201 Logistical Vehicle System Replacement (LVSr)

FLATRACK SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B								
Release RFP	4Q							
Source Selection		1Q-2Q						
Contract Award		2Q						
Prototype Delivery			2Q					
PPQT			2Q					
Milestone C			3Q					
LRIP Delivery			4Q					
FAT				1Q				
FUE				2Q				
FRP Decision				3Q				
IOC Achieved					2Q			
FOC Achieved								4Q
Interim contractor Support					1Q-4Q	1Q-4Q		

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Systems Development	PROGRAM ELEMENT NUMBER AND NAME 0206624M Marine Corps Combat Services Spt	PROJECT NUMBER AND NAME C2929 Testing Measuring Diagnostic Equip (TMDE) & SE						
COST (\$ in millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		6.692	3.676	1.986	1.521	1.566	1.609	1.654
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Alternative Power Sources for Communications Equipment (APSCE) program is a suite of devices that provides the commander with the capability to use existing power to operate communication equipment, computers and peripheral equipment instead of using batteries or fossil fuel generators.

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 area of interactive electronic tech manuals, condition/predictive based maintenance, 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 Logisites (AL) program provides weapon system sensor data collection and processing for information conversion to provide situational awareness. FY-07 and out efforts will develop Low Rate Initial Production (LRIP) system health hardware and software for Marine Corps weapon systems.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM

FY-07 and out R&D efforts will focus on system health application for legacy weapon systems that are not supported with digital sensors or data buss structures. Conduct developmental test and evaluation of platform level system health hardware and software.

COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.133	0.000	0.000
RDT&E Articles Qty				
APSCE: Research, evaluation, test and selection of alternative power source products for the APSCE suite of equipment.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.555	0.641	0.537
RDT&E Articles Qty				
ATS: Development of new technology testing applications in support of emerging weapon systems.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.508	0.666	1.175
RDT&E Articles Qty				
MCATE: Develop new technology for sustainment of current Marine Corps Automatic Test Equipment.				
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		5.496	2.369	0.274
RDT&E Articles Qty				
ALS: Weapon sensor data collection & processing for information conversion to provide situational awareness.				
(U) Total \$		6.692	3.676	1.986

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N /BA 7 Operational Systems Development	0206624M Marine Corps Combat Services Spt			C2929 Testing Measuring Diagnostic Equip (TMDE) & SE					
(U) Project Change Summary:	FY2007	FY2008	FY2009						
(U) FY 2008 President's Budget:	7.256	3.749	1.968						
(U) Adjustments from the President's Budget:									
(U) Congressional Program Reductions									
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings	-0.402								
(U) SBIR/STTR Transfer	-0.162	-0.049							
(U) Minor Affordability Adjustment			0.018						
(U) FY 2009 President's Budget:	6.692	3.676	1.986						
CHANGE SUMMARY EXPLANATION:									
(U) Funding: See above.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U)PMC Line(BLI# 636600)Power Equip APSCE	16.999	1.694	1.791	1.916	1.996	3.700	3.853	Cont	Cont
(U) PMC Line (BLI# 418100) TETS	41.915	28.370	12.229	0.000	0.000	0.000	0.000	Cont	Cont
(U) PMC Line (BLI# 418100) Autonomic Log	0.900	3.906	10.712	3.385	3.046	3.128	3.215	Cont	Cont
(U) PMC Line (BLI# 418100) Calibration	12.789	2.014	2.108	2.146	2.184	2.245	2.307	Cont	Cont
(U) Related RDT&E:									
(U) D. ACQUISITION STRATEGY:									
Competitive through the GSA Schedule. All other work is being done in-house at Marine Corps Logistics Base (MCLB), Albany, GA., Naval Surface Warfare Center (NSWC) Corona and Seal Beach, CA., Naval Surface Warfare Center (NSWC) Carderock, ATC, Aberdeen, Silver Eagle, Portland OR.									
AL Competitive through Marine Corps Systems Command Contracts. All other work is being done in house and at Gov Engineering facilities.									
(U) E. MAJOR PERFORMERS:	Automatic Test Equipment Program (ATEP), Albany, GA and Naval Surface Warfare Centers Corona and Seal Beach, CA. All other performers to be determined at this time.								

Exhibit R-3 Cost Analysis										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Systems Development			0206624M Marine Corps Combat S			C2929 Testing Measuring Diagnostic Equip (TMDE) & SE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Program Support	FFP	MCSC, Quantico VA	1.226	0.255	02/07	1.000	11/07	0.000		0.000	2.481	0.87
Eval Testing	RCP	MCSC, Quantico VA	1.515	0.522	02/07	0.821	02/08	0.000		0.000	2.858	2.398
Study & Hardware	RCP	NSWC; Corona, CA	1.111	0.022		0.308	01/08	0.349	12/08	Cont	Cont	Cont
Hardware	RCP	Willitis Electronic Assembly	0.111			0.000		0.000		0.000	0.111	0.111
Hardware	RCP	MCSC, Quantico VA	0.618	2.265	12/06	0.000		0.000		0.000	2.883	4.860
Software Support	WR	ATEP, Ga	1.273	0.401	12/06	0.250	01/08	0.143	12/08	Cont	Cont	Cont
Hardware & Study	WR	NSWC, Ca	0.545	0.775	12/06			0.000		Cont	Cont	Cont
Study & Hardware	RCP	NSWC, Corona CA	0.302	0.022	12/06	0.777	01/08	0.976	12/08	Cont	Cont	Cont
Study and Hardware	RCP	Nortrup Chicago	0.501	0.500	12/06							
Subtotal Product Dev			7.202	4.762		3.156		1.468		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Travel	DTS	MCSC, Quantico VA	0.188	0.080	12/06			0.000		Cont	Cont	
Study and hardware	WR	ATEP, GA	0.334	0.250	12/06	0.250	01/08	0.248	12/08	Cont	Cont	
Software Support	MIPR	Indian Head, MD	0.122	1.500	12/06	0.270	01/08	0.270	12/08	Cont	Cont	Cont
Subtotal Support			0.644	1.830		0.520		0.518		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Eval Testing	WR	NSWC, Carderock, MD	0.076	0.050	02/07	0.000		0.000		Cont	Cont	
Subtotal T&E			0.076	0.050		0.000		0.000		Cont	Cont	
Remarks:												
Cost Categories (U) POM08 Program Adjust	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Program Support	FFP	MCSC, Quantico	0.425	0.050	12/06	0.000		0.000		Cont	Cont	2.445
Subtotal Management			0.425	0.050		0.000		0.000		Cont	Cont	
Remarks:												
Total Cost			8.347	6.692		3.676		1.986		Cont	Cont	

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206624M Marine Corps Combat Services Spt	PROJECT NUMBER AND NAME C9872 The Autonomic Logistics						
COST (\$ in millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		0.000	0.000	2.331	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 9872N - The Autonomic Logistics (AL) program provides weapon system sensor data collection and processing for information conversion to provide situational awareness.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM

R&D efforts to explore collection & processing of system health data from weapon systems sensor and digital data buss structures for system health information. Work includes diagnostic and prognostic algorithm

COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.000	0.000	2.331
RDT&E Articles Qty				

Autonomic Logistics 9872N: Develop new technology for sustainment of current Marine Corps Automatic Test Equipment.

(U) Total \$		0.000	0.000	2.331
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(U) PROJECT CHANGE SUMMARY:

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) FY 2008 President's Budget:	0.000	0.000	0.000

(U) Adjustments from the President's Budget:

- (U) Congressional Program Reductions
- (U) Congressional Rescissions
- (U) Congressional Increases
- (U) PR09 Program Review 2.331
- (U) Reprogrammings
- (U) SBIR/STTR Transfer
- (U) Minor Affordability Adjustment

(U) FY 2009 President's Budget:	0.000	0.000	2.331
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CHANGE SUMMARY EXPLANATION:

- (U) Funding: See above.
- (U) Schedule: Not Applicable.
- (U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) PMC Line (BLI# 418100) Autonomic Log	0.900	3.906	10.712	3.385	3.046	3.128	3.215	Cont	Cont

(U) Related RDT&E:

(U) D. ACQUISITION STRATEGY:

(U) E. MAJOR PERFORMERS:

Exhibit R-3 Cost Analysis								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Systems Development			0206624M Marine Corps Comb		C9872 Autonomic Logistics							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Study & Hardware	RCP	DME Orlando, FL		0.000		0.000		2.024	12/08	Cont	Cont	Cont
Subtotal Product Dev			0.000	0.000		0.000		2.024		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
	FFP		0.000	0.000		0.000		0.000		Cont	Cont	Cont
	WR		0.000	0.000		0.000		0.000		Cont	Cont	Cont
Program Support	WR	ATEP Albany, GA	0.000	0.000		0.000		0.307	11/08	Cont	Cont	Cont
Subtotal Support			0.000	0.000		0.000		0.307		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
				2.509								
Subtotal T&E			0.000	0.000		0.000		0.000		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal Management			0.000	0.000		0.000		0.000		Cont	Cont	
Remarks:												
Total Cost			0.000	0.000		0.000		2.331		Cont	Cont	

APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0207161N, TACTICAL AIM MISSILES		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	7.777	4.350	6.679	2.328	.977	1.005	1.030	
0457 AIM-9X	7.777	4.350	6.679	2.328	.977	1.005	1.030	

(U) 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-9Xshort 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-9Xemploys several components common with the AIM-9M(fuze, rocket motor and warhead). Improved Anti-Tamper features are being incorporated to protect improvements inherent in AIM-9Xdesign.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	7.916	4.445	6.691
Current President's Budget:	7.777	4.350	6.679
Total Adjustments	-0.139	-0.095	-0.012

Summary of Adjustments

Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions		-0.028	
Congressional Increases			
Economic Assumptions			-0.002
Miscellaneous Adjustments	-0.139	-0.067	-0.010
Subtotal	-0.139	-0.095	-0.012

Schedule:

The Block II software release plan has been updated to reflect that the Operational Flight Software (OFS) 9.200 efforts are limited to rehost the current OFS 8.200 series software into the new Block II hardware and to introduce the basic functions of the replacement fuze. New block II capabilities will be introduced with fielding OFS 9.300 software series. Therefore, the test scope was reduced for OFS 9.200 software series and increased for OFS 9.300.

Technical:

N/A

EXHIBIT R-2a, RDT&E Project Justification

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0207161N, TACTICAL AIM MISSILES	PROJECT NUMBER AND NAME 0457, AIM-9X						
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
0457 AIM-9X	7.777	4.350	6.679	2.328	.977	1.005	1.030	
RDT&E Articles Qty	Not Applicable							

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).

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Continued Test & Evaluation of System	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.310	.737	0
RDT&E Articles Qty			

Funding required for Test & Evaluation (T&E) and associated Governmental support.

Continued Systems Engineering Mgmt for Primary	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	5.317	3.454	6.564
RDT&E Articles Qty			

Primary Hardware Development/Pre-Planned Product Improvement (P3):
Fuze/Systems Engineering/Program Management, Continuation of (P3) efforts for the AIM-9X fuze.

Continued Transportation & Travel for program	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.150	.159	.115
RDT&E Articles Qty			

Transportation/Travel for AIM-9X effort.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
220900 AIM-9X Missile (WPN)	40.205	54.520	57.497	58.016	58.384	61.415	62.198	768.128	1,330.106
AIM-9X Mods/Missile (Air Force Missile Procur	43.658	52.334	77.223	80.004	62.915	64.098	65.431	662.221	1,375.416

D. ACQUISITION STRATEGY: The Low-Rate Initial Production (LRIP) 4, LOT 4, Firm-Fixed-Price (FFP) contract was awarded 4/04. ASN(RD&A) approved the Full-Rate Production (FRP) decision in May 2004. FRP 1, LOT 5 contract was awarded 11/04. FRP 1, LOT 5 through FRP 3 LOT 7 contracts FFP with FRP 3 LOT 7 awarded 11/06. Rewards or penalties are provided depending on Raytheon Systems Corporation (RSC) Performance relative to the Procurement Price Commitment Curve (PPCC).

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N/BA-7		0207161N, TACTICAL AIM MISSILES				0457, AIM-9X						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development (Navy Fuze)	C-CPIF/AF	RAYTHEON MISSILE SYSTEMS COMPANY, TUCSON, AZ	3.100								3.100	3.100
Primary Hdw Development (FUSE P3I)	SS-CPFF	RAYTHEON MISSILE SYSTEMS COMPANY, TUCSON, AZ	8.459	2.406	Nov 2006	1.006	Nov 2007			.892	12.763	12.763
Aircraft Integration	C/CPFF	BOEING ST. LOUIS, MO		.879	Nov 2006	1.655	Nov 2007	4.715	Nov 2008	1.040	8.289	8.289
Aircraft Integration	C/CPFF	RAYTHEON MISSILE SYSTEMS COMPANY, TUCSON, AZ				.200	Nov 2007	.500	Nov 2008	.130	.830	.830
Aircraft Integration	WX	NAWCWD, CHINA LAKE CA		1.632	Nov 2006	.395	Nov 2007	1.135	Nov 2008	.130	3.292	3.292
Systems Eng (WD)	WX	NAWCWD, CHINA LAKE CA	34.564	.400	Nov 2006	.198	Nov 2007	.214	Nov 2008	1.084	36.460	
All Prod DevCost from program implementation thru FY2002			192.194								192.194	
SUBTOTAL PRODUCT DEVELOPMENT			238.317	5.317		3.454		6.564		3.276	256.928	28.274

Remarks: Prior year award fees earned is 93%. EMD Contract Target Value includes both Navy and Air Force funding. All other fields represent Navy share only. Total prior years - FY95 and prior under PE 0603715D. FY96 and out are funded under PE 0207161N.

TEST & EVALUATION												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TEST & EVALUATION												
Dev Test & Eval (WD)	WX	NAWCWD, CHINA LAKE CA	27.543	1.900	Nov 2006	.330	Nov 2007				29.773	
Navy Test & Eval (Gov Op Test-WD)	WX	NAWCWD, CHINA LAKE CA	.050	.050	Nov 2006	.050	Nov 2007				.150	
Navy Test & Eval - (Cont Dev Test & Eval)	SS-CPFF	RAYTHEON MISSILE SYSTEMS COMPANY, TUCSON, AZ	.100	.110	Nov 2006	.115	Nov 2007				.325	.325
Oper Test & Eval (OPTEVFOR) (GOVT)	WX	OPER T & E FOR CD 30, NORFOLK VA	2.551	.250	Nov 2006	.242	Nov 2007			1.566	4.609	
All Prod DevCost from program implementation thru FY2002			4.927								4.927	
SUBTOTAL TEST & EVALUATION			35.171	2.310		.737				1.566	39.784	.325

MANAGEMENT												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MANAGEMENT												
Transportation - Material	MD	NAVAIR, PAXTUXENT RIVER MD	.030	.015	Nov 2006	.015	Nov 2007	.015	Nov 2008	.075	.150	
Travel	WX	NAWCAD, PATUXENT RIVER MD	1.613	.135	Nov 2006	.144	Nov 2007	.100	Nov 2008	.423	2.415	
All Prod DevCost from program implementation thru FY2002			7.526								7.526	
SUBTOTAL MANAGEMENT			9.169	.150		.159		.115		.498	10.091	

Total Cost			282.657	7.777		4.350		6.679		5.340	306.803	28.599
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CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY: RDT&E, N/BA-7
 PROGRAM ELEMENT NUMBER AND NAME: 0207161N-Tactical AIM Missiles
 PROJECT NUMBER AND NAME: 0457-AIM-9X

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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
AOTD P3I	█				▬																							
Test & Evaluation Milestones:																												
Developmental Test (DT)	DT-III/B								DT-IIIIC				DT-IIID															
Operational Test (OT)	█	OT-IIIIB							OT-IIIIC				OT-IIIID															
Production Milestones: *																												
FRP 3, LOT VII Award FY07	▲																											
FRP 4, LOT VIII Award FY08					△																							
FRP 5, LOT IX Award FY09						△																						
FRP 6, LOT X Award FY10							△																					
FRP 7, LOT XI Award FY11								△																				
FRP 8, LOT XII Award FY12									△																			
FRP 9, LOT XIII Award FY13										△																		
Deliveries: **																												
FRP 1, LOT V	█																											
FRP 2, LOT VI	█																											
FRP 3, LOT VII	█																											
FRP 4, LOT VIII	█																											
FRP 5, LOT IX	█																											
FRP 6, LOT X	█																											
FRP 7, LOT XI	█																											
FRP 8, LOT XII	█																											

Note:
 * EMD completed in 1st QTR of FY04, IOC in 2nd QTR of FY04, & Acquisition Milestone III 3rd QTR of FY04.
 **USN deliveries only shown - does not include AF & FMS deliveries.

CLASSIFICATION:							
Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7		PROGRAM ELEMENT AND NAME 0207161N, TACTICAL AIM MISSILES			PROJECT NUMBER AND NAME 0457-AIM-9X		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AOTD P3I	1Q-4Q	1Q-4Q	1Q-2Q				
Developmental Test DT-III B	1Q						
Operational Test OT-III B	2Q - 4Q	1Q - 2Q					
Developmental Test DT-III C		2Q - 4Q	1Q				
Operational Test OT-III C			2Q - 4Q	1Q			
Developmental Test DT-III D			2Q - 4Q	1Q - 3Q			
Operational Test OT-III D				2Q - 4Q	1Q - 3Q		
Full Rate Production (FRP 3) Award Lot VII	1Q						
Full Rate Production (FRP 4) Award Lot VIII		2Q					
Full Rate Production (FRP 5) Award Lot IX			1Q				
Full Rate Production (FRP 6) Award Lot X				1Q			
Full Rate Production (FRP 7) Award Lot XI					1Q		
Full Rate Production (FRP 8) Award Lot XII						1Q	
Full Rate Production (FRP 9) Award Lot XIII							1Q
Full Rate Production (FRP 1), Lot V Delivery	1Q						
Full Rate Production (FRP 2), Lot VI Delivery	3Q - 4Q	1Q					
Full Rate Production (FRP 3), Lot VII Delivery		3Q - 4Q	1Q				
Full Rate Production (FRP 4), Lot VIII Delivery			3Q - 4Q	1Q - 2Q			
Full Rate Production (FRP 5), Lot IX Delivery				3Q-4Q	1Q - 3Q		
Full Rate Production (FRP 6), Lot X Delivery					3Q-4Q	1Q - 3Q	
Full Rate Production (FRP 7), Lot XI Delivery						3Q-4Q	1Q - 3Q
Full Rate Production (FRP 8), Lot XII Delivery							3Q-4Q

Note:
USN deliveries only shown - does not include AF & FMS deliveries.

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0207163N AMRAAM			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		6.131	2.497	8.556	3.635	3.322	3.762	3.784
0981 AMRAAM		6.131	2.497	8.556	3.635	3.322	3.762	3.784

(U) 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.

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008																																																				
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		R-1 ITEM NOMENCLATURE 0207163N AMRAAM																																																				
<p>B. PROGRAM CHANGE SUMMARY</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 45%;"></th> <th style="text-align: right; width: 15%;"><u>FY2007</u></th> <th style="text-align: right; width: 15%;"><u>FY2008</u></th> <th style="text-align: right; width: 15%;"><u>FY2009</u></th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">6.680</td> <td style="text-align: right;">4.579</td> <td style="text-align: right;">6.513</td> </tr> <tr> <td>Current President's Budget</td> <td style="text-align: right;">6.131</td> <td style="text-align: right;">2.497</td> <td style="text-align: right;">8.556</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.549</td> <td style="text-align: right; border-top: 1px solid black;">-2.082</td> <td style="text-align: right; border-top: 1px solid black;">2.043</td> </tr> <tr> <td colspan="4" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Congressional Reductions</td> <td></td> <td style="text-align: right;">-2.000</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Rescissions</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Undistributed Reductions</td> <td style="text-align: right;">-0.049</td> <td style="text-align: right;">-0.016</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Increases</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">-0.006</td> </tr> <tr> <td style="padding-left: 20px;">Miscellaneous Adjustments</td> <td style="text-align: right;">-0.500</td> <td style="text-align: right;">-0.066</td> <td style="text-align: right;">2.049</td> </tr> <tr> <td style="padding-left: 20px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.549</td> <td style="text-align: right; border-top: 1px solid black;">-2.082</td> <td style="text-align: right; border-top: 1px solid black;">2.043</td> </tr> </tbody> </table> <p>Schedule:</p> <p>AIM-120C-7 operational testing (OT) revealed a fuze anomaly, a correction for which was incorporated via the C-7 SWUP program. The re-testing of this correction, plus the extended schedule needed to complete the remaining OT missions pushed the successful completion of C-7 OT to August 2007. Initial fielding of missiles has been directed by both the Air Force and the Navy. IOC is expected in 2Q FY2008.</p> <p>Phase 4 program issues led to a restructured schedule, approved by the AF and Navy PEOs in Mar 06. Since then, additional development hardware and software delays, and test execution issues have further pushed the projected DT flight test schedule and SDD completion dates. The OT flight test schedule reflects both the SDD delay, plus an updated estimate in the overall time (16 months vs 12 months) to complete the OT flight test program. There is a corresponding impact on IOC dates. Phase 4 SIP/SWUP has been re-phased based on the revised SDD schedule.</p> <p>Technical:</p> <p style="padding-left: 20px;">Not Applicable.</p>				<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	Funding:				Previous President's Budget:	6.680	4.579	6.513	Current President's Budget	6.131	2.497	8.556	Total Adjustments	-0.549	-2.082	2.043	Summary of Adjustments				Congressional Reductions		-2.000		Congressional Rescissions				Congressional Undistributed Reductions	-0.049	-0.016		Congressional Increases				Economic Assumptions			-0.006	Miscellaneous Adjustments	-0.500	-0.066	2.049	Subtotal	-0.549	-2.082	2.043
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Miscellaneous Adjustments	-0.500	-0.066	2.049																																																			
Subtotal	-0.549	-2.082	2.043																																																			

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0207163N AMRAAM			PROJECT NUMBER AND NAME 0981 AMRAAM			
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0981 AMRAAM			6.131	2.497	8.556	3.635	3.322	3.762	3.784
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>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.</p>									
B. ACCOMPLISHMENTS / PLANNED PROGRAM:									
Continued aircraft integration			FY 2007	FY 2008	FY 2009				
Accomplishments / Effort / Sub-total Cost			1.439	1.288	1.304				
RDT&E Articles Qty									
Continue aircraft integration activities and test and evaluation for Navy unique requirements.									
Continued to identify potential improvements			FY 2007	FY 2008	FY 2009				
Accomplishments / Effort / Sub-total Cost			1.658	0.400	2.580				
RDT&E Articles Qty									
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.									
Continued Phase 4 SDD efforts			FY 2007	FY 2008	FY 2009				
Accomplishments / Effort / Sub-total Cost			3.034	0.809	4.672				
RDT&E Articles Qty									
Continue system engineering and test activities in AMRAAM Phase 4 program which include conducting Proof of Manufacturing (POM) testing, final testing of Phase 4 software, aircraft integration/aircraft Operational Flight Program (OFF) efforts and Phase 4 test/equipment tasks. Continue system engineering/aircraft integration activities for System Improvements Program (SIP) planning with emphasis on Navy unique compatibility requirements and Navy aircraft integration/compatibility requirements. Commence Medium Range Missile (MRM) Concept Development to fund the initial exploratory efforts for future technological advancements to AMRAAM to combat evolving threats.									

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0207163N AMRAAM				PROJECT NUMBER AND NAME 0981 AMRAAM				
C. OTHER PROGRAM FUNDING SUMMARY:		<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>	<u>FY2011</u>	<u>FY2012</u>	<u>FY2013</u>	<u>To Complete</u>	<u>Total Cost</u>
220600 AMRAAM WPN/P1# 4 \$		88.267	86.869	146.830	147.718	153.070	172.017	186.447	1,938.336	4,239.313
Related RDT&E										
PE 0207130F F-15										
PE 0204126N F/A-18 Squadrons										
PE 0207163F AMRAAM										
PE 0207133F F-16										
PE 0604239F F-22										
PE 0207134F F-15E										
D. ACQUISITION STRATEGY:										
<p>An updated Long Term Pricing Agreement (LTPA) strategy was approved at the March 2006 Executive Program Management Review (EPMR). During the EPMR both the Air Force and Navy PEOs approved a stand alone buy of 71 AIM-120C7, AIM-120D Captive Air Training Missiles (CATM), and 12 AIM-120D Operational Test (OT) missiles in FY06; a stand alone buy for 42 AIM-120D in FY07; and a 3 year LTPA for the years 2008-2010. The 328th Armament Systems Group (ARSG) will revisit the EPMR for missile mix in FY08.</p>										

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Exhibit R-3 Cost Analysis							DATE: FEBRUARY 2008					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME							
RDT&E, N / BA-7			0207163N AMRAAM		0981 AMRAAM							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY's Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development (EGLIN))	SS/CPAF	RAYTHEON COMPANY, TUCSON AZ	39.625	1.931	01/07	0.249	1/08	0.981	1/09	4.109	46.895	46.895
Award Fees (EGLIN)	SS/CPAF	VARIOUS	5.491	0.341	01/07	0.044	1/08	0.173	1/09	0.725	6.774	6.774
Primary Hdw Development (DAHLGREN)	WX	NSWC DAHLGREN D C XDM1 DAHLGREN VA		0.020	11/06	0.023	11/07	0.024	11/08	0.102	0.169	
Primary Hdw Development	TBD	TBD						3.000	1/09		3.000	3.000
Primary Hdw Development (NAWCAD)	WX	NAWCAD, PATUXENT RIVER MD		0.157	11/06	0.208	11/07	0.208	11/08	0.840	1.413	
Primary Hdw Development (NAWCWD)	WX	NAWCWD, PT MUGU CA		0.369	11/06	0.085	11/07	0.086	11/08	0.352	0.892	
Prior Years Hardware Dev	Various	VARIOUS	20.520								20.520	
SUBTOTAL PRODUCT DEVELOPMENT			65.636	2.818		0.609		4.472		6.128	79.663	
Remarks: Percentage of award fees actually awarded in past award fee periods is 15%.												
SUPPORT												
Development Support (BOEING)	SS/CPAF	MCDONNELL DOUGLAS CORP, ST LOUIS MO	2.907	0.700	01/07			2.100	01/09	0.400	6.107	6.107
Development Support (NSMA)	RX	NAVY SYST MGT ACT, ARLINGTON VA	1.229	0.808	12/06	0.250	12/07	0.250	12/08	0.863	3.400	
Studies & Analyses - JHU/APL	SS/FFP	NAVSEASYS COM, WASHINGTON DC	0.410	0.150	01/07	0.150	01/08	0.230	01/09	0.813	1.753	1.753
Prior Years Dev/Acft Integ	Various	VARIOUS	11.366								11.366	
SUBTOTAL SUPPORT			15.912	1.658		0.400		2.580		2.076	22.626	
Remarks:												
TEST & EVALUATION												
Dev Test & Eval (NAWCWD)	WX	NAWCWD, PT MUGU CA	2.375	1.439	11/06	1.288	11/07	1.304	11/08	5.486	11.892	
SUBTOTAL TEST & EVALUATION			2.375	1.439		1.288		1.304		5.486	11.892	
Remarks:												
MANAGEMENT												
Travel (PMA-259M)	MIPR	PMA-259 EGLIN AFB FL	1.708	0.216	10/06	0.200	10/07	0.200	10/08	0.813	3.137	
Prior Years Management	Various	VARIOUS	4.002								4.002	
SUBTOTAL MANAGEMENT			5.710	0.216		0.200		0.200		0.813	7.139	
Remarks:												
Total Cost			89.633	6.131		2.497		8.556		14.503	121.320	
Remarks:												

UNCLASSIFIED

EXHIBIT R4, Schedule Profile																	DATE: FEBRUARY 2008															
APPROPRIATION/BUDGET ACTIVITY/PROGRAM ELEMENT NUMBER AND NAME													PROJECT NUMBER AND NAME																			
RDT&E, N / BA-7 0207163N AMRAAM													0981 AMRAAM																			
Fiscal Year	2007				2008				2009				2010				2011				2012				2013							
	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				
Pre-Planned Product Improvement (P3) Phase 3																																
IOC C7																																
Phase 3 SWUP																																
Pre-Planned Product Improvement (P3) Phase 4																																
SDD																																
SYSTEM DT/OT Start																																
IOC																																
Phase 4 SIP/SWUP																																
Pre-Planned Product Improvement (P3) MRM Concept Development																																
Contract awards																																
Deliveries																																

UNCLASSIFIED

Exhibit R-4a, Schedule Detail				DATE: FEBRUARY 2008			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT		PROJECT NUMBER AND NAME				
RDT&E, N / BA-7	0207163N AMRAAM		0981 AMRAAM				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
F/A-18 IOC of AIM120C7		2nd Qtr					
F-22 IOC of AIM120C7		2nd Qtr					
Phase 3 SWUP IOC		2nd Qtr					
SDD Completion Phase 4			1st Qtr				
Phase 4 SIP/SWUP Start (P3I Follow-On)			2nd Qtr				
P3I Follow-on Efforts			2nd-4th Qtr	1st-4th Qtr	1st-4th Qtr	1st-4th Qtr	1st-4th Qtr
System DT (Free flight) Start		1st Qtr					
System OT (F/A-18 E/F) Start			2nd Qtr				
System OT (F/A-18 E/F) Complete				3rd Qtr			
IOC F/A18 E/F (Objective)				1st Qtr			
IOC F/A18 E/F (Threshold)				3rd Qtr			
IOC F/A18 C/D				4th Qtr			
Medium Range Missile Concept Development Start			1st Qtr				
Medium Range Missile Concept Development Complete			4th Qtr				
Production Lot 21 Contract Award	3rd Qtr						
Production Lot 22 Contract Award		2nd Qtr					
Production Lot 23 Contract Award			2nd Qtr				
Production Lot 24 Contract Award				2nd Qtr			
Production Lot 25 Contract Award					2nd Qtr		
Production Lot 26 Contract Award						2nd Qtr	
Production Lot 27 Contract Award							2nd Qtr

CLASSIFICATION:	UNCLASSIFIED
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EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION	DATE February 2008
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APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	R-1 ITEM NOMENCLATURE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)						
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	13.727	18.530	11.960	8.648	3.807	0.000	0.000
3131 / Intratheater Connectors (Concept Studies)	11.538	4.933	3.948	1.767	2.467	0.000	0.000
3134 / Intratheater Connectors (Contract Design)	2.189	13.597	8.012	6.881	1.340	0.000	0.000

A. MISSION DESCRIPTION:

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:

Funding:	FY 2007	FY 2008	FY 2009
President's Budget 2008	14.109	18.934	11.960
President's Budget 2009	13.727	18.530	11.960
Total Adjustments	-0.382	-0.404	0.000
Undistributed/General Reductions	-0.382	-0.404	0.000

CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0208058N/JOINT HIGH SPEED VESSEL (JHSV)			PROJECT NUMBER AND NAME 3131/Intratheater Connectors (Concept Studies)		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	11.538	4.933	3.948	1.767	2.467	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint High Speed Vessel Program is a Navy led acquisition for a high-speed, shallow draft, commercial-based ship capable of intra-theater personnel and cargo lift for the Armed Services. The ship is not intended to be a combatant and must operate in benign or secured environments. The technologies supporting this capability were evaluated during the completed Analysis of Alternatives.

CLASSIFICATION:		UNCLASSIFIED								
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION								DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0208058N/JOINT HIGH SPEED VESSEL (JHSV)				PROJECT NUMBER AND NAME 3131/Intratheater Connectors (Concept Studies)				
B. ACCOMPLISHMENTS/PLANNED PROGRAM:										
					FY 2007		FY 2008		FY 2009	
Accomplishments/Effort/Subtotal Cost					11.538		4.933		3.948	
RDT&E Articles Quantity					0		0		0	
<p>R&D efforts for Intratheater Connector - 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, advanced gendering systems, and safe transport of ammunition and dangerous goods aboard lightweight vessels.</p> <p>FY 07 - Demonstrated a Hull Monitoring system that provides real time hull stress information to the operator. Developed procedures for transportation of dangerous goods specific to intended JHSV operations. Developed Lightweight Modular Causeway System by supporting ACTD to deliver a JHSV capable causeway that will facilitate access and throughput in austere ports. Commenced Deployable Airbeam Fendering System (DAFS) Integration Study required to integrate and refine such a system for future JHSVs. Commenced alternative non-skid Phase I testing to address the feasibility of mechanical deck treatment as alternative to non-skid coating.</p> <p>FY 08 - Continue DAFS Integration Study and alternative non-skid testing. Assess commercial High Expansion (HIEX) Foam for ordnance carried in vehicles in the mission bay.</p> <p>FY 09 - Continue feasibility studies of HIEX Foam for safe transport of ammunition and dangerous goods aboard JHSVs.</p>										
C. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. and Name		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
PE 0208058N SCN/BLI 3043 Intratheater Connector				174.782					CONT	CONT
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 construction.										

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE		
										February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RD TEN/BA 7		0208058N/JOINT HIGH SPEED VESSEL (JHSV)					3131/Intratheater Connectors (Concept Studies)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
Modeling & Simulation	C-CPIF	Alion/CSC	0.000	1.353	APR-07	0.700	JAN-08	0.250	JAN-09	0.250	2.553	0.000
Risk Mitigation Efforts	C-CPIF	Alion	0.000	0.350	MAY-07	0.175	JAN-08	0.175	JAN-09	0.050	0.750	0.000
Subtotal Product Development			0.000	1.703		0.875		0.425		0.300	3.303	0.000
Remarks:												
Integrated Logistics Support	C-CPIF	Alion	0.000	0.877	APR-07	0.500	JAN-08	0.750	JAN-09	1.059	3.186	0.000
Technical Data	WR	NSWC-CD	0.000	0.675	NOV-06	0.500	JAN-08	0.000		0.000	1.175	0.000
Studies & Analyses	WR	NSWC-CD	0.000	0.759	NOV-06	0.300	JAN-08	0.000		0.000	1.059	0.000
Subtotal Support Costs			0.000	2.311		1.300		0.750		1.059	5.420	0.000
Remarks:												
Developmental Test & Evaluation	WR	COTF/JITC	0.000	0.219	NOV-06	0.219	JAN-08	0.219	JAN-09	0.250	0.907	0.000
Subtotal Test and Evaluation			0.000	0.219		0.219		0.219		0.250	0.907	0.000
Remarks:												
Contractor Engineering Support	C-CPIF	CSC	0.000	1.600	NOV-06	0.500	JAN-08	0.500	JAN-09	0.600	3.200	0.000
Government Engineering Support	WR	NSWC-CD/NSWC-DD	0.000	2.900	NOV-06	0.867	JAN-08	0.867	JAN-09	0.867	5.501	0.000
Program Management Support	C-CPIF	Alion	0.000	2.655	FEB-07	0.972	JAN-08	0.987	JAN-09	0.960	5.574	0.000
Travel	WR	NAVSEA	0.000	0.150	NOV-06	0.200	JAN-08	0.200	JAN-09	0.200	0.750	0.000
Subtotal Management Services			0.000	7.305		2.539		2.554		2.627	15.025	0.000
Remarks:												
Total Cost			0.000	11.538		4.933		3.948		4.236	24.655	0.000

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-4, SCHEDULE PROFILE

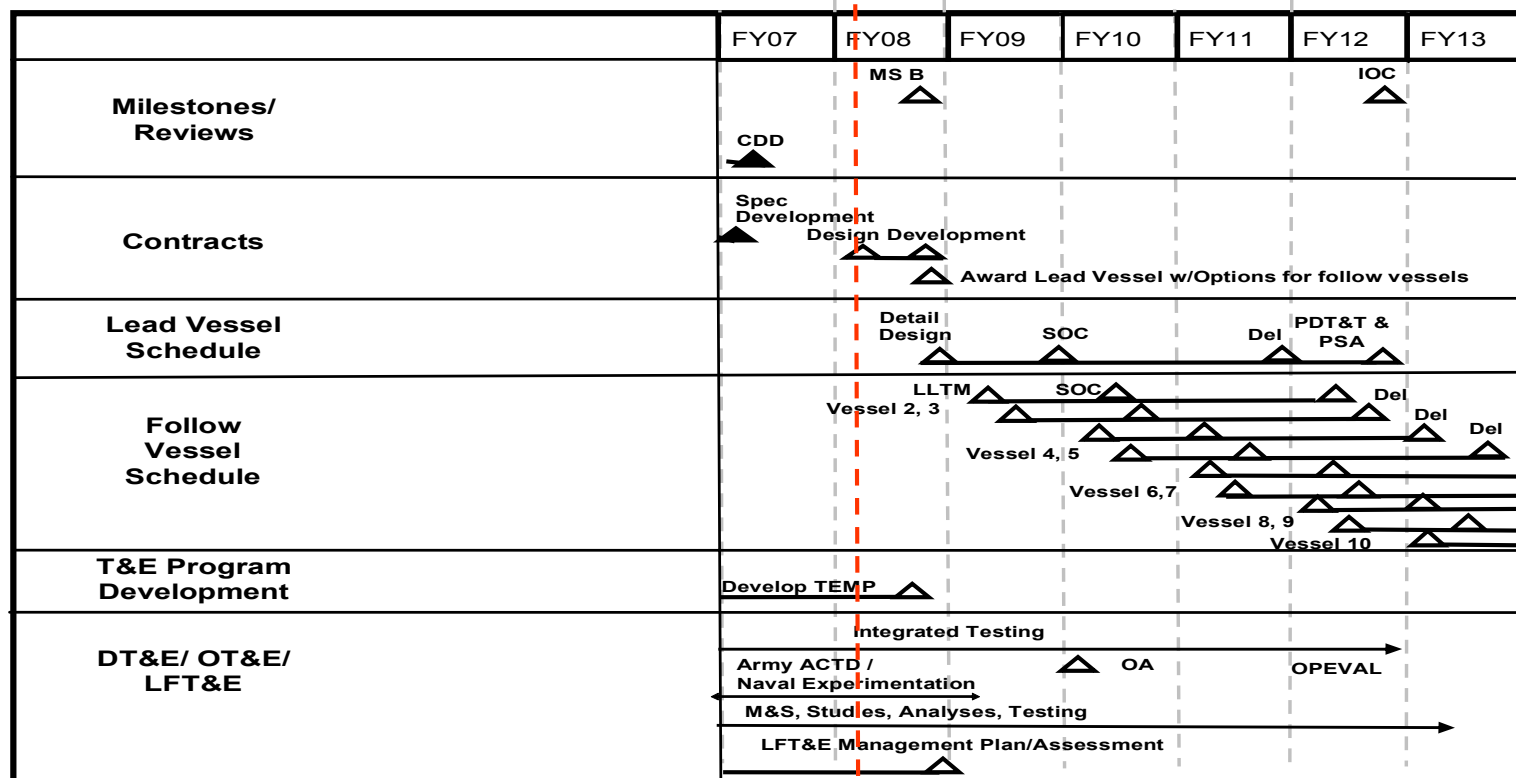
DATE
February 2008

APPROPRIATION/BUDGET ACTIVITY
RDTEN/BA 7

PROGRAM ELEMENT NUMBER AND NAME
0208058N/JOINT HIGH SPEED VESSEL (JHSV)

PROJECT NUMBER AND NAME
3131/Intratheater Connectors (Concept Studies)

JHSV Schedule



SOC – Start of Construction PDT&T – Post Delivery Test & Trials TES – Test & Evaluation Strategy TEMP – Test and Evaluation Master Plan
EOA – Early Operational Assessment OA – Operational Assessment M&S – Modeling and Simulation LFT&E – Live Fire Test and Evaluation
LLTM – Long Lead Time Material

1

CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL						DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0208058N/JOINT HIGH SPEED VESSEL (JHSV)			PROJECT NUMBER AND NAME 3131/Intratheater Connectors (Concept Studies)			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B			4Q					
Award Lead Vessel			4Q					
Award Second Vessel				2Q				

CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0208058N/JOINT HIGH SPEED VESSEL (JHSV)			PROJECT NUMBER AND NAME 3134/Intratheater Connectors (Contract Design)		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	2.189	13.597	8.012	6.881	1.340	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

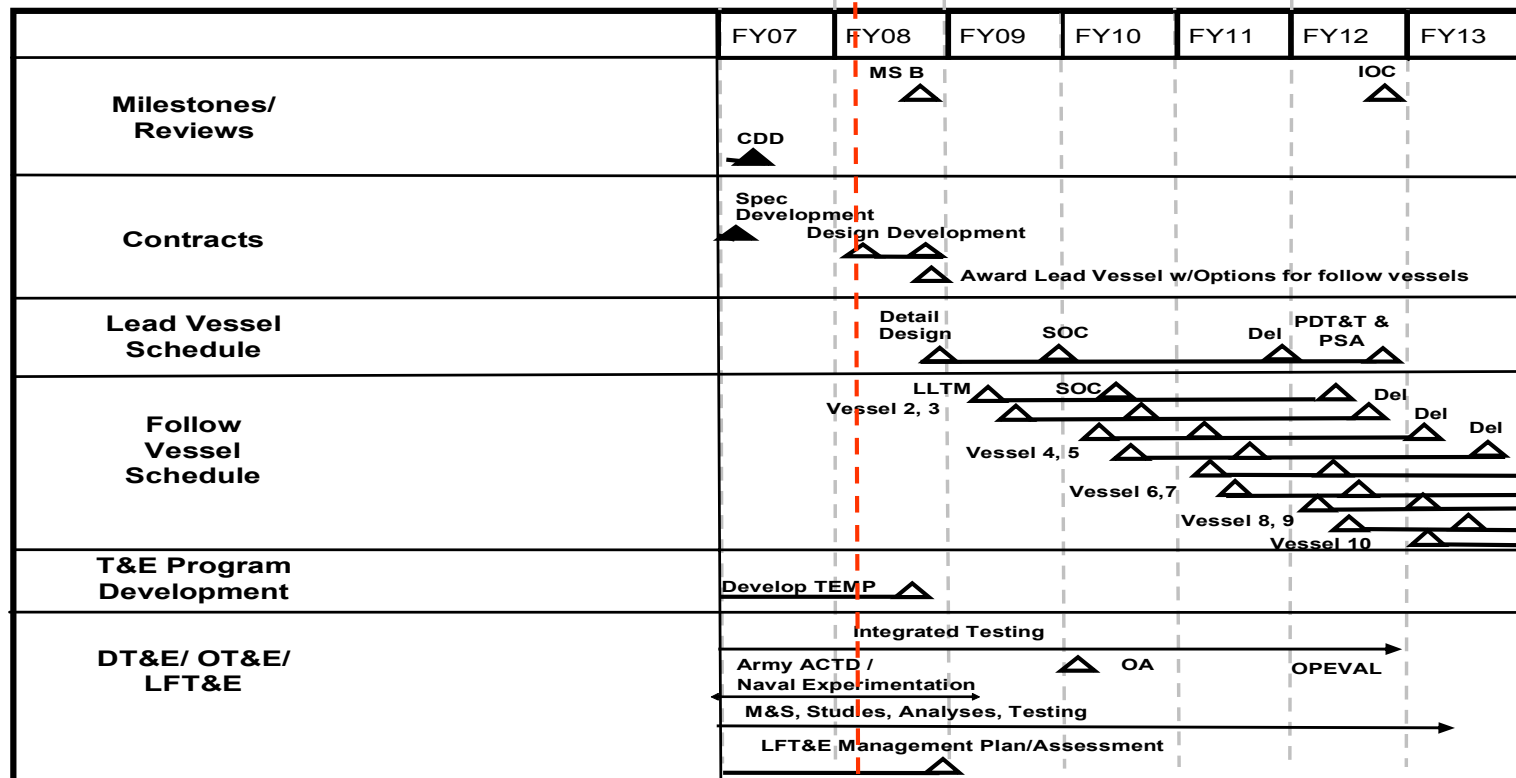
The Joint High Speed Vessel Program is a Navy led acquisition for a high-speed, shallow draft, commercial-based ship capable of intra-theater personnel and cargo lift for the Armed Services. The ship is not intended to be a combatant and must operate in benign or secured environments. The technologies supporting this capability were evaluated during the completed Analysis of Alternatives.

CLASSIFICATION:		UNCLASSIFIED								
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION								DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0208058N/JOINT HIGH SPEED VESSEL (JHSV)				PROJECT NUMBER AND NAME 3134/Intratheater Connectors (Contract Design)				
B. ACCOMPLISHMENTS/PLANNED PROGRAM:										
					FY 2007		FY 2008		FY 2009	
Accomplishments/Effort/Subtotal Cost					2.189		13.597		8.012	
RDT&E Articles Quantity					0		0		0	
<p>Program Acquisition Efforts for Intratheater Connector - conducting Industry Day to engage potential shipbuilders to comment on the JHSV Performance Spec, solicitation for proposals for JHSV Preliminary Designs, evaluation of the proposals/designs, and downselect from the proposed designs to establish a competitive range for the follow-on Detail Design & Construction Award. Milestone B preparation entails both statutory and regulatory documentation required for a Milestone decision.</p> <p>FY07 - Continued efforts to support award of contract for preliminary design in early 08. Resolved design issues and initiated the contract data package, including design drawings and specifications.</p> <p>FY08 - Continue preliminary design efforts leading to shipbuilding contract award in 4th quarter FY08. Commence studies to support definition of Navy unique requirements for JHSV #2.</p> <p>FY09 - Continue studies to support definition of Navy unique requirements for JHSV #2.</p>										
C. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. and Name		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
PE 0208058N SCN/BLI 3043 Intratheater Connector				174.782					CONT	CONT
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 construction.										

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE		
										February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RD TEN/BA 7		0208058N/JOINT HIGH SPEED VESSEL (JHSV)					3134/Intratheater Connectors (Contract Design)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
Ship Integration	C-CPIF	Alion	0.000	0.278	DEC-06	3.500	JAN-08	2.000	JAN-09	1.900	7.678	0.000
Systems Engineering	C-CPIF	CSC	0.000	0.500	MAR-07	1.500	JAN-08	1.000	JAN-09	0.956	3.956	0.000
Subtotal Product Development			0.000	0.778		5.000		3.000		2.856	11.634	0.000
Remarks:												
Development Support	TBD	TBD	0.000	0.000		2.000	JAN-08	0.000		0.000	2.000	0.000
Integrated Logistics Support	C-CPIF	Alion	0.000	0.376	APR-07	1.429	JAN-08	1.466	JAN-09	1.300	4.571	0.000
Configuration Management	TBD	TBD	0.000	0.000		1.000	JAN-08	0.874	JAN-09	0.867	2.741	0.000
Technical Data	WR	NSWC-CD	0.000	0.000		0.750	JAN-08	0.000		0.000	0.750	0.000
Subtotal Support Costs			0.000	0.376		5.179		2.340		2.167	10.062	0.000
Remarks:												
Operational Test & Evaluation	WR	COTF	0.000	0.000		1.704	JAN-08	1.000	JAN-09	1.500	4.204	0.000
Subtotal Test and Evaluation			0.000	0.000		1.704		1.000		1.500	4.204	0.000
Remarks:												
Contractor Engineering Support	C-CPIF	CSC	0.000	0.177	DEC-06	0.500	JAN-08	0.500	JAN-09	0.500	1.677	0.000
Government Engineering Support	WR	NSWC-CD/NSWC-DD	0.000	0.160	DEC-06	0.814	JAN-08	0.572	JAN-09	0.600	2.146	0.000
Program Management Support	C-CPIF	Alion	0.000	0.698	FEB-07	0.250	JAN-08	0.500	JAN-09	0.500	1.948	0.000
Travel	WR	NAVSEA	0.000	0.000		0.150	JAN-08	0.100	JAN-09	0.100	0.350	0.000
Subtotal Management Services			0.000	1.035		1.714		1.672		1.700	6.121	0.000
Remarks:												
Total Cost			0.000	2.189		13.597		8.012		8.223	32.021	0.000

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0208058N/JOINT HIGH SPEED VESSEL (JHSV)	PROJECT NUMBER AND NAME 3134/Intratheater Connectors (Contract Design)

JHSV Schedule



SOC – Start of Construction PDT&T – Post Delivery Test & Trials TES – Test & Evaluation Strategy TEMP – Test and Evaluation Master Plan
 EOA – Early Operational Assessment OA – Operational Assessment M&S – Modeling and Simulation LFT&E – Live Fire Test and Evaluation
 LLTM – Long Lead Time Material

CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL						DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0208058N/JOINT HIGH SPEED VESSEL (JHSV)			PROJECT NUMBER AND NAME 3134/Intratheater Connectors (Contract Design)			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B			4Q					
Award Lead Vessel			4Q					
Award Second Vessel				2Q				

CLASSIFICATION:							
EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /				R-1 ITEM NOMENCLATURE 0303109N Satellite Communications (Space)			
	BA 7						
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	728.480	724.771	652.463	500.926	314.330	203.365	150.512
0728 EHF Satellite Communications (SATCOM) Terminals	77.678	105.495	122.280	84.067	17.396	17.711	18.037
0731 Fleet Satellite Communications	2.075	9.033	8.117	3.133	1.150	2.674	2.808
2472 Mobile User Objective System	645.851	598.190	516.807	393.245	249.733	106.893	48.146
9122 Advanced Wideband System/Transformational Communications	0.000	7.880	5.259	20.481	46.051	76.087	81.521
9999 Congressional Adds	2.876	4.173	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles	23	1	0	0	4	0	20
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
(U) 0728 EHF SATCOM Terminals:							
<p>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 (A/J, 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 (MILSTAR), Defense Satellite Communications System (DSCS), Wideband Gapfiller System (WGS) and Global Broadcast System (GBS) systems. 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). 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.</p> <p>The Commercial Broadband Satellite Program (CBSP) will support satellite communications terminals and shore connectivity to the Navy Points of Presence through the use of Commercial off-the-Shelf (COTS) terminals, commercial satellite land earth stations, and terrestrial fiber services.</p>							
(U) 0731 Fleet Satellite Communications:							
<p>The Joint Ultra High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated (JMINI) Control System provides replacement of all non-Chairman Joint Chiefs Staff Instruction (CJCSI) 6251.01 UHF MILSATCOM legacy equipment at Naval Computer & Telecommunications Area Master Station (NCTAMS) Atlantic (LANT), NCTAMS Pacific (PAC), Naval Computer & Telecommunications Station (NCTS) Naples and NCTS Guam; also replaces non-supportable aging WSC-5 terminals. Provides centralized control of full UHF Follow-On (UFO) satellite constellation. Expands channel control capacity with Digital Modular Radio (DMR) at NCTAMS/NCTS; each site will control up to 152 non-processed UHF MILSATCOM channels in adjacent satellite coverage areas using both physical and virtual channel control techniques. Remains backward compatible with all versions of all Demand Assigned Multiple Access (DAMA) waveforms; supports future waveform modifications and additions. Implements decentralized management of UHF SATCOM communications assets. Automated planning and management of UHF MILSATCOM resources with the Network Management System (NMS). Maintains planning reference data: terminals, networks, configuration codes. Defines and ranks communication service requirements. CJCSI 6251.01 Rev B states MILSTD-188-181C/182B/183B (Integrated Waveform or IW) as optional waveforms for terminals. This requires mandatory implementation into JMINI Control System. The FY 2008 funding supports joint services development with Defense Information Systems Agency (DISA) for Integrated Waveform Technology and software development into JMINI control system architecture. Effort will entail system prototyping, Developmental Testing (DT), and waveform compliance testing. Beginning in FY 2009, funding supports development of next generation JMINI control system to replace non-supported equipment, reduce system components, support technology insertion and system re-architecture.</p>							

CLASSIFICATION:	
EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	R-1 ITEM NOMENCLATURE 0303109N Satellite Communications (Space)
BA 7	
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:	
<p>(U) 0731 Fleet Satellite Communications (continued): The Sensitive Compartmented Information Networks (SCI Networks) is an evolutionary acquisition program designed to provide 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. Specifically, SCI Networks shall ensure the availability of networks in defiance of hostile Information Warfare (IW). Technical, physical, and procedural security will be used to control access, protect Department of Navy (DoN) information technology resources, and ensure continuous operation of the system within an accredited security posture. This network connectivity will greatly expand the capability of cryptologic and intelligence personnel to fully interact with shore based nodes to provide expanding 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). The SCI Networks will provide real time indications and warning support to joint and component commanders through reliable high-speed transfer of sensor data and intelligence information. Enhanced interoperability with other services, agencies, and allies will permit a level of integration of Sensitive Information (SI) operations not achievable with current systems.</p> <p>The SCI Networks program will start migrating to the Integrated Shipboard Network System (ISNS) Increment 2/Consolidated Adaptive Network Edge Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, and secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video, and Data; Common Computing Environment (CCE); Services Oriented Architecture (SOA); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).</p> <p>Manage and coordinate resourcing of experiments and pilot testing of Internet Protocol version 6 (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. Prepare several test facilities and produce test events to determine applicability of IPv6 technologies to support the needs of operational Navy through Tactical Networks, Wireless Networks, and the forthcoming Consolidated Adaptive Network Edge Services (CANES) networking program.</p> <p>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 US Navy ships, submarines, aircraft, and other joint platforms. It will provide means to disseminate organically derived data from Navy platforms to other theater tactical, operational, and strategic users. MIBS will give the Navy a capability to delivery 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 (ASUW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompass all Maritime (Navy, Coast Guard, and Air Force) IBS systems (Joint Tactical Terminal (JTT and Radiant Ether (RE)). These systems will provide the Navy, Coast Guard other joint platforms with a coherent approach to fielding maritime IBS systems to take advantage of all available pathways and services, minimize the waste of resources by doing away with duplication of development and fielding of different IBS systems.</p> <p>Radiant Ether (RE): An IBS network solution that provides IBS data to users via SIPRNET, while minimizing utilized bandwidth. RE is a concept for net-centric software-based processing of Integrated Broadcast Service-Simplex (IBS-S) and Integrated Broadcast Service-Interactive (IBS-I) data. The software will transmit and receive all IBS data through the shipboard network. It is envisioned to reside on the ship's GENSER SECRET LAN, providing IBS data to required Tactical Data Processors (TDPs) via Transmission Control Protocol/Internet Protocol (TCP/IP) or specific cable interfaces with possible transmit capabilities.</p> <p>(U) 2472 Mobile User Objective System: 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 2009. The MUOS program is funded to the August 2004 Operational Requirements Document (ORD).</p> <p>This MUOS Research Development Test & Evaluation, Navy (RDTEN) effort supports a Milestone Decision Authority (MDA) approved On-Orbit Capability (OOC) in 2010 and Full Operational Capability (FOC) in 2014. A MUOS Risk Reduction & Design Development (RRDD) contract was awarded in September 2004 to Lockheed Martin after Key Decision Point (KDP) B. The approval at KDP-B in September 2004 officially designated the MUOS Program as a DoD Space Major Defense Acquisition Program. FY 2007 - FY 2009 MUOS efforts are focused on Critical Design Review (CDR), beginning work on the spacecraft engineering development models, and fabrication, assembly, integration and testing of the first two satellites. In addition, efforts will include the design, development, fielding and testing of the ground segment.</p>	

CLASSIFICATION:	
EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	R-1 ITEM NOMENCLATURE 0303109N Satellite Communications (Space)
BA 7	
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:	
<p>(U) Funding in the amount of \$4M in FY09 and \$38M in FY10 is provided for UHF Hosted Payload. UHF Hosted Payload may serve as a gap filler solution during the transition from the UFO to MUOS constellations. In FY 2009, the Program Office will initiate acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload.</p> <p>(U) The FY 2008 President's Budget effected an OSD-directed transfer in FY 2009 of \$180M from WPN to RD TEN. This change was the result of direction from the Milestone Decision Authority (MDA) to fund the MUOS program to the OSD Cost and Analysis Improvement Group's (CAIG) FY 2009 estimate. In the FY 2009 President's Budget, WPN funds have been provided to properly fund the launch vehicle and production support. In addition, the MDA directed the Navy to continue to fund FY 2009 through FY 2012 to the CAIG estimate. By doing this, the RD TEN controls were adjusted in the following manner: FY 2009 -\$90M, FY 2010 +\$59.9M, FY 2011 +\$132.8M, FY 2012 +\$46.8M.</p> <p>(U) 9122 Advanced Wideband System/Transformational Communications: The Navy Transformational Communications (TC) Terminal Satellite Communications (SATCOM) program provides for the development and production of terminals to provide high capacity reliable, low probability of intercept (LPI), Anti-Jam (AJ), communications capability to the fleet. Terminals will support multiple data streams over Q-band, Ka-band, and X-band. The terminals will also support mesh networking without the need for gateway terminals. Development will focus on a Local Area Network (LAN) to Antenna capability, including quality of service required for Navy unique missions. Advanced Wideband System/Transformational Communications (AWS/TC) Program draft acquisition strategy consists of terminal suite development and environmental qualification, on-orbit testing, platform integration and test, software enhancements and regression testing throughout the life of the program.</p> <p>(U) 9999 Congressional Adds: The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Satellite Communication (SATCOM) (Military and Commercial) multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. The project was realigned to Program Executive Office for Command, Control, Communications, Computers, Intelligence and Space (PEO C4I & Space) from the United States Air Force starting in FY 2004. This project includes conducting JIST-NET software development and engineering analysis. The project is currently in the system development and demonstration phase; and has been approved as a pre-acquisition project. The long-term goal is to provide dynamic real time or near real time apportionment, allocation, and adjudication of satellite resources for the warfighters based on priorities and requirements as assigned by the Operational Command.</p> <p>FY08 includes a Congressional increase for a "Field Programmable Processor Array (FPPA) for Space Based "Reconfigurable" Wide Field of View Sensor". The objective is to increase the Technology Readiness Level (TRL) of reconfigurable technology for future satellite systems. Such technology should reduce the cost and development schedule and improve the flexibility of processors needed for future satellite systems. Onboard applications would be targeted toward applications such as future satellite reconnaissance, surveillance and strategic missile warning systems that may use Wide Field of View (WFOV) Staring Sensors and large format Focal Plane Arrays (FPAs).</p>	

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY				
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /		BA 7	0303109N Satellite Communications (Space)	
(U) B. PROGRAM CHANGE SUMMARY:				
(U) Funding:		FY 2007	FY 2008	FY 2009
FY 2008 President's Budget		748.416	736.572	736.485
FY 2009 President's Budget		728.480	724.771	652.463
Total Adjustments		-19.936	-11.801	-84.022
Summary of Adjustments				
	Miscellaneous Adjustments	-1.481	0.000	-2.542
	SBIR	-18.427	-10.902	0.000
	Congressional Adjustments	-0.028	-0.899	0.000
	Realignment of MUOS funding to WPN	0.000	0.000	-81.480
	Subtotal	-19.936	-11.801	-84.022
 (U) Schedule:				
<u>EHF SATCOM Terminals (project 0728)</u>				
System Design and Development (SDD) contract awarded Oct 2003. Required Acquisition Strategy Report (ASR) approved June 2002, and ASR Update approved July 2003. Schedule development effort to support the additional Software Communication Architecture (SCA) scope and cost are incorporated into the program baseline. Competitive down select occurred June 2007.				
<u>Fleet Satellite Comm. (project 0731)</u>				
SCI Networks: Minor software delivery and testing updates. Events added for migration to ISNS Inc 2/CANES beginning in FY09 to move to a Common Computing Environment (CCE) and Service Oriented Architecture (SOA).				
<u>Mobile User Objective System (project 02472)</u>				
No significant schedule changes.				
<u>Advanced Wideband System/Transformational Communications (project 9122)</u>				
Program Office began Acquisition Strategy development and refinement in FY 2004. Milestone B is currently projected in FY 2011.				
 (U) Technical:				
<u>Mobile User Objective System (project 02472)</u>				
Funding in the amount of \$4M in FY09 and \$38M in FY10 is provided for UHF Hosted Payload. UHF Hosted Payload may serve as a gap filler solution during the transition from the UFO to MUOS constellations. In FY 2009, the Program Office will initiate acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload.				

CLASSIFICATION:							
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	77.678	105.495	122.280	84.067	17.396	17.711	18.037
RDT&E Articles Qty	20						
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>(U) 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 Gapfiller Satellite (WGS), and Global Broadcast Systems (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.</p> <p>(U) The Commercial Broadband Satellite Program (CBSP) will support satellite communications terminals and shore connectivity to the Navy Points of Presence through the use of Commercial off-the-Shelf (COTS) terminals, commercial satellite land earth stations, and terrestrial fiber services.</p>							

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals

(U) B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Commercial Broadband Satellite Program (CBSP) (Formerly New-Start Commercial Terminal)	0.000	3.929	4.948
RDT&E Articles Quantity			

(U) CBSP
 (U) **FY 2008:** Commence development of acquisition documentation including Acquisition Program Baseline (APB), Life Cycle Cost Estimate (LCCE), Test & Evaluation Master Plan (TEMP), Acquisition Strategy/Acquisition Plan (AS/AP), Integrated Logistics Assessment (ILA), Clinger-Cohen Act (CCA) compliance documentation, Information Support Plan (ISP), market research, and engineering studies. Commence testing of COTS terminals.
 (U) **FY 2009:** Complete development of acquisition documentation and testing of COTS terminals.

	FY 2007	FY 2008	FY 2009
NMT Development, First & Second Phases	77.678	101.566	117.332
RDT&E Articles Quantity	20		

(U) First and second phases of Navy Multiband Terminal (NMT) development for System Design and Development (SDD) for ship, shore, and submarine platforms.
 (U) **FY 2007:** Completed terminal hardware and software development for 8 Software Communications Architecture (SCA) compliant NMT prototypes. Performed over-the-air testing of NMT prototypes and conducted vendor down-select. Commenced design and development of 20 Q/Ka capable Engineering Development Models (EDMs) and initiated development of the X-band add-on for submarine platforms. EDM test sets were required at the following sites: one set at contractor facility for testing, one set shared between East/West coast government facilities for program and joint interoperability testing, and one set for operational assessment on platforms. Each set is composed of two ship, one sub and one shore terminal configurations. In addition, eight EDMs were planned as first of class platform installations for unique environmental testing and production phase risk reduction.
 (U) **FY 2008:** Continue design and development of 20 Q/Ka capable EDMs, X-band add-ons for submarines, and X/Ka kits for ships. Additional security measures will be incorporated into the terminal software and hardware to support Department of Defense (DoD) Information Technology Security Certification and Accreditation Process (DITSCAP) certification prior to EDM fielding for Developmental Test /Operational Test (DT/OT).
 (U) **FY 2009:** Complete design and development of 20 Q/Ka capable EDMs, X-band add-ons for submarines, and continue development of X/Ka upgrade kits for ships. Additional security measures included in terminal software and hardware will be incorporated and tested via DITSCAP testing. EDMs will be delivered and installed on ship and submarine platforms and a shore site to support DT/OT and preparations for Milestone C.

CLASSIFICATION:

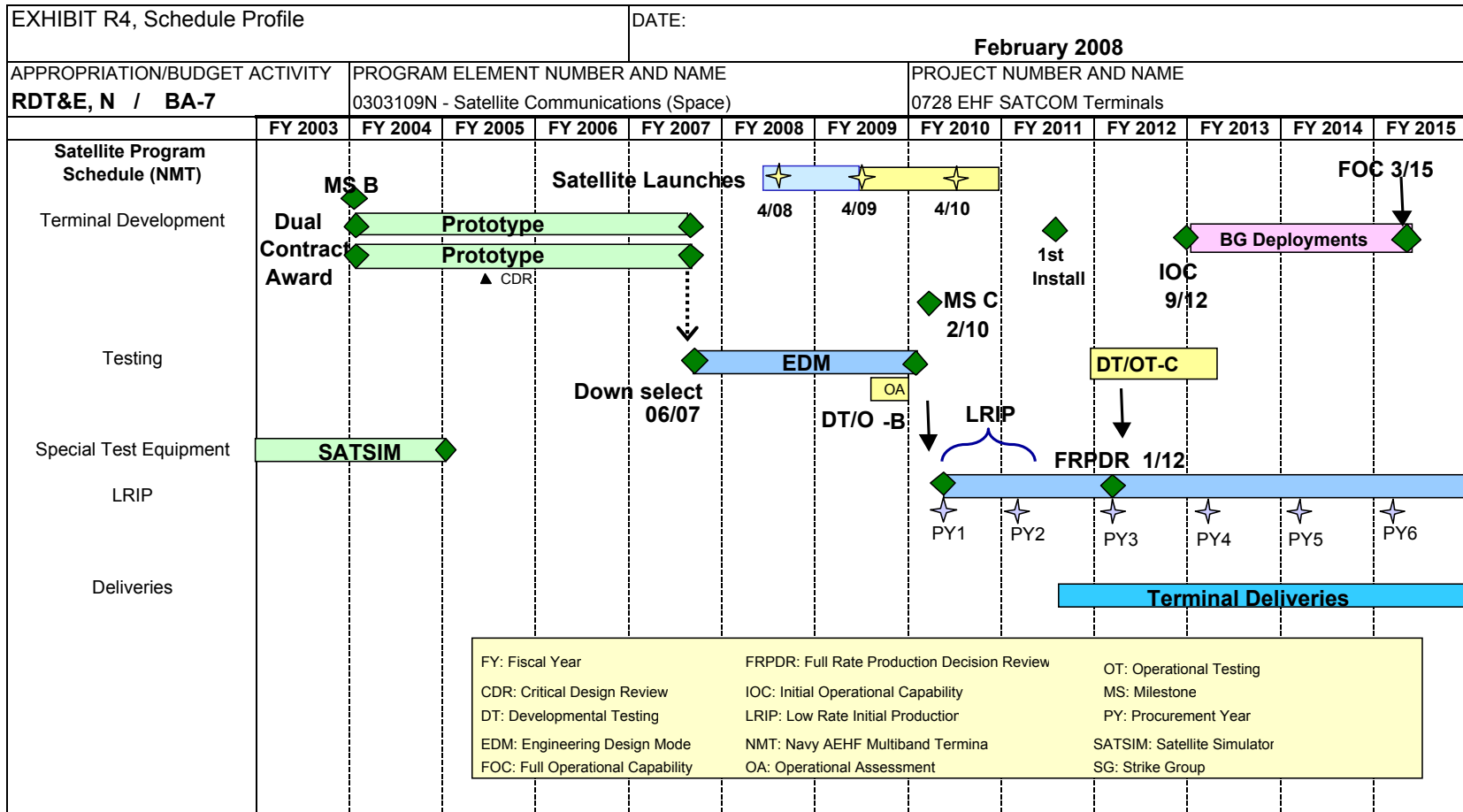
EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals					
(U) C. OTHER PROGRAM FUNDING SUMMARY:							
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
3215 - OPN Ship and Shore	8.800	26.834	29.909	104.697	195.520	196.857	198.389
NMT				84.789	182.462	186.890	190.511
CBSP	8.800	26.834	29.909	19.908	13.058	9.967	7.878
 (U) Related RDT&E: (U) PE 0303603F, MILSTAR (U) PE 0303601F, Air Force Satellite Communications							
(U) D. ACQUISITION STRATEGY:							
(U) NMT concept exploration contracts were awarded in FY 2001. Two 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 the development, demonstration and procurement of 20 EDMs which will incorporate integrated multi-band capabilities for Q/Ka band, Submarine X-Band, and Ship X/Ka frequency band communication requirements.							
(U) CBSP will support satellite communications terminals and shore connectivity to the Navy Points of Presence through the use of COTS terminals, commercial satellite land earth stations, and terrestrial fiber services. Acquisition documentation development and concept studies and analyses will be accomplished using existing contracts.							
(U) E. MAJOR PERFORMERS:							
Raytheon, Marlborough, MA - NMT SDD Vendor; EDM contract option exercised June 07 Naval Undersea Warfare Center (NUWC), Newport, RI - NMT Technical Director; annual WX document							
(U) F. METRICS:							
NMT Earned Value Management (EVM) is used for metrics reporting and risk management.							

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)							DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT			PROJECT NUMBER AND NAME					
RDT&E, N / BA-7				0303109N Satellite Communications (Space)			0728 EHF SATCOM Terminals					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	CPAF	Various	138.313	38.442	11/06	0.199	10/07	0.150	10/08			
Hardware Development	C/FFP	Harris (Melbourne, FL)	6.551									
NMT EDM Development	CFAF	Raytheon (Marlborough, MA)		19.669	06/07	80.151	10/07	90.718	10/08	Continuing	Continuing	
Hardware Development	WR	SSC SD (San Diego, CA)	1.077									
Hardware Development	WR	SSC CH (Charleston, SC)										
Ancillary Hardware Development	CPAF	Raytheon (Marlborough, MA)	57.790									
Software Development	WR	NUWC (Newport, RI)	9.161									
Software Development	CPAF	Raytheon (Marlborough, MA)	3.692									
Software Development	WR	Various										
Systems Engineering	WR	SSC SD (San Diego, CA)	14.169	1.730	10/06	1.830	10/07	1.903	10/08	Continuing	Continuing	
Systems Engineering	WR	NUWC (Newport, RI)	7.345	4.065	10/06	4.129	10/07	4.294	10/08	Continuing	Continuing	
Systems Engineering	Various	Various	12.376	7.786	10/06	10.205	10/07	8.433	10/08	Continuing	Continuing	
Government Furnished Equipment (GFE)	Various	Various	10.114			0.100		0.050				
Subtotal Product Development			260.588	71.692		96.614		105.549		Continuing	Continuing	
Remarks:												
Development Support	WR	Various	7.504			0.133		4.000	10/08	Continuing	Continuing	
Logistics Support	Various	Various		0.784	10/06	0.798	10/07	1.021	10/08	Continuing	Continuing	
Studies & Analysis	WR	Various	6.126			0.333		0.243	10/08	Continuing	Continuing	
Information Assurance	Various	Various	1.409			0.275		1.068	10/08	Continuing	Continuing	
Subtotal Support			15.039	0.784		1.539		6.332		Continuing	Continuing	
Remarks:												

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)							DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT			PROJECT NUMBER AND NAME					
RDT&E, N / BA-7				0303109N Satellite Communications (Space)			0728 EHF SATCOM Terminals					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC SD	10.787	1.491	10/06	1.518	10/07	1.145	10/08	Continuing	Continuing	
Operational Test & Evaluation	WR	Various	0.556					1.000	10/08	Continuing	Continuing	
Subtotal T&E			11.343	1.491		1.518		2.145		Continuing	Continuing	
Remarks:												
Contract Management	Various	Various	4.109	0.824	10/06	1.089	10/07	1.633	10/08	Continuing	Continuing	
Program Management	Various	Various	5.899	1.248	10/06	1.900	10/07	3.276	10/08	Continuing	Continuing	
Acquisition Management	Various	Various		1.489	10/06	2.312	10/07	3.045	10/08	Continuing	Continuing	
Acquisition Management	WR	NCCA	0.353			0.300	10/07					
Travel		Gov't Travel	0.314	0.150	10/06	0.223	10/07	0.300	10/08	Continuing	Continuing	
Subtotal Management			10.675	3.711		5.824		8.254		Continuing	Continuing	
Remarks:												
Total Cost			297.645	77.678		105.495		122.280		Continuing	Continuing	
Remarks:												

CLASSIFICATION:



Note:
Reflects development of 20 Engineering Development Models (EDMs)

Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: February 2008
APPROPRIATION/BUDGET ACTIVIT RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N - Satellite Communications (Space)	PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals

Commercial Broadband Satellite Program	FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012			
	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
Milestones & Phases									▲ ASN RD&A RDC Approval				▲ New Start Congressional Approval FY07				▲ ACAT Designation	▲ MSC			▲ IOC	▲ FRPDR										
Capabilities Documents													▲ AOA			▲ CPD																
Major Acquisition Documents																▲ APB			▲ Acquisition Documents													
Contract Award									▲ RFP			▲ Contract Award																				
Test & Evaluation												▲ DRA						▲ IOT&E														

Exhibit R-4, RD TEN Schedule Profile

CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 0731 Fleet Satellite Communications			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		2.075	9.033	8.117	3.133	1.150	2.674	2.808
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>(U) The Joint Ultra High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated (JMINI) Control System provides replacement of all non-Chairman Joint Chiefs Staff Instruction (CJCSI) 6251.01 UHF MILSATCOM legacy equipment at Naval Computer & Telecommunications Area Master Station (NCTAMS) Atlantic (LANT), NCTAMS Pacific (PAC), Naval Computer & Telecommunications Station (NCTS) Naples and NCTS Guam; also replaces non-supportable aging WSC-5 terminals. Provides centralized control of full UHF Follow-On (UFO) satellite constellation. Expands channel control capacity with Digital Modular Radio (DMR) at NCTAMS/NCTS; each site will control up to 152 non-processed UHF MILSATCOM channels in adjacent satellite coverage areas using both physical and virtual channel control techniques. Remains backward compatible with all versions of all Demand Assigned Multiple Access (DAMA) waveforms; supports future waveform modifications and additions. Implements decentralized management of UHF SATCOM communications assets. Automated planning and management of UHF MILSATCOM resources with the Network Management System (NMS). Maintains planning reference data: terminals, networks, configuration codes. Defines and ranks communications service requirements. CJCSI 6251.01 Rev B states MILSTD-188-181C/182B/183B (Integrated Waveform or IW) as optional waveforms for terminals. This requires mandatory implementation into JMINI Control System. The FY 2008 funding supports joint services development with Defense Information Systems Agency (DISA) for Integrated Waveform Technology and software development into JMINI control system architecture. Effort will entail system prototyping, Developmental Testing (DT), and waveform compliance testing. Beginning in FY 2009, funding supports development of next generation JMINI control system to replace non-supported equipment, reduce system components, support technology insertion and system re-architecture.</p> <p>(U) The Sensitive Compartmented Information Networks (SCI Networks), is an evolutionary acquisition program designed to provide 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. Specifically, SCI Networks shall ensure the availability of networks in defiance of hostile Information Warfare (IW). Technical, physical, and procedural security will be used to control access, protect Department of Navy (DoN) information technology resources, and ensure continuous operation of the system within an accredited security posture. This network connectivity will greatly expand the capability of cryptologic and intelligence personnel to fully interact with shore based nodes to provide expanding 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). The SCI Networks will provide real time indications and warning support to joint and component commanders through reliable high-speed transfer of sensor data and intelligence information. Enhanced interoperability with other services, agencies, and allies will permit a level of integration of Sensitive Information (SI) operations not achievable with current systems.</p> <p>The SCI Networks program will start migrating to the Integrated Shipboard Network System (ISNS) Increment 2/Consolidated Adaptive Network Edge Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, and secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video, and Data; Common Computing Environment (CCE); Services Oriented Architecture (SOA); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).</p> <p>(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 US Navy ships, submarines, aircraft, and other joint platforms. It will provide means to disseminate organically derived data from Navy platforms to other theater tactical, operational, and strategic users. MIBS will give the Navy a capability to delivery 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 (ASUW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompass all Maritime (Navy, Coast Guard, and Air Force) IBS systems (Joint Tactical Terminal (JTT and Radiant Ether (RE)). The systems will provides the Navy, Coast Guard other joint platforms with a coherent approach to fielding maritime IBS systems to take advantage of all available pathways and services, minimizes the waste of resources by doing away with duplication of development and fielding of different IBS systems.</p> <p>(U) Radiant Ether (RE): An IBS network solution that provides IBS data to users via SIPRNET, while minimizing utilized bandwidth. RE is a concept for net-centric software-based processing of Integrated Broadcast Service-Simplex (IBS-S) and Integrated Broadcast Service-Interactive (IBS-I) data. The software will transmit and receive all IBS data through the shipboard network. It is envisioned to reside on the ship's GENSER SECRET LAN, providing IBS data to required Tactical Data Processors (TDPs) via Transmission Control Protocol/Internet Protocol (TCP/IP) or specific cable interfaces with possible transmit capabilities.</p> <p>(U) Manage and resource / coordinate resourcing of experiments and pilot testing of Internet Protocol version 6 (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.</p>								

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0731 Fleet Satellite Communications

(U) B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JMINI IW Development	0.000	8.162	6.600
RDT&E Articles Quantity			

(U) FY 2007: N/A

(U) FY 2008: The FY08 funding supports joint services development with Defense Information Systems Agency (DISA) for Integrated Waveform (IW) Technology and software development into Joint Ultra High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated (JMINI) control system architecture. Effort will entail system prototyping, Developmental Testing (DT) and waveform compliance testing.

(U) FY 2009: Completes IW Technology and software development into Joint Ultra High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated (JMINI) control system architecture. Start development of next JMINI control system to replace non-supported equipment, reduce system components, support tech insertion and system re-architecture. Upgrade will work to replace Radio Terminal (RT)-1771's, Modem (MD) -1324's, and various Sun, Oracle and Window end-of-life components that will require software design and integration.

	FY 2007	FY 2008	FY 2009
SCI Networks	2.075	0.687	0.700
RDT&E Articles Quantity			

(U) FY 2007: Continued integration and implementation of SCI Networks and associated Special Intelligence Communications. Began development of AN/USQ-148A(V)5, AN/USQ-148B(V)3, and AN/USQ-148G(V)2 systems. Performed Lab Developmental Test (DT) of COMPOSE 3.0 software and COMPOSE 2.0.3 with AN/USQ-148D(V)2. Began the design and development of a new server rack.

(U) FY 2008: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. Complete development of AN/USQ-148A(V)5 and AN/USQ-148B(V)3 systems. Continue development of AN/USQ-148G(V)2. Conduct Lab DT on AN/USQ-148A(V)5 and AN/USQ-148B(V)3 systems for Submarines and associated Broadcast Control Authority (BCA) shore sites. Perform Developmental Testing (DT) and Observation of Operational Capability (OOC) of COMPOSE 2.0.3 with AN/USQ-148D(V)2. Conduct Ship/Shore DT and OOC for COMPOSE 3.0 with AN/USQ-148D(V)2. Complete design and development of new server rack.

(U) FY 2009: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. Complete development of AN/USQ-148G(V)2 system. Conduct Lab DT on AN/USQ-148G(V)2 and COMPOSE 3.5. Conduct DT and OOC on AN/USQ-148A(V)5 and AN/USQ-148B(V)3 systems for Submarines and associated Broadcast Control Authority (BCA) shore sites. Begin integration of SOA 1.0 into the SCI environment. Start migration to ISNS Inc 2/CANES.

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008													
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0731 Fleet Satellite Communications													
(U) B. Accomplishments/Planned Program															
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 65%;"></th> <th style="width: 12.5%;">FY 2007</th> <th style="width: 12.5%;">FY 2008</th> <th style="width: 10%;">FY 2009</th> </tr> </thead> <tbody> <tr> <td>MIBS/Radiant Ether</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.624</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) FY 2007: N/A</p> <p>(U) FY 2008: N/A</p> <p>(U) FY 2009: The FY09 funding supports development of Radiant Ether Internet Protocol (IP) based architecture to receive, process, display Integrated Broadcast Service (IBS) data for the Navy. Effort will entail design architecture testing, documentation, development and operational testing, Integrated Logistics Support certification and training.</p>					FY 2007	FY 2008	FY 2009	MIBS/Radiant Ether	0.000	0.000	0.624	RDT&E Articles Quantity			
	FY 2007	FY 2008	FY 2009												
MIBS/Radiant Ether	0.000	0.000	0.624												
RDT&E Articles Quantity															
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 65%;"></th> <th style="width: 12.5%;">FY 2007</th> <th style="width: 12.5%;">FY 2008</th> <th style="width: 10%;">FY 2009</th> </tr> </thead> <tbody> <tr> <td>IPv6 Transition</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.184</td> <td style="text-align: center;">0.193</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) FY 2007: N/A</p> <p>(U) FY 2008: Manage and resource / coordinate resourcing of experiments and pilot testing of IPv6 technologies. The projected work products for FY 2008 will include planning and Test & Evaluation (T&E) documentation required to support acquisition programs identified as critical IPv6 elements. Additionally, these funds will be utilized to coordinate cross PEO and Joint Service efforts in order to reduce acquisition costs within Navy.</p> <p>(U) FY 2009: Manage and resource / coordinate resourcing of experiments and pilot testing of IPv6 technologies. The projected work products for FY 2009 will include continuation of FY 2008 efforts. Additionally, Navy programs of record supported will expand to begin to include software application migration support</p>					FY 2007	FY 2008	FY 2009	IPv6 Transition	0.000	0.184	0.193	RDT&E Articles Quantity			
	FY 2007	FY 2008	FY 2009												
IPv6 Transition	0.000	0.184	0.193												
RDT&E Articles Quantity															

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N / BA-7			0303109N Satellite Communications (Space)			0731 Fleet Satellite Communications			
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	To Complete	Total Cost
OPN - Comm Auto - 3050 - SCI NETWORKS	25.226	17.053	19.245	9.733	9.184	5.423	5.509	Continuing	Continuing
OPN - Sat Comm - 3215 - JMINI	0	0.160	2.852	0.222	6.569	0.622	0	0	10.425
(U) D. ACQUISITION STRATEGY:									
<p>JMINI: The Integrated Waveform upgrade will be performed as a software only enhancement to the JMINI Control System. It will be joint developed with DISA with a planned software upload date of June 2009. The technical refresh of the JMINI system starting in FY 2009 will be comprised of software and hardware development for channel controller for integration into the Radio Terminal (RT) -1771 terminal replacement. The effort will commence at Milestone (MS) B in FY 2009. Development Test and Evaluation (DT&E) testing will be conducted in existing laboratory environment to ensure software maturity prior to Operational Test and Evaluation (OT&E) planned in 1Q FY 2011.</p> <p>SCI Networks: SCI Network 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. Next Generation versions are being considered for acquisition via the Lockheed Martin Q-70 contract vehicle.</p> <p>MIBS: The Radiant Ether (RE) will be comprised of software developed by the Air Force and commercial hardware. RE will provide Internet Protocol (IP) based Integrated Broadcast Service (IBS) capability to the fleet. The efforts include Development Test and Evaluation (DT&E) conducted in existing laboratory environment to ensure software maturity prior to Operational Test and Evaluation (OT&E).</p> <p>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.</p>									
(U) E. Major Performers:									
<p>JMINI: SPAWAR Systems Center San Diego (SSC SD), Defense Information Systems Agency (DISA)</p> <p>SCI Networks: SPAWAR Systems Center, San Diego (SSC SD) / SPAWAR Systems Center, Charleston (SSC CH) / Lockheed Martin, Eagan, MN.</p> <p>MIBS: SPAWAR Systems Center, San Diego (SSC SD) / SPAWAR Systems Center, Charleston (SSC CH)</p> <p>IPv6: SPAWAR Systems Center, San Diego (SSC SD) / SPAWAR Systems Center, Charleston (SSC CH)</p>									

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE:		
APPROPRIATION/BUDGET ACTIVITY										February 2008		
RDT&E, N / BA-7			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
			0303109N Satellite Communications (Space)				0731 Fleet Satellite Communications					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Lockheed Martin		1.400	Various						1.400	0.000
Primary Hardware Development	Various	Various	22.663					0.150			22.813	1.000
Ancillary Hardware Development												
Systems Engineering	WX	SSC SD				0.466	Various	1.631	Various	Continuing	Continuing	Continuing
Systems Engineering	Various	Various		0.419	Various	0.423	Various	0.430	Various	Continuing	Continuing	Continuing
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			22.663	1.819		0.889		2.211		Continuing	Continuing	Continuing
Remarks:												
Development Support	WX	SSC SD				0.575	Various	0.316	Various	Continuing	Continuing	Continuing
Development Support	Various	Various		0.192	Various	0.196	Various	0.200	Various	Continuing	Continuing	Continuing
Software Development	Various	Various		0.025	Various	5.933	Various	1.247	Various	Continuing	Continuing	Continuing
Training Development	WX	SSC SD					Various	0.050	Various	Continuing	Continuing	Continuing
IPv6 Support	WX	SSC SD				0.184	Various	0.195	Various	Continuing	Continuing	Continuing
Integrated Logistics Support	WX	SSC SD/CH				0.190	Various	1.304	Various	Continuing	Continuing	Continuing
Configuration Management	WX	SSC SD/CH						0.008	Various	Continuing	Continuing	Continuing
Technical Data	WX	SSC SD/CH						0.131	Various	Continuing	Continuing	Continuing
GFE												
Subtotal Support			0.000	0.217		7.078		3.451		Continuing	Continuing	Continuing
Remarks:												

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0303109N Satellite Communications (Space)				0731 Fleet Satellite Communications					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SSC SD/CH				0.755	Various	1.428	Various	Continuing	Continuing	Continuing
Developmental Test & Evaluation	Various	Various		0.039	12/06	0.050	12/07	0.049	12/08	Continuing	Continuing	Continuing
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets	WX	SSC SD/CH						0.013	Various	Continuing	Continuing	Continuing
Tooling												
GFE												
Subtotal T&E			0.000	0.039		0.805		1.490		Continuing	Continuing	Continuing
Remarks:												
Contractor Engineering Support										Continuing	Continuing	Continuing
Government Engineering Support												
Program Management Support	WX	SSC SD/CH				0.215		0.805		Continuing	Continuing	Continuing
Travel	WX	SSC SD				0.046		0.161			Continuing	
Subtotal Management			0.000	0.000		0.261		0.966		Continuing	Continuing	Continuing
Remarks:												
Total Cost			22.663	2.075		9.033		8.117		Continuing	Continuing	Continuing
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																DATE: February 2008																								
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																											
RDT&E, N / BA-7					0303109N Satellite Communications (Space)								0731 Fleet Satellite Communications (JMINI)																											
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013															
	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						▲										▲																								
Software Development																																								
Test & Evaluation Milestones																																								
Development Test																																								
Operational Test																																								
Production Milestones																																								
Deliveries to Control Sites																																								
Note:	This schedule profile is for JMINI only																																							

EXHIBIT R4, Schedule Profile																DATE: February 2008																
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																				
RDT&E, N / BA-7				0303109N Satellite Communications (Space)								0731 Fleet Satellite Communications (SCI Networks)																				
Fiscal Year	FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	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	1	2	3	4
Acquisition Milestones (see notes 1 & 2)	▲ Post MS C 148D/E PM Memo				▲ INC 1 Prod Mod 148G ADM								▲ MS B ISNS Inc 2/ CANES								▲ MS C ISNS Inc 2/ CANES											
Prototype Phase																																
System Development AN/USQ 148D(V)2 AN/USQ 148A(V)5 AN/USQ 148B(V)3 AN/USQ 148G(V)2 ISNS INC 2 / CANES ISNS INC 3 / CANES 2 (see notes 1 & 3)	[Bar]				[Bar]				[Bar]				[Bar]				[Bar] ISNS Inc 2 / CANES Development				[Bar]				[Bar] ISNS Inc 3 / CANES 2 Development							
Equipment Delivery AN/USQ 148E(V)2 AN/USQ 148D(V)2 AN/USQ 148A(V)5 AN/USQ 148B(V)3 AN/USQ 148G(V)2 (see note 3)	▲				▲				▲				▲				▲															
Software Delivery (see note 4)	COMPOSE 2.03 ▲								COMPOSE 3.0 ▲								COMPOSE 3.5 ▲				COMPOSE 4.0 ▲											
Test & Evaluation Milestones Development Test (see note 5)	2.0.3 / 148F Lab [DT] [DT]				3.0 Lab 2.0.3 / 148D Lab [DT] [DT]				B(V)3 & A(V)5 Lab 3.0 / 148D [DT] [DT]				148G / 3.5 Lab [DT]				148G / 3.5 Lab [DT]				4.0 Lab [DT]				4.0 [DT]							
Operational Test	2.0.3 / 148E [OOC]								2.0.3 / 148D 3.0 / 148D [OOC] [OOC]				B(V)3 & A(V)5 [OOC]				148G / 3.5 [OOC]								4.0 [OOC]							
Production Milestones (see note 1) LRIP																																
FRP																																
Deliveries																																
Notes: 1. SCI Networks will begin to migrate to ISNS Inc 2/CANES in FY09. 2. Inc 1 Production Mod ADM approved on 23 Apr 07. 3. System Development and Equipment Delivery variants enumerated for schedule completeness. 4. Software Delivery schedule reflects when COMPOSE is fielded by the program. 5. DT and OOC is performed on either a ship, shore, and/or submarine unless otherwise notated. 6. OOC = Observation of Operational Capability.																																

Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDTE&E, N / BA - 7	0303109N Satellite Communications (Space)				0731 Fleet Satellite Communications (SCI Networks)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestone - Post MS C 148D/E PM Memo	1Q							
Acquisition Milestone - Inc 1 Production Mod ADM		3Q						
Acquisition Milestone - MS B ISNS Inc 2/CANES				4Q				
Acquisition Milestone - MS C ISNS Inc 2/CANES						4Q		
System Development - AN/USQ-148D(V)2	1Q-4Q							
System Development - AN/USQ-148A(V)5		1Q-4Q	1Q-2Q					
System Development - AN/USQ-148B(V)3		1Q-4Q	1Q-2Q					
System Development - AN/USQ-148G(V)2		3Q-4Q	1Q-4Q	1Q-4Q				
System Development - ISNS Inc 2 / CANES				4Q	1Q-4Q	1Q-4Q		
System Development - ISNS Inc 3 / CANES 2							3Q-4Q	1Q-4Q
Equipment Delivery - AN/USQ-148E(V)2	2Q							
Equipment Delivery - AN/USQ-148D(V)2		2Q						
Equipment Delivery - AN/USQ-148A(V)5			Q4					
Equipment Delivery - AN/USQ-148B(V)3			Q4					
Equipment Delivery - AN/USQ-148G(V)2					2Q			
Software Delivery - COMPOSE 2.0.3	3Q							
Software Delivery - COMPOSE 3.0			2Q					
Software Delivery - COMPOSE 3.5					2Q			
Software Delivery - COMPOSE 4.0						3Q		
Development Test - DT 148E & 2.0.3	3Q							
Development Test - Lab DT 148D	4Q							
Development Test - Lab DT 3.0		3Q						
Development Test - DT 148D & 2.0.3		4Q						
Development Test - Lab DT B(V)3 & A(V)5			2Q					
Development Test - DT 148D & 3.0			3Q					
Development Test - DT B(V)3 & A(V)5				2Q				
Development Test - Lab DT 148G/3.5				2Q-3Q				
Development Test - DT 148G/3.5					2Q			
Development Test - Lab DT 4.0					4Q			
Development Test - DT 4.0						2Q		
Operational Test - OOC 148E & 2.0.3	3Q							
Operational Test - OOC 148D & 2.0.3			2Q					
Operational Test - OOC 148D & 3.0			3Q					
Operational Test - OOC B(V)3 & A(V)5				2Q				
Operational Test - OOC 148G & 3.5					2Q			
Operational Test - OOC 4.0						2Q		
Production Milestone - LRIP ISNS INC 2/CANES						4Q	1Q-4Q	1Q
Production Milestone - FRP ISNS INC 2/CANES								1Q

Exhibit R-4a, RDTEEN Schedule Detail

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2008												
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																			
RDT&E, N / BA-7					0303109N Satellite Communications (Space)								0731 Fleet Satellite Communications (MIBS/Radiant Ether)																			
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013							
	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																																
System Integration																																
Equipment Delivery																																
SW Delivery																																
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
JITIC Cert																																
Acquisition Documentation																																
Radiant Ether Software Installs																																

Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 7		PROGRAM ELEMENT 0303109N Satellite Communications (Space)		PROJECT NUMBER AND NAME 0731 Fleet Satellite Communications (MIBS/Radiant Ether)			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Developmental Testing (MS B)			3Q				
Software Delivery			2Q				
Operational Testing (MS B)				4Q			
JITC Cert				4Q			
Operational Test Readiness Review (OTRR)				3Q			
Install					2Q		

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Exhibit R-4a, RD TEN Schedule Detail

CLASSIFICATION:							
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 2472 Mobile User Objective System			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	645.851	598.190	516.807	393.245	249.733	106.893	48.146
Articles Qty (MUOS Satellites)	1	1					
RDT&E Articles Qty (UFO TT&C Terminals)	2						
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>(U) 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 2009. The MUOS program is funded to the August 2004 Operational Requirements Document (ORD).</p> <p>(U) This MUOS Research Development Test & Evaluation, Navy (RDTEN) effort supports a Milestone Decision Authority (MDA) approved On-Orbit Capability (OOC) in 2010 and Full Operational Capability (FOC) in 2014. A MUOS Risk Reduction & Design Development (RRDD) contract was awarded in September 2004 to Lockheed Martin after Key Decision Point (KDP) B. The approval at KDP-B in September 2004 officially designated the MUOS Program as a DoD Space Major Defense Acquisition Program. FY 2007 - FY 2009 MUOS efforts are focused on: Critical Design Review (CDR), beginning work on the spacecraft engineering development models, and fabrication, assembly, integration and testing of the first two satellites. In addition, efforts will include the design, development, fielding and testing of the ground segment.</p> <p>(U) Funding in the amount of \$4M in FY09 and \$38M in FY10 is provided for UHF Hosted Payload. UHF Hosted Payload may serve as a gap filler solution during the transition from the UFO to MUOS constellations. In FY 2009, the Program Office will initiate acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload.</p> <p>(U) The FY 2008 President's Budget effected an OSD-directed transfer in FY 2009 of \$180M from WPN to RDTEN. This change was the result of direction from the Milestone Decision Authority (MDA) to fund the MUOS program to the OSD Cost and Analysis Improvement Group's (CAIG) FY 2009 estimate. In the FY 2009 President's Budget, WPN funds have been provided to properly fund the launch vehicle and production support. In addition, the MDA directed the Navy to continue to fund FY 2009 and through FY 2012 to the CAIG estimate. By doing this, the RDTEN controls were adjusted in the following manner: FY 2009 -\$90M, FY 2010 +\$59.9M, FY 2011 +\$132.8M, FY 2012 +\$46.8M.</p>							

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 2472 Mobile User Objective System

(U) B. Accomplishments/Planned Program

MUOS	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	637.112	595.690	512.807
RDT&E Articles Quantity	1	1	

(U) FY 2007: Continued funding for MUOS RRDD contract to complete CDR. Began work on spacecraft engineering development models and fabrication, assembly, integration and testing of the first two satellites. Continued design and began development of entire ground segment.
 (U) FY 2008: Continue work on fabrication, assembly, integration and testing of the first two satellites. In addition, continue development of entire ground segment and begin fielding and testing.
 (U) FY 2009: Continue work on fabrication, assembly, integration and testing of the first two satellites. In addition, finish fielding and testing entire ground segment.

UFO TT&C Terminal Upgrades	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	8.739	2.500	0.000
RDT&E Articles Quantity	2		

(U) FY 2007: Began software development for UFO TT&C Terminal upgrades due to parts obsolescence, advanced planning, and engineering for the terminal installation, as well as procurement and installation of two prototype terminals.
 (U) FY 2008: Continue efforts associated with TT&C prototype terminals procurement and installation.

UHF Hosted Payload	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.000	4.000
RDT&E Articles Quantity			

U) FY 2009: Program Office will initiate acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 2472 Mobile User Objective System				
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
BLI 2433: Mobile User Objective System (WPN Funding)	0	214.375	507.456	526.562	519.096	221.974	67.532	846.449	2,903.444
PE 0301376N: MUOS Ground Station Construction, (MILCON Funding)	26.071	8.450							34.521
(U) D. ACQUISITION STRATEGY:									
<p>Concept Exploration contracts were awarded in early FY 2000 and completed in late FY 2001. 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 (RD TEN) funds will be used to procure the first two satellites. Weapons Procurement, Navy (WPN) funds will be used to procure the remaining four satellites and launch services for all six satellites. Military Construction (MILCON) funds are required to prepare MUOS ground sites located in Sicily (Niscemi location), Virginia (Northwest location) and Hawaii (Wahiawa location).</p> <p>Updates to the ground Ultra-High Frequency (UHF) Follow-On (UFO) Telemetry, Tracking and Command (TT&C) terminals that support UFO on-orbit operations are included. RD TEN funds in the amount of \$8.7M in FY 2007 and \$2.5M in FY 2008 will be used for UFO TT&C software and firmware development and procurement and installation of two prototype terminals. WPN funds in the amount of \$10.6M in FY 2008 and \$2.0M in FY 2009 will be used to procure and install UFO TT&C terminal updates.</p> <p>Program Office will initiate acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload in FY 2009.</p>									
(U) E. MAJOR PERFORMERS:									
Lockheed Martin									
(U) F. METRICS:									
Earned Value Management (EVM) is used for metrics reporting and risk management.									

CLASSIFICATION: UNCLASSIFIED												
Exhibit R-3 Cost Analysis										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E, N / BA-7				0303109N Satellite Communications (Space)				2472 Mobile User Objective System				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	CPAF/FPI	Lockheed Martin (LM)	\$ 797.840	\$ 583.306	1Q	\$ 567.844	1Q	\$ 484.192	1Q	\$ 832.337	\$ 3,265.519	\$ 3,265.519
CE Contracts & Demos	FFP	LM / Raytheon / Spec Astro / Boeing	\$ 21.320								\$ 21.320	\$ 21.320
CAD Contracts	FFP	LM / Raytheon	\$ 105.154								\$ 105.154	\$ 105.154
AoA for MUOS	MIPR	Aerospace	\$ 2.782								\$ 2.782	\$ 2.782
Government Studies	VAR	VAR	\$ 0.711								\$ 0.711	\$ 0.711
Crypto Procurement	MIPR	NSA	\$ 2.056	\$ 0.560		\$ 0.200		\$ 0.100		\$ 0.300	\$ 3.216	\$ 3.216
UHF Hosted Payload	TBD	TBD	\$ -			\$ -		\$ 4.000		\$ 38.000	\$ 42.000	\$ 3.216
Subtotal Product Development			\$ 929.863	\$ 583.866		\$ 568.044		\$ 488.292		\$ 870.637	\$ 3,440.703	\$ 3,440.703
Remarks:												
UFO TT&C Terminal Upgrades	VAR	VAR	\$ -	\$ 8.739		\$ 2.500		\$ -		\$ -	\$ 11.239	
Facilities Modifications	VAR	VAR	\$ 1.326	\$ 0.368		\$ 1.326		\$ -		\$ -	\$ 3.020	
Australian Site Prep	MD	VAR	\$ 0.015	\$ 1.759	Note 1	\$ 7.300		\$ -		\$ -	\$ 9.074	
Leased Lines	TBD	TBD	\$ -	\$ -		\$ 0.500		\$ 3.000		\$ 2.000	\$ 5.500	
Studies & Analyses (EELV)	MIPR	SMC/FMAIC	\$ 0.494	\$ 0.467		\$ -		\$ -		\$ -	\$ 0.961	
ISCS Integration	WX	NAVSOC	\$ 1.103	\$ 4.060		\$ 1.058		\$ -		\$ -	\$ 6.221	
JTRS JTEL Testing	TBD	TBD	\$ -	\$ -		\$ -		\$ 1.500		\$ -	\$ 1.500	
Subtotal Support			\$ 2.938	\$ 15.393		\$ 12.684		\$ 4.500		\$ 2.000	\$ 37.515	\$ -
Remarks												
Note 1: Australia site prep funded with RD TEN. Site prep for the Niscemi, Wahiawa, and Northwest locations are all funded with MILCON.												
Developmental Test & Evaluation	VAR	VAR	\$ 1.910	\$ 0.824		\$ 0.673		\$ 0.412		\$ 1.523	\$ 5.342	
Operational Test & Evaluation	VAR	VAR	\$ 0.706	\$ 0.715		\$ 0.800		\$ 1.115		\$ 12.127	\$ 15.463	
Live Fire Test & Evaluation			\$ -			\$ -		\$ -		\$ -	\$ -	
Subtotal T&E			\$ 2.616	\$ 1.539		\$ 1.473		\$ 1.527		\$ 13.650	\$ 20.805	\$ -
Remarks												
Contractor Engineering Support	VAR	VAR	\$ 73.325	\$ 30.680		\$ 9.389		\$ 14.191		\$ 53.958	\$ 181.542	
Government Engineering Support	VAR	VAR	\$ 14.724	\$ 5.136		\$ 3.156		\$ 4.021		\$ 16.302	\$ 43.339	
Program Management Support	VAR	VAR	\$ 18.744	\$ 8.389		\$ 3.043		\$ 3.877		\$ 15.717	\$ 49.769	
Travel	VAR	VAR	\$ 1.072	\$ 0.576		\$ 0.400		\$ 0.400		\$ 1.600	\$ 4.048	
Frequency Filing	MD	ITU	\$ 0.855	\$ -		\$ -		\$ -		\$ 2.000	\$ 2.855	
IPA/CAT	VAR	VAR	\$ 0.124	\$ 0.271		\$ -		\$ -		\$ -	\$ 0.395	
Subtotal Management			\$ 108.844	\$ 45.053		\$ 15.988		\$ 22.488		\$ 89.577	\$ 281.949	\$ -
Remarks												
Total Cost			\$ 1,044.262	\$ 645.851		\$ 598.190		\$ 516.807		\$ 975.864	\$ 3,780.973	\$ 3,440.703
Remarks												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 2472 Mobile User Objective System			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Preliminary Design (PD) Phase	1Q-4Q							
Test and Evaluation Master Plan (TEMP)	3Q	4Q	4Q					
Segment/Intersegment Testing	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Preliminary Design Review (PDR)	1Q							
Key Decision Point (KDP) C	4Q							
Development Test (DT)-C	3Q-4Q	1Q-4Q						
Critical Design Review (CDR)		2Q						
Complete Design (CD) Phase	4Q	1Q-4Q	1Q					
UFO TT&C Terminal Upgrades		1Q-4Q	1Q-4Q					
DT-D1			1Q-4Q					
Build Approval			2Q					
Build and Operations Phase			2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
MUOS Ground Systems Site Prep and Installation		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q		
Operational Assessment (OA-I)			4Q					
Operational Test Readiness Review (OTRR)					2Q	2Q		
DT-D2				1Q-4Q	1Q-2Q			
Follow-On Buy Decision				1Q				
UHF Hosted Payload				1Q-4Q	1Q-4Q			
DT-D3					1Q-4Q	1Q-2Q		
Developmental Testing (DT-II) (On-Orbit)					2Q			
Mission Readiness Review (MRR)					1Q			
Operational Assessment (OA-II)					1Q			
Launch of Satellite #1 (MUOS 1)					1Q			
On-Orbit Capability for Satellite #1 (MUOS 1)					2Q			
On-Orbit Testing					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Multi-Service Operational Testing & Evaluation (MOT&E)					3Q	3Q		
Launch of Satellite #2 (MUOS 2)						1Q		
On-Orbit Capability for Satellite #2 (MUOS 2)						2Q		
Operational Assessment (OA-III)					3Q			
Follow-On Test Evaluation (FOT&E)						3Q-4Q	1Q-4Q	1Q-4Q
Deployment Decision Review (DDR)						4Q		
Operational Assessment (OA-IV)						3Q		
Launch of Satellite #3 (MUOS 3)							1Q	
On-Orbit Capability for Satellite #3 (MUOS 3)							2Q	
Launch of Satellite #4 (MUOS 4)								1Q
On-Orbit Capability for Satellite #4 (MUOS 4)								2Q

Exhibit R-4a, RD TEN Schedule Detail

Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 2472 Mobile User Objective System			
Program Title	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2472 Mobile User Objective System	\$ 82.884	\$ 46.493	\$ 20.118	\$ 14.065	\$ -	\$ -	\$ -

Notes:

- 1) Values are in millions of dollars.
- 2) The MUOS execution plan is dependent on termination liability funds being available for execution at the beginning of the following fiscal year. For example, termination liability funds for FY 2007 are obligated at the beginning of FY 2007, but are required for expenditure at the beginning of FY 2008 (in October and November of CY 2007), assuming no termination occurs.
- 3) Termination values were obtained from the Contract Funds Status Report (CFSR), a contractually required deliverable on the Risk Reduction & Design Development (RRDD) contract.

Exhibit R-5, Terminal Liability Funding for Major Defense Acquisition Programs

CLASSIFICATION:							
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	7.880	5.259	20.481	46.051	76.087	81.521
RDT&E Articles Qty					4		20
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>(U) (U) The Navy Transformational Communications (TC) Terminal Satellite Communications program provides for the development and production of terminals to provide high capacity, reliable, Anti-Jam/Low Probability of Intercept (AJ/LPI) communications capability to the fleet. Terminals will support multiple data streams over Q-band, Ka-band, and X-band. The terminals will also support mesh networking without the need for gateway terminals. Development will focus on a Local Area Network (LAN) to Antenna capability, including quality of service required for unique Navy missions. The Advanced Wideband System/Transformational Communications (AWS/TC) Program draft acquisition strategy consists of terminal suite development and environmental qualification, on-orbit testing, platform integration and test, software enhancements and regression testing throughout the life of the program.</p>							

Exhibit R-2a, RDTE Project Justification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications

(U) B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
AWS/TC Concept Development	0.000	7.880	5.259
RDT&E Articles Quantity			

(U) FY 2007:

(U) FY 2008: Reinitiate the system level engineering process previously started in FY06 to determine optimal tradeoffs between cost and performance. Mitigate COTS router and INFOSEC Module risks through MIT/Lincoln Labs and NMT contract risk reductions. Develop products to support the acquisition including a draft of the terminal suite acquisition specification flowdown, Acquisition Strategy Report (ASR) and other required Milestone (MS) B documentation, draft Capability Development Document (CDD), and the supporting products for release of a Transformational Satellite (TSAT) Terminal Request for Proposal (RFP) in 3Q FY 2010. Hardware products include the development of a prototype advanced Transmissions Security/Communications Security (TRANSEC/COMSEC) computer chip that will be required for the operation of every Navy TC terminal.

(U) FY 2009: Participate in Joint TSAT system and terminal development activities. Continue system level engineering process related to Navy TSAT Terminal development with space, TSAT Mission Operations System (TMOS), and joint service activities. Continue drafting the Navy TSAT Terminal CDD, terminal specification, and remaining required MS B documentation. Prepare for 1Q FY 2011 MS B. Expect development of a prototype advanced TRANSEC/COMSEC computer chip required for the operation of every Navy TC terminal to progress to an EDM level.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications
(U) C. OTHER PROGRAM FUNDING SUMMARY:		
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u> <u>FY 2009</u> <u>FY 2010</u> <u>FY 2011</u> <u>FY 2012</u> <u>FY 2013</u>
(U) D. ACQUISITION STRATEGY:		
System architecture is defined by the ongoing Transformational Communication Study. Acquisition documentation includes the development of a complete set of documentation required to support a MS B decision, including, but not limited to, a terminal specification, Statement of Work (SOW), ASR, and Source Selection Plan.		
(U) E. MAJOR PERFORMERS:		
Naval Undersea Warfare Center (NUWC), Newport, RI SPAWAR Systems Center (SSC) San Diego (SD), San Diego, CA Lincoln Laboratory Massachusetts Institute of Technology (LL/MIT) Lexington, MA US Army CERDEC Fort Monmouth, NJ		
(U) F. METRICS:		
Earned Value Management (EVM) will be used for metrics reporting and risk management.		

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications
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Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	Various	Various	37.554			2.354	10/07	1.994	10/08	Continuing	Continuing	
Systems Engineering	Various	Various	4.481			1.283	10/07	1.100	10/08	Continuing	Continuing	
Systems Engineering	WR	Various	3.418			1.000	10/07			Continuing	Continuing	
Subtotal Product Development			45.453	0.000		4.637		3.094		Continuing	Continuing	

Remarks:

Development Support	WR	Various	3.448			1.005	10/07	0.500	10/08	Continuing	Continuing	
Studies & Analyses	WR	Various	3.475			0.260	10/07			Continuing	Continuing	
Information Assurance	WR	Various	0.515			0.525	10/07	0.400	10/08	Continuing	Continuing	
Subtotal Support			7.438	0.000		1.790		0.900		Continuing	Continuing	

Remarks:

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME							
RDT&E, N / BA-7			0303109N Satellite Commu		9122 Advanced Wideband System / Transformational Communications							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		
Remarks:												
Contractor Engineering Support		Various	0.349							Continuing	Continuing	
Program Management Support	Various	Various	1.422			0.500	10/07	0.500	10/08	Continuing	Continuing	
Acquisition Management Support						0.853	10/07	0.665	10/08	Continuing	Continuing	
Travel			0.218			0.100	10/07	0.100	10/08	Continuing	Continuing	
Subtotal Management			1.989	0.000		1.453		1.265		Continuing	Continuing	
Remarks:												
Total Cost			54.880	0.000		7.880		5.259		Continuing	Continuing	
Remarks:												

EXHIBIT R4, Schedule Profile		DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N - Satellite Communications (Space)	PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications	

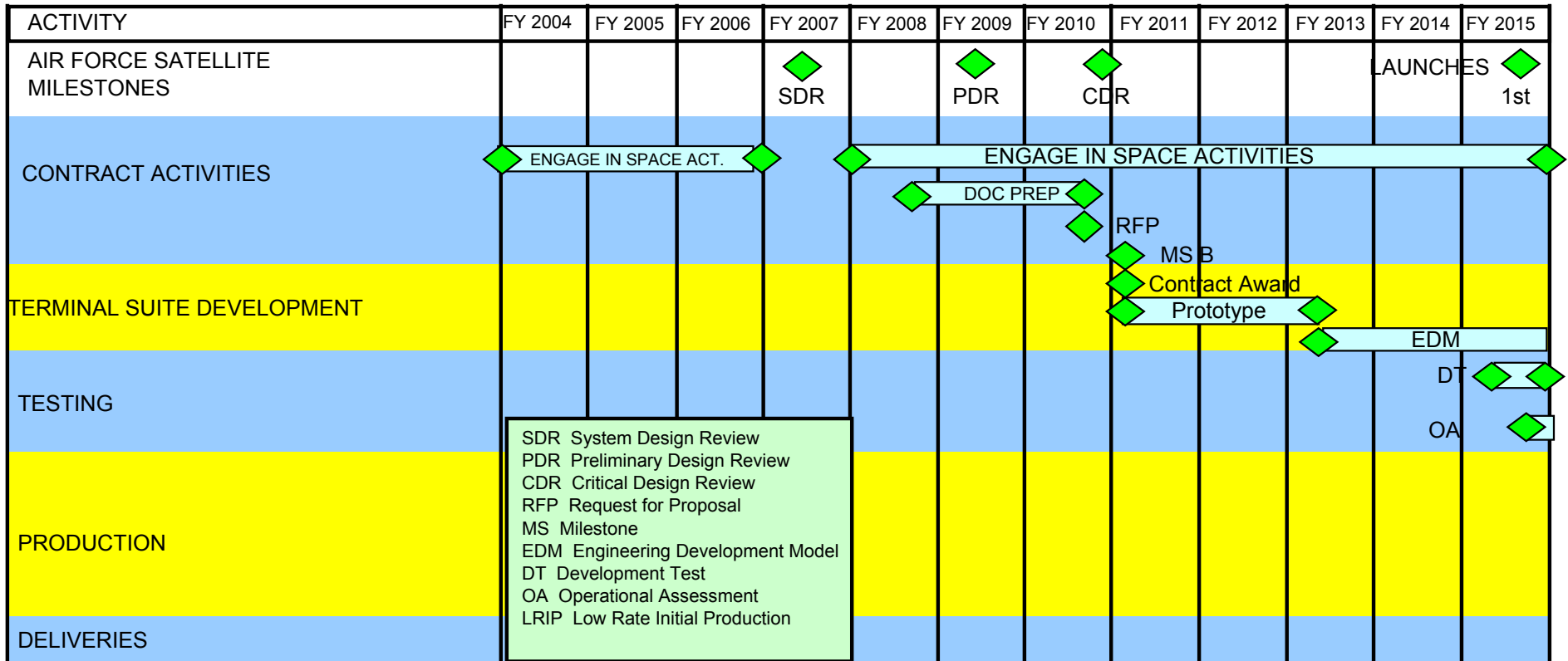


Exhibit R-4, RD TEN Schedule Profile

CLASSIFICATION:							
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY					PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0303109N - Satellite Communications (Space)				9999 - Congressional Increases		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	2.876	4.173	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
(U) Congressional adds for Satellite Communications							

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 9999 - Congressional Increases

(U) B. Accomplishments/Planned Program

Transformational Communications (TC) (9999)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.590	0.000
RDT&E Articles Quantity			

(U) **FY 2008:** Accelerate insertion of superconductor digital-RF technology in naval MILSATCOM systems.

Internet Protocol Version 6 (IPv6) (9A98N)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.977	0.000	0.000
RDT&E Articles Quantity			

(U) **FY 2007:** Prepared several test facilities and produced test events to determine applicability of IPv6 technologies to support the needs of operational Navy through Tactical Networks, Wireless Networks, and the forthcoming Consolidated Adaptive Network Edge Services (CANES) networking program. All test conditions and test results will be provided to our Joint Service partners and acquisition agencies associated with networking technologies.

"Based ""Reconfigurable"" Wide Field of View Sensors (9999)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.590	0.000
RDT&E Articles Quantity			

(U) **FY 2008:** Congressional Add for "Field Programmable Processor Array (FPPA) for Space Based "Reconfigurable" Wide Field of View Sensor". Demonstrated alternate reconfigurable technologies for ground segment processing of data provided from large format Focal Plane Arrays (FPAs). Established the applicability of reconfigurable technology to algorithms used for remote sensing missions (e.g., satellite altimetry, large format FPA data for space astrometry).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 9999 - Congressional Increases

(U) B. Accomplishments/Planned Program

JIST-NET Systems (9421C)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.899	0.000	0.000
RDT&E Articles Quantity			

(U) **FY2007:** Updated JIST-NET Version 2 Spiral 3; provided updated Satellite Access Request (SAR) Module and updated SA Module. Completed development of Acquisition Strategy, and Development Testing, along with applicable acquisition documentation.

JIST-NET Systems (9999)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.993	0.000
RDT&E Articles Quantity			

(U) **FY2008:** Update JIST-NET Version 3 Spiral 1. Provide updated Satellite Access Request (SAR) Module to incorporate Commercial SAR and Satellite Access Approval (SAA) capabilities into the module. Complete Abbreviated Acquisition Program (AAP) designation documentation.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)
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COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	30.133	34.337	27.037	24.404	28.557	30.769	31.699
0734 Information Systems Security	19.789	26.252	24.894	22.181	26.303	28.472	29.359
0734 Communications Security (ONR)	4.491	2.124	2.143	2.223	2.254	2.297	2.340
9999 Congressional Increases	5.853	5.961					
Quantity of RDT&E Articles							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) The goal of the Navy Information Systems Security Program (ISSP) is to ensure the continued protection of Navy and Joint telecommunications and information systems from hostile exploitation and attack. ISSP is the Navy's implementation of statutory and regulatory requirements specified in Presidential Decision Directive 63, the Computer Security Act of 1987 (Public Law 100-235), Appendix III of Office of Management and Budget (OMB) Circular A-130, and Department of Defense Directive 8500.1. ISSP activities address the triad of Defensive Information Operations defined in Joint Publication 3-13; protection, detection, and reaction. Evolving detection and reaction responsibilities extend far beyond the traditional ISSP role in protection or Information Security (INFOSEC). Focused on FORCEnet supporting the highly mobile forward-deployed subscriber, the US Navy's implementation of Network-Centric Warfare (NCW) places demands upon the ISSP, as the number of users dramatically increases and the criticality of their use escalates. Today, the ISSP protects an expanding core service critical to the effective performance of the Navy's mission, supported by Mission Assurance Category 1 systems.

(U) The interconnectivity of Naval networks, connections to the public information infrastructure, and their use in modern Naval and Joint warfighting means that FORCEnet is a more easily attainable and extremely high value target. An adversary has a much broader selection of attack types from which to choose than in the past. In addition to the traditional attacks that involve the theft or eavesdropping of information, United States Navy (USN) information and telecommunications systems face advanced attacks involving malicious changes to critical information, changes to the functioning of critical systems, denial of service (jamming), and the destruction of systems and networks. Since many Naval information systems are based on commercially available technologies, an adversary often has access to the very technologies they want to exploit.

(U) The rapid rate of change in the underlying commercial and government information infrastructures makes the provision of security an increasingly complex and dynamic problem. ISSP provides the Navy's war fighter the essential information trust characteristics of availability, confidentiality, integrity, authentication, privacy, and non-repudiation. Information Assurance (IA) technology mix and deployment strategies must evolve quickly to meet the rapidly evolving threats and vulnerabilities. No longer can information security divorce the information infrastructure.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)
<p>(U) The Navy ISSP RDT&E program works to provide the Navy with these essential Information Assurance (IA) elements: (1) Assured separation of information levels and user communities, including coalition partners; (2) Assurance of the telecommunications infrastructure; (3) Assurance of Joint user enclaves, using a defense-in-depth architecture; (4) Assurance of the computing base and information store; and, (5) Supporting assurance technologies, including a Public Key Infrastructure (PKI) and directories. The goal of all ISSP RDT&E activities is to produce the best USN operational system that can meet the certification and accreditation requirements outlined in DoD Instruction 5200.40 (new DoDI 85xx series pending). Modeling DoD and commercial information and telecommunications systems evolution (rather than being one-time developments), the ISSP RDT&E program must be predictive, adaptive, and technology coupled. The program develops frameworks, architectures, and products based on mission threats, information criticality, exploitation risks, risk management, and integrated Joint information system efforts.</p> <p>(U) All ISSP RDT&E efforts comply with the National Technology Transfer and Advancement Act of 1995 (Public Law 104-113) as implemented through 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 Standards Organization (ISO), American National Standards Institute (ANSI), Institute of Electrical and Electronics Engineers (IEEE), Internet Engineering Task Force (IETF), World Wide Web Consortium (W3C), and National Institute of Standards and Technologies (NIST). 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.</p> <p>(U) The interconnection of FORCEnet into the DoD Global Information Grid (GIG) requires all ISSP RDT&E activities to adopt a minimum standard of "best commercial IA practice." The ISSP RDT&E program examines commercial technologies to determine their fit within the USN 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 Clinger/Cohen Act, the 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 IA expertise and engineering to Navy and Joint information system developments. All ISSP technology development efforts solve specific Navy and Joint IA problems using techniques that speed transition to procurement as soon as ready.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade and integration of existing, operational systems. This includes cryptographic systems required to protect information defined in 40 USC Chapter 25 Sec 1452, and the ISSP cryptographic RDT&E program is the implementation of requirements in Executive Orders 12333 and 12958 and National Security Decision Directive 145.</p>	

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	R-1 ITEM NOMENCLATURE 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2007	FY 2008	FY 2009
FY08/09 President's Budget	28.911	28.393	32.251
FY 09 President's Submit	30.133	34.337	27.037
Total Adjustments	1.222	5.944	-5.214

Summary of Adjustments

Small Business Innovation Research (SBIR) Tax	-0.357	-0.331	
Funds moved to project X2144 SEW Engineering for MDA	-0.921		
Information Assurance (IA)		0.500	
Tactical Key Loader		3.200	
"Universal Description"		2.800	
Sec. 8097: Contractor Efficiencies		-0.053	
Sec. 8104: Revised Economic Assumptions		-0.166	
Sec. 8025: FFRDC Reduction		-0.006	
Misc. Realignments			-2.833
Misc. Adjustments	2.500		-2.381
Subtotal	1.222	5.944	-5.214

(U) Schedule:

x0734: KG-3X Inc 1 schedule change reflects the delay in NSA Certification of the End Cryptographic Unit (ECU).
 KMI schedule reflects a restructure that combined Spiral 2 and Spiral 3. Delay in approval of KMI MS C has resulted in a slip of the production contract award.
 EKMS Phase 5, FOC is based upon receipt of EKMS Phase 5 Software (LCMS/CUAS 5.1) and its certification from NSA. The delay in NSA's certification has pushed FOC to the right.

(U) Technical:

N/A.

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NAME AND NUMBER 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)			PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	19.789	26.252	24.894	22.181	26.303	28.472	29.359
RDT&E Articles Qty							
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The ISSP RDT&E provides Information Assurance (IA) solutions for the USN forward deployed, highly mobile information subscriber. FORCENet relies upon an assured information infrastructure, and the ISSP RDT&E program architects, engineers, and provides the Quality of Assurance (QoA) consistent with risks faced. The ISSP addresses engineering design, development, modeling, test, and evaluation for the unique IA challenges associated with the highly mobile, dispersed, bandwidth limited, and forward-tactical connected USN communications systems.</p> <p>(U) ISSP RDT&E must work closely within the Navy's Information Operations – Exploit (Signals Intelligence - SIGINT) and Information Operations – Attack (INFOWAR - information warfare) communities. ISSP RDT&E developed systems must dynamically change the Navy's current assurance vector, based upon operational indications and warnings. To ensure interoperability, ISSP RDT&E must integrate fully with the FORCENet and Maritime Cryptologic Architectures. ISSP RDT&E developed systems can provide the trigger for offensive warfare activities, such as those developed by the Navy Information Operations Command (NIOC).</p> <p>(U) This program element 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. Communication Security (COMSEC) and Transmission Security (TRANSEC) evolution is 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 DoD Global Information Grid (GIG) Capabilities Requirements Document (CRD) for the development of Content Based Encryption (CBE) continuing in FY 06-11.</p> <p>(U) 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 (CFR) 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 (SBU) information such as financial, personnel, contractor proprietary, and procurement sensitive.</p> <p>(U) The ISSP today includes much more than legacy COMSEC and Network Security (NETSEC) technology. IA, or Defensive Information Operations, exists to counter a wide variety of threats in a Navy environment. 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.</p> <p>(U) 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 (CDS); (5) techniques for assuring code and data residing in and transiting the Navy's computing base and information store; and (6) PKI and associated access control technologies (such as SmartCards and similar security tokens).</p> <p>(U) The resulting expertise applies to a wide variety of Navy development programs that must integrate IA technology. Unlike traditional single-product development programs, the ISSP RDT&E holds a unique Navy-enterprise responsibility outlined in SECNAVINST 5239.3 and OPNAVINST 5239.1B.</p>							

EXHIBIT R-2a, RDT&E Project Justification

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NAME AND NUMBER 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY
<p>(U) The ISSP RDT&E efforts must conclude with certified and accredited systems. This requires (1) assured separation of information levels and user communities, including coalition partners; (2) assurance of the telecommunications infrastructure; (3) assurance of Joint user enclaves; (4) assurance of the computing base and information store; and, (5) supporting assurance technologies, including PKI and directories. To ensure interoperability and commercial standards compliance, these efforts often encompass the research, selective evaluation, integration, and test of commercial-off-the-shelf/Non-Developmental Item (NDI) IA security products. For example, 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).</p> <p>(U) The current operating environment has virtually eliminated the traditional distinction between telecommunications and information systems. Because Information Assurance (IA) is a cradle-to-grave enterprise-wide discipline, this program applies the technology and methodology to systems in development, production and operation, and develops the infrastructure needed to support and evaluate the security of deployed systems. The following describes several major ISSP technology areas:</p> <p>(U) Under the Navy Secure Voice (NSV) program, ISSP RDT&E assesses technology to provide high grade, secure tactical and strategic voice connectivity.</p> <p>(U) Under the Navy Cryptographic Modernization Program, ISSP RDT&E provides high assurance and other cryptographic technologies protecting information and telecommunication systems.</p> <p>(U) Under the Navy Security Management Infrastructure (SMI) program, ISSP RDT&E develops, evaluates, and applies new emerging technology and enhanced capabilities to the Electronic Key Management System (EKMS) and other Navy Information Systems. Additional efforts will focus on the architecture, design, and development of systems to manage the security parameters (i.e., 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 Public Key Infrastructure (PKI) and Certificate Management Infrastructure (CMI) technology, and the development of improved techniques for key and certificate management to support emerging, embedded cryptographic technology.</p> <p>(U) Under the Secure Data program, efforts focus on architectures, designing, acquiring, demonstrating and integrating the IA technologies into FORCEnet and the Navy Marine Corp Intranet (NMCI). This portion of the ISSP supports delivery of network security engineering expertise needed to support the NMCI, outside the continental United States (OCONUS) Navy Enterprise Network (ONE-NET), and the Integrated Shipboard Network Systems (ISNS), along with constituent systems such as Automated Digital Network System (ADNS), Global Command and Control System - Maritime (GCCS-M). It includes activities to:</p> <ul style="list-style-type: none"> • Ensure that USN telecommunications and networks follow a consistent architecture and are protected against denial of service. • Ensure that all data within the USN Enterprise is protected in accordance with its classification and mission criticality, as required by law. • Provide the ability to protect from, react to, and restore operations after an intrusion or other catastrophic event. • Support the USN Computer Network Defense (CND) Service Provider Enabler by providing IA response to Information Operation Conditions (INFOCONS). • Defend against the unauthorized modification or disclosure of data sent outside enclave boundaries. • Provide a risk-managed means of selectively allowing essential information to flow across the enclave boundary. • Provide strong authentication of users sending or receiving information from outside their enclave. • Defend against the unauthorized use of a host or application, particularly operating systems. • Maintain configuration management of all hosts to track all patches and system configuration changes. • Ensure adequate defenses against subversive acts of trusted people and systems, both internal and external. 		

Exhibit R-2a, RDTE Budget Item Justification

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NAME AND NUMBER 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY
<ul style="list-style-type: none"> • Provide a cryptographic infrastructure that supports key, privilege and certificate management; and that enables positive identification of individuals utilizing network services. • Provide an intrusion detection, reporting, analysis, assessment, and response infrastructure that enables rapid detection and reaction to intrusions and other anomalous events, and that enables operational situation awareness. <p>(U) 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.</p>		

Exhibit R-2a, RDTE Budget Item Justification

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NAME AND NUMBER 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
Computer Network Defense (CND)	5.261	9.411	8.705
RDT&E Articles Quantity			

FY07: Provided the broadest range of Information Assurance (IA) research and development support across Joint, Fleet, and ashore networks. Provided on-going security of new ships, aircraft, and submarines to ensure reduced manning and greater operational dependency on networks. Provided IA engineering design, evaluation, and testing technique to support a range of Sea Shield initiatives in Joint Command security solutions, Navy Sea Power tactical edge support to Global War on Terrorism, and Sea-Based cyber defense operations in coalition data sharing networks. Provided IA engineering to translate FORCEnet capabilities into CND solutions and conduct security design evaluations certification test results. Included IA appliances, software, and implementation techniques for policies such as IAVA requirements, Information Operation Condition (INFOCON) response, and USN firewall policy. Provided continuous development of a Shipboard unit level tier situation information management system as a means of hierarchically integrating Ship Security Monitors Network Operating Center security systems, and Navy Cyber Defense Operation Center for real-time display of security risk. Continued the development of using authenticated administrator access control techniques enhance fielded Security Management Tools with new capabilities to support system configuration management and monitoring. Began development of improved real-time computer network security, policy administration, and situation command control for Navy CND incremental program product acquisition with analytical tools to identify application or computer-network issues with operational compliance. Established a management process to enforce common unit level fleet firewall policies across the Navy Network Enterprise using products/techniques to centrally manage and push security policies to controllable devices such as Firewalls, Intrusion Prevention Systems (IPS), and Filtering Routers at unit level ships and fleet Network Operation Centers. Evaluated the combined system security effectiveness between each systems networking layer end-to-end, data link layer security through application exchange layer security.

FY08: Integrate security situational awareness technologies for knowledge empowered Computer Network Defense (CND) operations for both ship and shore installation. Establish system management capabilities to enforce proactive unit level security policies across the Navy Network Enterprise to centrally manage security policies to controllable devices such as Firewalls, Intrusion Prevention Systems (IPS), and Filtering Routers at shore based Network Operation Centers. Includes IA appliances, software, and implementation techniques for automated response products such as vulnerability remediation, Information Operation Condition (INFOCON) response, and intrusion prevention policies.

Complete the development and integration of the patch management and host based security agents tools. Develop additional tools to determine accurate asset location and inventory information. Initiate the development of the process to assign asset criticality at the host and application level through the use of the data in the new tool.

Conduct a pilot to address data-at-rest protection on mobile and removable devices.

FY09: Continue system integration efforts with analytical tools to identify asset criticality at the host and application level. Develop computer-network evaluation capabilities to perform real-time metrics of operational compliance with IA security controls, Mission Assurance Category, and data Confidentiality. Evolve system incremental capabilities to advance CND Protect, Monitor, Detect, Analyze, and Respond. Conduct Honey Net research to develop proactive Insider Threat Countermeasures and application layer Content Scanning. Develop User Defined Operational Pictures (UDOP) to enhance Security Information Manager (SIM) tools with active defense capabilities, improved incident correlation, and situation awareness reporting.

Complete the development of the process to assign asset criticality at the host and application level. Initiate the development of new capabilities to support the selective and automatic reactive settings of the network in accordance with INFOCON policies. Address the capabilities required to support the INFOCON management at both the Naval Cyber Defense Operation Center (NCDOC) and the Fleet NOC level.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NAME AND NUMBER 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY

	FY 07	FY 08	FY 09
Information Assurance Readiness	0.254	0.000	0.000
RDT&E Articles Quantity			

FY07: Provided systems security engineering support to all USN organizations in the certification and accreditation of information systems. A primary responsibility is the Certification and Accreditation (C&A) for the Navy Marine Corps Intranet and various coalition networks. Provided continued Antivirus Tools support and capabilities for R&D support systems and software to meet Navy Anti-Virus requirements.

Exhibit R-2a, RDTE Budget Item Justification

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NAME AND NUMBER 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY

	FY 07	FY 08	FY 09
Secure Voice	0.658	1.127	1.118
RDT&E Articles Quantity			

FY07: Completed development and integration test of submarine Secure Communication Interoperability Protocol (SCIP) Inter-working Function (IWF)/gateway providing off-ship secure communication capabilities while underway. Began development and tested SCIP IWF providing off-ship secure voice communications underway Military Sealift Command ships and Coast Guard ships. Updated the Naval Advanced Secure Voice Architecture (NASVA) providing a transition to bridge from channel-centric to net-centric Secure Voice capability, guiding the next generation of Secure Voice and facilitated decision making on systems to be refreshed, retired and/or replaced. Continued development of the variable data rate voice algorithm (a component of Secure Voice Core Technology) and its baseline interface software. Initiated generation of baseline functionality (derived from operational and mission requirements and new technologies) and designed of a functional model for development of next generation secure voice products - Universal Voice Terminal (UVT) and Personal Secure Telephone (PST). Researched and developed a compression technique (SCIP IWF or gateway) allowing SCIP IWF signaling be transmitted off-ship for underway submarines.

FY08: Complete development and integration test of submarine SCIP IWF/gateway to provide off-ship secure communication capabilities while underway. Continue development and test a SCIP IWF to provide off-ship secure voice communications to underway Military Sealift Command (MSC) ships and Coast Guard ships. Complete development of the Variable Data Rate Voice Encoder and its baseline interface software. Initiate generation of baseline functionality (derived from operational and mission requirements and new technologies) and design of a functional model for development of next generation secure voice products (UVT and PST).

FY09: Complete development and integration test of the SCIP IWF for MSC and Coast Guard ships. Continue the design and development of next generation voice and Secure Voice capabilities for shipboard voice services modernization and consolidation. Continue Small Business Innovative Research phase II R&D efforts.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NAME AND NUMBER 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY

	FY 07	FY 08	FY 09
Cross Domain Solutions (CDS)	0.669	0.000	0.000
RDT&E Articles Quantity			

Note: Multiple Security Level (MSL) nomenclature changed to Cross Domain Solutions (CDS)

FY07: Continued providing systems security engineering development, testing, and evaluation for multi-level security solutions, including complicated evaluations involving allied and coalition participation. Examined and evaluated multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Developed and integrated Multiple Security Levels (MSL)/CDS prototype architecture at NOC facilities.

Exhibit R-2a, RDTEN Budget Item Justification

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NAME AND NUMBER 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY

	FY 07	FY 08	FY 09
Key Management Infrastructure	4.453	5.585	4.056
RDT&E Articles Quantity			

FY07: Continued security and functionality testing and evaluation of current PKI tokens and readers upgrading middleware, including Homeland Security Presidential Directive (HSPD-12) implementation. Continued streamlining the method for development of effective secure symmetric and asymmetric cryptographic key and generation, distribution, management, and usage products and services by identification and prioritization of fleet requirements. Completed Defense Message System (DMS) migration to PKI. Continued research and development of solutions to resolve technical challenges and the tools required for deployment of Navy non-Navy/Marine Corps Intranet (NMCI) cryptographic network logon (CLO), CLO for non-Windows operating systems, and NCVI/Online Certificate Status Protocol (OCSP) both Ashore and Afloat. Researched and evaluated of Microsoft VISTA integration, PKI with Internet Protocol Version 6 (IPv6), and Device (non-human) Certificates. Began security and functionality testing and evaluation of OCSP architecture for the SIPRNet.

Continued EKMS Phase V to include development and implementation of an extended, networked architecture (key distribution over Secret Internet Protocol Router Network (SIPRNET)) improving distribution and reliability for deployed forces, modernized key processors, common user application software and data transfer devices. Continued to develop and integrate Online Certificate Status Protocol and Future fill devices. Began Wireless Key Fill technology design and development. Completed the Key Loading and Initialization Facility design and development. Continued design and development of the Key Management Infrastructure (KMI) client workstation. Completed certification/accreditation of the Navy's Key Management System (NKMS). Conducted requirements definition for the IA Component (IAC) Encryption device. Continued KMI CI-3 Requirements development including Benign Fill and single point keying, and general development of CI-3 capabilities. Supported and ensured coordinated developments for KMI/EKMS in the transition from IPv4 to IPv6.

FY08: Continue to streamline the method for developing effective secure symmetric and asymmetric cryptographic key and generation, distribution, management, and usage products and services by identifying and prioritizing fleet requirements. Continue EKMS Phase V to include development and implementation of an extended, networked architecture (key distribution over SIPRNET) to improve distribution and reliability for deployed forces, modernized key processors, common user application software and data transfer devices. Complete Wireless Key Fill technology design and development. Continue to develop Key Management Infrastructure (KMI) Capability Increment 2 (CI-2) client and Advanced Key Processor (AKP), including testing and Hub Management Interface (HMI) development. Continue KMI CI-3 capability development and design including Benign Fill and single point keying. Support and ensure coordinated developments for KMI/EKMS in the transition from Internet Protocol Version 4 (IPv4) to IPv6. Complete security and functionality testing and evaluation of PKI tokens, readers and middleware for the SIPRNET. Continue security and functionality testing and evaluation of PKI tokens and readers to upgrades to middleware, in support of the HSPD-12 biometrics based smart cards. Continue research and development of solutions to resolve technical challenges and the tools required for deployment of Navy non-NMCI CLO, CLO for non-Windows operating systems, and NCVI/OCSP Afloat. Research and develop tools to support Microsoft VISTA implementation, PKI with IPv6, Device (non-human) Certificates, and signature applications/XML document signing. Complete development and integration of NCVI/OCSP ashore. Complete DMS migration to PKI. Support the development and testing of Tactical PKI (as part of DoD KMI) and its supporting architecture.

FY09: Continue KMI CI-2 client and Advanced KP security testing and certification and accreditation. Continue KMI CI-3 development support for Advanced Extremely High Frequency (AEHF), Transformational Satellite (TSAT), and Global Information Grid (GIG) requirements for Navy. Research and integrate PKI device certificates for mobile devices using 802.1x interfaces. Continue security and functionality testing and evaluation of PKI tokens and readers to support Tactical PKI and HSPD-12 implementation. Continue to research and develop solutions and tools for signature applications/XML document signing and Public Key Enabled (PKE).

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NAME AND NUMBER 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY

	FY 07	FY 08	FY 09
Emerging Technology	3.412	0.000	0.000
RDT&E Articles Quantity			

FY07: Provided security systems engineering support for the development of DoD and DoN Information Assurance architectures and the transition of new technologies addressing Navy Information Assurance challenges. Supported the ongoing security design and integration of IA Components into programs such as FORCEnet, Computer Network Defense in Depth (CND-ID) Strategy, Transformational Communication (TC), Global Information Grid Enterprise Services (GIG-ES), and Secure Voice over Internet Protocol (SVoIP). Provided risk analysis and recommended risk mitigation strategies for Navy critical networks and C4I systems. Coordinated with the Navy acquisition community ensuring IA requirements are identified and addressed within the development cycles for emerging Navy network and C4I capabilities. Initiated the development and integration of IA capabilities for integration into the Service Orientated Architecture being developed for deployment on Navy afloat networks. Provided IA engineering for development of Wireless Networks and Personal Digital Assistant (PDA) security readiness of Naval wireless networks and mobile computing devices, continued to evaluate products for security issues and develop guidance and procedures.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NAME AND NUMBER 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY	
	FY 07	FY 08	FY 09
Information Assurance Architectures	0.000	3.036	2.260
RDT&E Articles Quantity			
**Transitioned from Emerging Technology			
<p>FY08: Provide security systems engineering support for the development of DoD and DoN Information Assurance (IA) architectures and the transition of new technologies to address Navy Information Assurance challenges. Support the ongoing security design and integration of IA Components into programs such as FORCEnet, Computer Network Defense in Depth (CND-ID) Strategy, Transformational Communication (TC), Global Information Grid Enterprise Services (GIG-ES), and Secure Voice over Internet Protocol (SVoIP). Provide 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 the development and integration of IA capabilities for integration into the Service Orientated Architecture being developed for deployment on Navy afloat networks.</p> <p>Provide IA engineering for development of Wireless Networks and PDA security readiness of Naval wireless networks and mobile computing devices, continue to evaluate products for security issues and develop guidance and procedures.</p> <p>FY09: Provide security systems engineering support for the development of DoD and DoN Information Assurance architectures and the transition of new technologies to address Navy Information Assurance challenges. Support the ongoing security design and integration of IA Components into programs such as FORCEnet, Computer Network Defense in Depth (CND-ID) Strategy, Transformational Communication (TC), Global Information Grid Enterprise Services (GIG-ES), and Secure Voice over Internet Protocol (SVoIP). Provide 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. Provide IA engineering for development of Wireless Networks and PDA security readiness of Naval wireless networks and mobile computing devices. Continue to evaluate products for security issues and develop guidance and procedures.</p>			

Exhibit R-2a, RDTEN Budget Item Justification

EXHIBIT R-2a, RDT&E Budget Item Justification		DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NUMBER AND NAME					
RDT&E, N / BA-7	0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	0734 INFORMATION SYSTEMS SECURITY					
(U) C. OTHER PROGRAM FUNDING SUMMARY:							
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
OPN 3415 Info Sys Security Program (ISSP)	101.310	121.131	101.153	130.983	139.741	146.407	155.552
(U) D. ACQUISITION STRATEGY:							
<p>EKMS Phase V - The Navy's ISSP Electronic Key Management System (EKMS) program is linked to the National Security Agency's (NSA) 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 (CI-2). KMI is a Major Automated Information System (MAIS) program assigned to NSA. Therefore, it is crucial that the Research and Development efforts of EKMS coincide with those of KMI. Navy's EKMS requires Research, Development, Test and Evaluation (RDT&E) funding over the Future Years Defense Program (FYDP) to ensure the Navy infrastructure evolves with the EKMS phases, supports additional devices certified by NSA and supports the migration of EKMS to KMI CI-2. This will require the modification of the Navy EKMS Net Key Server. PEO C4I & Space/PMW 160 is collaborating with Naval Research Lab (NRL) to integrate commercial-off-the-shelf (COTS)/government-off-the-shelf (GOTS) devices into the Navy architecture to be compatible with Phase 5 and KMI architectures. These efforts require close work with NSA and the other services to ensure no impact on current operations and minimum impact on EKMS Phase 5 as it evolves to KMI CI-2. NSA certified COTS/GOTS devices are procured to support Navy requirements. The EKMS Phase V program will utilize existing competitively awarded NSA and SSC contracts for development and implementation of type 1 certified COTS/GOTS devices for initial production phases, with plans to initiate innovative contracting methods and types consistent with current Assistant Secretary of the Navy Research, Development & Acquisition (ASN/RDA) policies to reduced cost and streamline the integration, installation, logistics and training efforts.</p>							
<p>Crypto Modernization (KW-46 Replacement) -The KW-46 is a device that performs on-line decryption of digital messages, record, and data traffic over the broadcast system at data rates from 50 to 9,600 bits per second (BPS) that processes information up to and including TOP SECR ET. The KWR-46 is used primarily on ships and submarines while the KWT-46 is located exclusively on shore sites, consisting of the KWT-46 transmitter and the KWR-46 receiver, which are no longer in production. The PMW 160 is also evaluating acquisition development replacements of the KG-45, KL-51, KG-68B cryptographic devices per the Universal Crypto Device (UCD) effort. Navy has refined the requirement specs, preparing formal Analysis of Alternatives (AoA), Request For Information (RFIs), and Life Cycle Cost Estimates (LCCEs) in 1Q FY08 and the plan is to competitively award the development contract in 2Q FY08.</p>							
<p>Crypto Modernization (Universal Crypto Device) - Navy has refined the requirement specs, preparing formal AoA, RFIs, and LCCEs, and was completed in FY07. Plan is to competitively award the development contract by 3Q FY08. The evaluation of requirements of Crypto Modernization (Thorton-KEESEE) cryptographic system will also necessitate preparation of formal AOA, RFI within FY08.</p>							

Exhibit R-2a, RDTEN Budget Item Justification

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)				PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPFF	VIASAT, Carlsbad, CA	7.282							7.282	7.282	7.282
Primary Hardware Development	C/MIPR	MITRE, San Diego, CA	5.522							5.522	5.522	5.522
Primary Hardware Development	C/VAR	Various	79.477	2.958	VAR	3.054	VAR	3.166	VAR	Continuing	Continuing	Continuing
Systems Engineering	C/VAR	Various	64.300	9.281	VAR	12.665	VAR	11.176	VAR	Continuing	Continuing	Continuing
Subtotal Product Development			156.581	12.239		15.719		14.342		Continuing	Continuing	Continuing
Remarks:												
Software Development	CPAF	SAIC, San Diego, CA	32.877							32.877	32.877	32.877
Software Development	C/WX	NRL, Washington, D.C.	1.798	0.975	11/06	0.180	11/07	0.200	11/08	Continuing	Continuing	Continuing
Software Development	C/VAR	Various		1.200	11/06	1.208	11/07	1.236	11/08	Continuing	Continuing	Continuing
Subtotal Support			34.675	2.175		1.388		1.436		Continuing	Continuing	Continuing
Remarks: SAIC target Value of contract includes other service's funding (ARMY RDT&E).												

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)				PROJECT NUMBER AND NAME 0734 INFORMATION SYSTEMS SECURITY					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	VAR	Various	23.231	2.755	VAR	4.285	VAR	4.424	VAR	Continuing	Continuing	Continuing
Subtotal T&E			23.231	2.755		4.285		4.424		Continuing	Continuing	Continuing
Remarks:												
Program Management Support	CPAF	Various	5.747	2.620	VAR	4.860	VAR	4.692	VAR	Continuing	Continuing	Continuing
Subtotal Management			5.747	2.620		4.860		4.692		Continuing	Continuing	Continuing
Remarks:												
Total Cost			220.234	19.789		26.252		24.894		Continuing	Continuing	Continuing
Remarks:												

Exhibit R-3, Project Cost Analysis

EXHIBIT R4, Schedule Profile		DATE: February 2008																											
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME																PROJECT NUMBER AND NAME											
RDT&E, N / BA-7		0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)																0734 INFORMATION SYSTEMS SECURITY											
		2007				2008				2009				2010				2011				2012				2013			
		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 Mod KW-46 Submarine Replacement/FSBS AoA																													
Crypto Mod KG-45A																													
EKMS Phase V FOC																													
CND AAP Designation																													
CND Inc 1 CPD																													
CND Inc 1 M/S C																													
CDS-M Inc 1 M/S C																													
CDS-M Inc 2 M/S B																													
KG-3X Inc 1 M/S C																													
KG-3X Inc 2 M/S C																													
KG-3X Inc 2 FOC																													
KMI M/S C																													
KMI CI-2 IOC																													
KMI CI-2 FOC																													
Test & Evaluation Milestones																													
Development Test																													
EKMS Phase V Qual Test																													
KMI Pilots for CI-2 Spiral 1																													
Crypto KG- 45A																													
KG-40AR IV/V Test																													
KG-40AR NSA Certification																													
Operational Test																													
CND Inc 1 OT																													
EKMS Phase V Op Test																													
Production Milestones																													
WALBURN KIV 7M Installs begin																													
KG-40AR PM Prod Decision Rev/Award																													
KG-3X Inc 1 First Article Test																													
Crypto KG-45A																													
KMI Client/AKP FRP																													
CND Inc 1 LRIP Install Begins																													
Deliveries																													
EKMS Phase V S/W LCMS 5.1 Delivery																													
EKMS Phase V S/W Delivery LCMS 5.1																													
Crypto KG- 45A Deliveries																													
KG-45A LRIP																													
CND AAP CND-OSE Deliveries																													
CND Inc 1 deliveries																													

* Note: MLCS Deliveries support the MLCS Capability Certifications

Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N / BA-7	0303140N INFORMATION SYSTEMS SECURITY PR			0734 INFORMATION SYSTEMS SECURITY			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
EKMS Phase V FOC				4Q			
Crypto Modernization KW-46 FSBS AoA		3Q					
Crypto Modernization KG-45 AAP	3Q						
CND AAP	4Q						
CND Inc 1 CPD			1Q				
CND Inc 1 M/S C				2Q			
KG-3X Inc 1 M/S C		2Q					
KG-3X Inc 2 M/S C			3Q				
KG-3X Inc 2 FOC						2Q	
KMI M/S C				3Q			
KMI CI-2 IOC					4Q		
KMI CI-2 FOC							1Q
Developmental Test							
EKMS Phase V Qualification Test		2Q					
EKMS Phase V OP Test		3Q					
KMI Pilots for CI-2 Spiral 1				2Q			
Crypto KG-45A NSA Cert			1Q				
KG-40AR IV/V Test	3Q						
KG-40AR NSA Certification	4Q						
Operational Test							
EKMS Phase V Operational Test		3Q					
CND Inc OT					1Q		
Production Milestones							
WALBURN KIV 7M Production							
WALBURN KIV 7M Installs begin	4Q						
KG-40AR PM Prod Decision Rev/Award		1Q					
KG-45 FAT		4Q					
KG-3X Inc 1 First Articles		1Q					
KMI Client/AKP FRP					1Q		
CND Inc 1 LRIP Installs Begin				3Q			
CND Inc 1 First Articles				3Q			
Deliveries							
EKMS Phase V S/W Delivery LCMS 5.1		2Q					
KG45 LRIP Deliveries			2Q				
Crypto KG-45 Deliveries		2Q					
CND AAP CND-OSE Deliveries		3Q					
CND Inc 1 deliveries				3Q			

Exhibit R-4, Schedule Detail

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)					0734 COMMUNICATIONS SECURITY	
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	4.491	2.124	2.143	2.223	2.254	2.297	2.340
RDT&E Articles Qty							
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>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 US 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.</p> <p>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.</p> <p>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 battlespace 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 battlespace. 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.</p> <p>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 Information Assurance (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 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.</p>							

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	PROJECT NUMBER AND NAME 0734 COMMUNICATIONS SECURITY

(U) B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Software and Systems Research	4.491	2.124	2.143
RDT&E Articles Quantity			

FY07: Initiated efforts on enhancing commercial wireless technology to meet high assurance requirements, critical for the global information grid (GIG). Initiated the development of an information sharing architecture addressing data integrity, confidentiality and policy management throughout networks of varying classification levels. Examined multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Completed the development of the common operational assessment tool of the networked environment with respect to information assurance and security. This addressed the need for a common operational picture for Information Assurance (IA), as well as assessment of security technology critical to the success of the mission. Continued development and refinement of infrastructure protection and architectures for Navy network centric architectures and warfare concepts. Continued systems security engineering, certification and accreditation support for high-confidence naval information systems and ensured certification and accreditation approaches were consistent with Navy and DoD requirements.

FY08: Continue working with commercial wireless technology to meet high assurance requirements, with particular emphasis on Navy and Marine Corps network centric environments. Initiate the development of wireless technology to augment the security posture of the commercial wireless technology. Continue the development of an information sharing architecture that addresses data integrity, confidentiality and policy management throughout networks of varying classification levels. Within the architecture/infrastructure, enhance the framework to provide on-demand security services that support confidentiality, integrity and authentication across security domains, as well as enforces the mission security policy. Continue development and refinement of infrastructure protection and architectures for Navy network centric architectures and warfare concepts. Ensure the architectures evolve to provide proper protection as technology, DoD missions, and the threat all evolve. Include improved defensive protections and response capabilities in the architecture, as well as provide support for traditional intrusion monitoring (sensors) and warning mechanisms. Develop technology and/or tools to ensure the unique security and performance requirements of tactical systems, including those operating at various security levels are addressed. Continue 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.

FY09: Complete the development of the wireless technology to meet high assurance requirements. Place the technology in selected Navy and Marine Corps sites for assessment. Use the feedback to improve the capabilities of the technology to better meet the mission requirements. Continue the development of an information sharing architecture that addresses data integrity, confidentiality and policy management throughout networks of varying classification levels. Evaluate the security services of the framework that support confidentiality, integrity and authentication across security domains, as well as enforces the mission security policy. Use the assessment and operational feedback to improve the framework and security services. Enhance the framework to address survivability and hardening. Develop technology that protects the framework from attacks, assesses the attack, and responds appropriately to enable the framework to reconstitute and provide the requisite capabilities/services. Ensure the architecture/framework evolves to provide proper protection as technology, DoD missions, and the threat all evolve. Initiate development of modernized attack sensing and warning mechanisms based on new algorithms and data mining concepts, and response capabilities for the architecture/framework. Continue the development of technology and tools to ensure the unique security and performance requirements of tactical systems, including those operating at various security levels are addressed. Begin assessing the tools and technology in representative operational environments. Use the feedback to improve the tools and technology. Continue 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.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)			PROJECT NUMBER AND NAME 0734 COMMUNICATIONS SECURITY	
(U) C. OTHER PROGRAM FUNDING SUMMARY:							
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
OPN 3415 Info Sys Security Program (ISSP)	101.310	121.131	101.153	130.983	139.741	146.407	155.552
(U) D. ACQUISITION STRATEGY:							
N/A.							

Exhibit R-3, Code Analysis (page 1)				DATE: February 2008								
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0303140N INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)				0734 COMMUNICATIONS SECURITY						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development												
Subtotal Product Develop			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Software Development	WX	NRL, Washington, D.C.	4.162	4.491	10/06	2.124	10/07	2.143	10/08	Continuing	Continuing	
Subtotal Support			4.162	4.491		2.124		2.143		Continuing	Continuing	
Remarks:												

Exhibit R-3, Project Cost Analysis

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Exhibit R-3, Code Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT 0303140N INFORMATION SYSTEMS SECURITY PR				PROJECT NUMBER AND NAME 0734 COMMUNICATIONS SECURITY					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Program Management Support												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			4.162	4.491		2.124		2.143		Continuing	Continuing	
Remarks:												

Exhibit R-3, Project Cost Analysis

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N INFORMATION SYSTEMS SECURITY PROG	PROJECT NUMBER AND NAME 9999 CONGRESSIONAL INCREASES

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
9430 SECUREKit	0.971		
9A99 Tactical Key Loader	3.128	3.180	
RDT&E Articles Quantity			

FY07: SECUREKit: Continued further refinement of the administration interface to the underlying authorization engine. Began integration of SECUREKit trusted authorization processing engine with the discovery application. Began Certification and Accreditation (C&A) documentation required to achieve a type accreditation. Begin Authority to Operate (ATO) on Secret Internet Protocol Router Network (SIPRNET) and Non-Classified Internet Protocol Router Network (NIPRNET).

Tactical Key Loader: Began system engineering activities to include requirements analysis, investigation of new technologies, development of prototype and Engineering Development Models as well as test and evaluation of these units in the lab and operational environments. Integrated logistic support and supportability of the device once fielded will also be ascertained. Initiated development, and investigation of National Security Agency assessment certification requirements. Software and hardware will continue to be developed and tested to assure it meets the needs of the Special Forces/USMC warfighter. Tradeoffs have been made to address security concerns of the NSA and still meet the special needs of the warfighter. This device will continue to be developed so that it will transition to the modern keying environment brought by KMI.

FY08: Tactical Key Loader: Establish the TKL as an Abbreviated Acquisition Program. 1) System specification and design, 2) Hardware specification, design, and development of hardware mockups and breadboards, 3) Software specification, design, and development, and 4) Security specification, design, and input into the hardware and software development efforts. 5) Build TKL test and evaluation laboratory with laboratory space provided by SPAWARSSYSCEN San Diego (SSC-SD).

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303140N INFORMATION SYSTEMS SECURITY PROG	PROJECT NUMBER AND NAME 9999 CONGRESSIONAL INCREASES

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
9903 Universal Description, Discovery, and Integration	1.754	2.781	
RDT&E Articles Quantity			

FY07: Universal Description, Discovery, and Integration: Began systems development that will allow users to discover and access valuable information at the right time based on the user's access clearance and need to know. A trusted discovery service will ensure that information accessed is at the appropriate level, provide the requisite information and prevent extraneous or unauthorized inputs and access. Over-riding the rule set with the trusted discovery service will be configurable based on the users role and the rules of engagement. The web architecture-based solution allows the user to access this information at the Navy enterprise level and eliminates the need to reconfigure networks and hardware when accessing one domain or another.

In order to implement a fully enabled end-to-end network enterprise environment envisioned by the FORCEnet vision document, began the development of a component-based architecture called Secure Universal Description, Discovery, and Integration (UDDI). Secure UDDI will provide the necessary components to meet the Naval warfighter requirements.

- (1) Secure and non-reputable repository of services and information base on current open standards such as UDDI V3.
- (2) Incorporation of NSA certified SECUREKit components for authentication and authorization.
- (3) Secure discovery of services and information.

FY08: Universal Description, Discovery, and Integration: Continue systems development of a demonstrable prototype that will allow users to discover and access valuable information at the right time based on the user's access clearance and need to know. Efforts will also include support for Semantic services based on OWL-S and ebXML, Machine-to-Machine interfaces, and support to bridge OWL-S and WSDL based services. A trusted discovery service will ensure that information accessed is at the appropriate level, provide the requisite information and prevent extraneous or unauthorized inputs and access. The web architecture-based solution allows the user to access this information at the Navy enterprise level and eliminates the need to reconfigure networks and hardware when accessing one domain or another.

In order to implement a fully enabled end-to-end network enterprise environment envisioned Net-Centric Operations, continue the development of a component-based architecture called Secure Universal Description, Discovery, and Integration (UDDI). Secure UDDI will provide the necessary components to meet the Naval warfighter requirements for both WSDL and OWL-S based services.

- (1) Secure and non-reputable repository of services and information base on current open standards such as UDDI V3 and OWL-S.
- (2) Incorporation of NSA certified components for authentication and authorization.
- (3) Secure discovery of services and information.

EXHIBIT R-2, RDT&E Budget Item Justification				DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT (PE) NAME AND NO. 0303158M Joint Command and Control (JC2) Program							
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost		0.972	0.986	2.000	2.500	0.000	0.000	0.000	
3210 Net Enabled Command Capability (NECC)		0.972	0.986	2.000	2.500	0.000	0.000	0.000	
Quantity of RDT&E Articles									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element includes manpower and dollar resources directly associated with the Joint Command and Control Program (JC2). The JC2 program is a command and control (C2) architectural system supporting network-centric transition of the Global Information Grid (GIG) Infrastructure. The approach provides warfighter access to data and services that are critical to the transition to netcentric coordinate command and control activities.</p>									

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EXHIBIT R-2, RDT&E Budget item Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Systems Development		R-1 Item Nomenclature 0303158M Joint Command & Control Program (JC2)						
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
*3210 Net Enabled Command Capability (NECC)		0.972	0.986	2.000	2.500	0.000	0.000	0.000
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Net-Enabled Command Capability (NECC) is the DoD's principal command and control capability that will be accessible in a net-centric environment and focused on providing the commander with the data and information needed to make timely, effective and informed decisions. NECC is a joint project, which will be developed, integrated, tested and used by all Services to improve interoperability, collaborative planning and rapid decision making across all Joint warfighting functions at the Secretary of Defense, Chairman of the Joint Chiefs (CJCS), Combatant Command (COCOM), Joint Task Force (JTF) and Component levels.

NECC will encompass the inherent capabilities of the Global Command and Control System (GCCS) Family of Systems (FoS) plus additional capabilities not met by GCCS FoS and delineated in the Analysis of Alternatives. As directed, one version of NECC will be implemented, integrated and utilized by all Services and Agencies (GCCS-A, GCCS-M, GCCS-AF and GCCS-J capabilities will transition to NECC).

* **Net-Enabled Command Capability (NECC)** was re-named from Joint Command and Control (JC2) Capability by the Information Technology Acquisition Board (ITAB) on March 7, 2006.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		0.972	0.986	2.000
RDT&E Articles Qty		0.000	0.000	0.000

NECC: Current funding (07-08) level establishes the USMC Component Program Management Office (CPMO) for NECC by providing government and contract support in order to influence NECC and align affected USMC programs.

(U) Project Change Summary:	FY2007	FY2008	FY2009
(U) PROJECT CHANGE SUMMARY	0.997	1.007	2.000
(U) FY 2008 President's Budget:			
(U) SBIR/STTR Transfer	<u>-0.025</u>	<u>-0.021</u>	
(U) FY 2009 President's Budget:	0.972	0.986	2.000

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule:

(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

(U) D. ACQUISITION STRATEGY:

An approved acquisition strategy does not currently exist. However, DISA in conjunction with the Services has developed a draft strategy that is proceeding through preliminary staffing.

(U) E. MAJOR PERFORMERS:

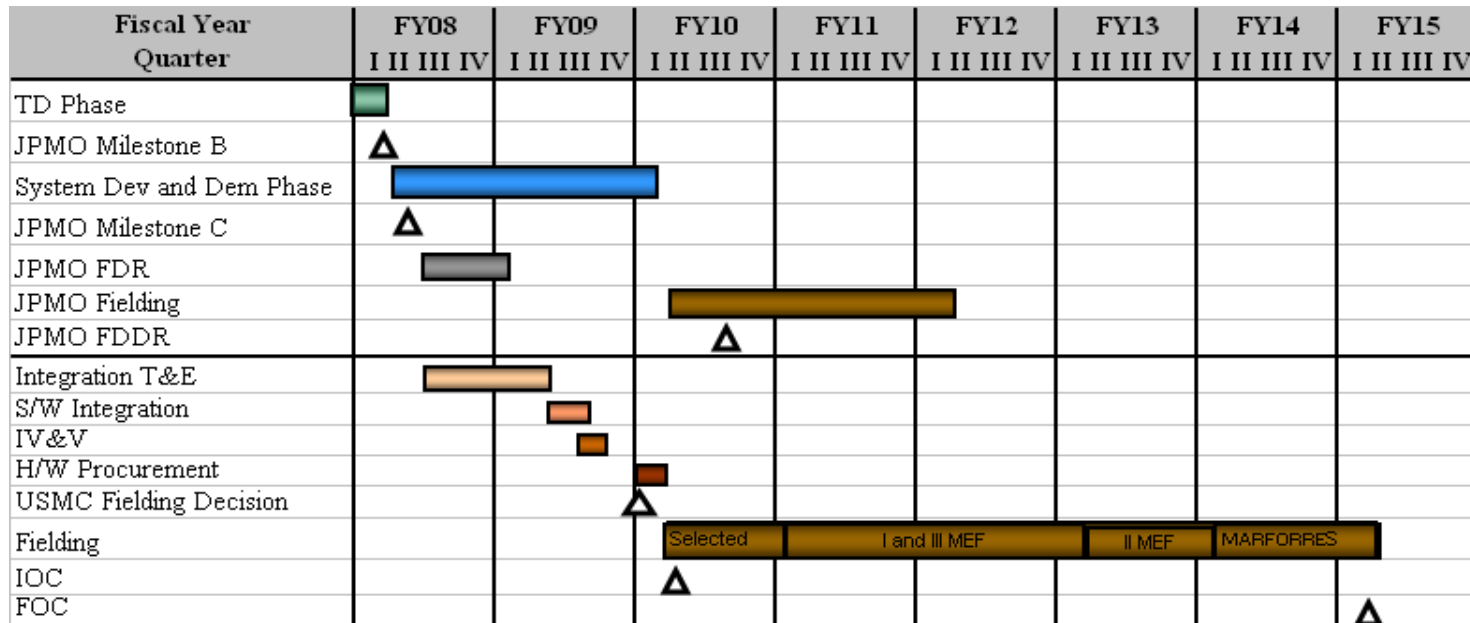
DOD and all services.

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Exhibit R-3 Cost Analysis								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E,N /BA3 Advanced Technology Development				0303158M Joint Command & Control Program (JC2)				*C3210 Net-Enabled Command Capability (NECC)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Subtotal Product Development			0.000	0.000		0.000		0.000		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Subtotal Support			0.000	0.000		0.000		0.000		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Subtotal T&E			0.000	0.000		0.000		0.000		Cont	Cont	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
MCSC, Quantico, Va	FFP	CEOss CTQ, MCSC		0.458	4 Qtr	0.450	3 Qtr	1.000	2 Qtr	Cont	Cont	
SPAWAR, Charleston, SC	RCP	SSCC		0.218	3 Qtr	0.218	2 Qtr	0.436	2 Qtr			
Ft. Monmouth, N.J.	RCP	MITRE		0.150	4 Qtr	0.302	2 Qtr	0.302	2 Qtr			
MCSC, Quantico, Va	RCP	MCOTEA, MCSC SE&I		0.146	4 Qtr	0.016	2 Qtr	0.262	2 Qtr			
Subtotal Management			0.000	0.972		0.986		2.000		Cont	Cont	
Remarks:												
Total Cost			0.000	0.972		0.986		2.000		Cont	Cont	

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Systems Development	0313158M Joint Command & Control Program (JC)	*3210 Net-Enabled Command Capability (NECC)

NECC PROGRAM SCHEDULE

Schedule



FDR - Fielding Decision Review IOC - Initial Operational Capability FOC- Full Operational Capability
 FDDR - Full Deployment Decision Review IV&V - Independent Validation and Verification

Exhibit R-4-4a Project Schedule/Detail

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDTE, N /BA 7 Operational Systems Development	0313158M	*3210 Net-Enabled Command Capability (NECC)

NECC PROGRAM SCHEDULE

	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
JPMO MS B	2Q							
JPMO MS C	2Q							
JPMO FDR	3Q							
JPMO Fielding			2Q					
JPMO FDDR			4Q					
USMC T&E	3Q							
S/W Integration		3Q						
IV&V		4Q						
H/W Procurement			1Q					
USMC FD			1Q					
USMC Fielding			2Q					
IOC			2Q					
FOC								2Q

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7				R-1 ITEM NOMENCLATURE 0303158N Joint Command and Control (JC2) Program			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	4.927	4.797	4.148	4.184	4.146	4.226	4.310
3146 NET-ENABLED COMMAND CAPABILITY(NECC) PROGRAM (Formerly Joint Command and Control (JC2))	4.927	4.797	4.148	4.184	4.146	4.226	4.310
Quantity of RDT&E Articles							
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Net-Enabled Command Capability (NECC) is the DoD's principal command and control capability that will be accessible in a net-centric environment and focused on providing the commander with the data and information needed to make timely, effective and informed decisions. NECC draws from the command and control (C2) community to evolve current and provide new C2 capabilities into a fully integrated, interoperable, collaborative Joint solution. Warfighters can rapidly adapt to changing mission needs by defining and tailoring their information environment and drawing on capabilities that enable the efficient, timely and effective command of forces and control of engagements.</p> <p>DoD has placed its emphasis upon NECC as the future of C2 for the warfighter. The Department can not accomplish its mission to provide an integrated, flexible, and adaptable full spectrum DoD C2 capability by continuing to rely on independently built and deployed systems that result in situational awareness and force identification variations, data incompatibilities, and non-interoperable services and applications supporting time-critical decisions. Consequently, the Deputy Secretary of Defense has directed that DoD funding be internally realigned into the NECC Program. These funding realignments provide a single, integrated, coherent enhancement of the Department's capability for operational level Joint command and control (JC2) by addressing some of the shortfalls within existing C2 capabilities. FY 2009 will be focused on NECC developmental efforts in support of Increment I System Development and Demonstration (SDD).</p> <p>The migration of existing C2 capabilities towards the standards being developed and adopted as well as the integration of capability modules that are destined for piloting activities into the Maritime Operating Environment is a critical effort that the Navy Component Program Management Office (CPMO) performs.</p>							

EXHIBIT R-2, RDT&E Budget Item Justification

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		R-1 ITEM NOMENCLATURE 0303158N Joint Command and Control (JC2) Program		
(U) B. PROGRAM CHANGE SUMMARY:				
(U) Funding:		<u>FY07</u>	<u>FY08</u>	<u>FY09</u>
FY08/09 President's Budget		5.040	5.015	4.972
FY09 President's Submit		4.927	4.797	4.148
Total Adjustments		-0.113	-0.218	-0.824
Summary of Adjustments:				
Small Business Innovation Research (SBIR) Tax		-0.113	-0.074	0.000
Miscellaneous Adjustments		0.000	-0.144	-0.824
Subtotal		-0.113	-0.218	-0.824
(U) Schedule:				
<p>The Schedule Profile identifies the projected milestones for NECC Increment I. The MS B schedule has moved due to an Overarching Integrated Product Team (OIPT) recommendation to delay the Information Technology Advisory Board (ITAB). The ITAB is required for the MDA to support a MS B decision. Increment I will provide required operational capabilities developed in the FY08-10 period. Increment II will provide required operational capabilities developed in the FY11-12 period. Increment III will provide required operational capabilities developed in the FY13-14 period. The NECC program will be developed and executed within an evolutionary acquisition framework.</p>				
(U) Technical:				
Not Applicable				

EXHIBIT R-2, RDT&E Budget Item Justification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0303158N Joint Command and Control (JC2) Program				3146 Net-Enabled Command Capability (NECC) Program (Formerly Joint Command and Control (JC2))		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	4.927	4.797	4.148	4.184	4.146	4.226	4.310
RDT&E Articles Qty							
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Net-Enabled Command Capability (NECC) is the DoD's principal command and control capability that will be accessible in a net-centric environment and focused on providing the commander with the data and information needed to make timely, effective and informed decisions. NECC draws from the command and control (C2) community to evolve current and provide new C2 capabilities into a fully integrated, interoperable, collaborative Joint solution. Warfighters can rapidly adapt to changing mission needs by defining and tailoring their information environment and drawing on capabilities that enable the efficient, timely and effective command of forces and control of engagements.</p> <p>DoD has placed its emphasis upon NECC as the future of C2 for the warfighter. The Department cannot accomplish its mission to provide an integrated, flexible, and adaptable full spectrum DoD C2 capability by continuing to rely on independently built and deployed systems that result in situational awareness and force identification variations, data incompatibilities, and non-interoperable services and applications supporting time-critical decisions. Consequently, the Deputy Secretary of Defense has directed that DoD funding be internally realigned into the NECC Program. These funding realignments provide a single, integrated, coherent enhancement of the Department's capability for operational level Joint command and control (JC2) by addressing some of the shortfalls within existing C2 capabilities. FY 2009 will be focused on NECC developmental efforts in support of Increment I System Development and Demonstration (SDD).</p> <p>The migration of existing C2 capabilities towards the standards being developed and adopted as well as the integration of capability modules that are destined for piloting activities into the Maritime Operating Environment is a critical effort that the Navy Component Program Management Office (CPMO) performs.</p>							

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303158N Joint Command and Control (JC2) Program	PROJECT NUMBER AND NAME 3146 Net-Enabled Command Capability (NECC) Program (Formerly Joint Command and Control (JC2))

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.927	4.797	4.148
RDT&E Articles Quantity			

FY 07 Accomplishments- Successfully migrated selected maritime command and control capabilities to standards and architectures defined by the Net-Enabled Command Capability (NECC) program. Developed the initial plans for transfer of Global Command and Control System - Maritime (GCCS-M) management and functionality to NECC. Navy Component Program Management Office (CPMO) developed pilot capabilities in support of NECC Inc I Technology Development (TD) phase activities and contributed towards the development of required acquisition documentation in preparation for anticipated Milestone B in Q4FY07.

FY08:Continue migration of additional maritime command and control (e.g., GCCS-M) capabilities to standards-based architectures. Development of capabilities allocated to the Navy CPMO in accordance with the Capability Development Document (CDD), in support of NECC Inc I System Development and Demonstration (SDD) phase activities.

FY09: Continue migration of additional maritime command and control capabilities to standards-based architectures. Continue development of capabilities allocated to the Navy CPMO in accordance with the CDD, in support of NECC Inc I SDD phase activities.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303158N Joint Command and Control (JC2) Program	PROJECT NUMBER AND NAME 3146 Net-Enabled Command Capability (NECC) Program (Formerly Joint Command and Control (JC2))
<p>(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <p><u>Line Item No. & Name</u></p> <p>N/A</p> <p>(U) D. ACQUISITION STRATEGY:</p> <p>The NECC acquisition strategy for the System Development and Demonstration (SDD) phase is to build net-centric services as Capability Modules (CMs), not a large, completely integrated software system. CMs are small, militarily useful pieces of software, loosely coupled via the Service Oriented Architecture (SOA), and resident on the Global Information Grid (GIG). A key concept behind NECC is to build capabilities and deliver CMs to the Warfighter, as they are ready, not to wait for major milestones for a complete software release. The individual nature of CMs and the planned responsiveness to the Warfighter requires agility and flexibility in NECC's requirements/capability needs identification, development and validation, systems engineering, materiel development, contracting, testing, funding, and acquisition processes. Rapid delivery results in having multiple CMs in concurrent stages of development, operations, or sustainment within an increment, which changes the nature of the program's Milestone Decisions and funding requirements. The result is a net-centric set of services provided to Warfighters quickly, which gives them the capabilities they need to achieve and sustain Decision Superiority to accomplish their missions. The overarching NECC contracting approach is to acquire CMs, services, and materials from various types of full and open, competitively awarded, performance-based and performance-driven outcome contracts. NECC's primary contracting method utilizes Indefinite Delivery, Indefinite Quantity (IDIQ) contracts to develop CMs. The NECC Joint Program Management Office (JPMO) and Component Management Offices (CPMOs), acting as NECC systems integrators/material developers, have the flexibility to award multiple Task Orders (TOs) under these vehicles. The intent is to leverage various types of existing and logical follow-on contracts associated with GCCS FoS programs. In many cases, NECC task orders are competed among the numerous vendors available under these IDIQ contracts through the fair opportunity to compete process required by the Federal Acquisition Streamlining Act (FASA). In instances in which using an existing IDIQ contract is not feasible, NECC acquires services and material through a full and open, competitively awarded contract.</p> <p>(U) E. MAJOR PERFORMERS:</p> <p>Space & Naval Warfare Systems Command Systems Centers (SPAWARSSYSCENS) San Diego and Charleston provide support as the Government research and development facilities. Program and engineering support provided by Booz Allen Hamilton and various subcontractors.</p>		

EXHIBIT R-2a, RDT&E Project Justification

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME				
RDT&E, N / BA-7			0303158N Joint Command and Control (JC2) Program					3146 Net-Enabled Command Capability (NECC) Program (Formerly Joint Command and Control (JC2))				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering	VARIOUS	VARIOUS	1.175	1.087	VARIOUS	1.055	VARIOUS	1.019	VARIOUS	Continuing	Continuing	Continuing
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			1.175	1.087		1.055		1.019		Continuing	Continuing	Continuing
Remarks:												
Development Support	VARIOUS	VARIOUS	0.625	0.700	VARIOUS	0.711	VARIOUS	0.561	VARIOUS	Continuing	Continuing	Continuing
Software Development	VARIOUS	VARIOUS	0.625	0.803	VARIOUS	0.812	VARIOUS	0.560	VARIOUS	Continuing	Continuing	Continuing
Training Development											0.000	0.000
Integrated Logistics Support	VARIOUS	VARIOUS		0.400	VARIOUS	0.406	VARIOUS	0.395	VARIOUS	Continuing	Continuing	Continuing
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			1.250	1.903		1.929		1.516		Continuing	Continuing	Continuing
Remarks:												

Exhibit R-3, RDTEN Cost Analysis

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME				
RDT&E, N / BA-7			0303158N Joint Command and Control (JC2) Program					3146 Net-Enabled Command Capability (NECC) Program (Formerly Joint Command and Control (JC2))				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	VARIOUS	VARIOUS	1.253	0.150	VARIOUS	0.250	VARIOUS	0.148	VARIOUS	Continuing	Continuing	Continuing
Operational Test & Evaluation	WX	OPTEVFOR		0.116		0.000		0.000		Continuing	Continuing	Continuing
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			1.253	0.266		0.250		0.148		Continuing	Continuing	Continuing
Remarks:												
Contractor Engineering Support	VARIOUS	VARIOUS		1.101	VARIOUS	1.004	VARIOUS	1.072	VARIOUS	Continuing	Continuing	Continuing
Government Engineering Support	WX	SSC SD	1.250	0.570	VARIOUS	0.559	VARIOUS	0.393	VARIOUS	Continuing	Continuing	Continuing
Program Management Support												0.000
Travel												0.000
Subtotal Management			1.250	1.671		1.563		1.465		Continuing	Continuing	Continuing
Remarks:												
Total Cost			4.928	4.927		4.797		4.148		Continuing	Continuing	Continuing
Remarks:												

Exhibit R-3, RD TEN Cost Analysis

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																					DATE: February 2008									
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME										
RDT&E, N /BA-7										0303158N Joint Command and Control (JC2) Program										3146 Net-Enabled Command Capability (NECC) Program (Formerly Joint Command and Control (JC2))										
Fiscal Year	2007				2008				2009				2010				2011				2012				2013					
	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				NECC Inc I MS B (Projected)		▲		▲	NECC Inc I MS C (Projected)									NECC Inc I FDDR (Projected)	▲											
Technology Development Activities																														
System Engineering	△	△	△	△	△	△																								
Establish Federated Development Certification Environment (FDCE)	△	△	△	△	△	△																								
Technology Risk-Reduction / Piloting	△	△	△	△	△	△																								
Piloting Integration	△	△	△	△	△	△																								
Define / Design / Develop Capability Modules	△	△	△	△	△	△																								
TD Activities - Increment II													△	△	△	△														
TD Activities - Increment III																					△	△	△	△						
System Development and Demonstration Activities																														
Increment I							△	△	△	△	△	△	△	△	△	△														
Increment II																	△	△	△	△	△	△	△	△						
Increment III																								△	△	△	△			

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT 0303158N Joint Command and Control (JC2) Program				PROJECT NUMBER AND NAME 3146 Net-Enabled Command Capability (NECC) Program (Formerly Joint Command and Control (JC2))		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones							
NECC Inc I MS B (Projected)		Q2					
NECC Inc I MS C (Projected)		Q4					
NECC Inc I FDDR (Projected)				Q4			
Technology Development (TD)							
Activities - Increment I							
System Engineering	Q1 - Q4	Q1-Q2					
Establish FDCE	Q1 - Q4	Q1-Q2					
Tech Risk Reduction/Piloting	Q1 - Q4	Q1-Q2					
Piloting Integration	Q1 - Q4	Q1-Q2					
Define/Design/Dev Capability Modules	Q1 - Q4	Q1-Q2					
TD Activities - Increment II				Q1 - Q4			
TD Activities - Increment III						Q1 - Q4	
System Demonstration and Development Activities							
Increment I		Q3 - Q4	Q1 - Q4	Q1 - Q4			
Increment II					Q1 - Q4	Q1 - Q4	
Increment III							Q1 - Q4

Exhibit R-4a, Schedule Detail

CLASSIFICATION:		UNCLASSIFIED							
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7			R-1 ITEM NOMENCLATURE 0305149N/COBRA JUDY						
COST (In Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost			134.815	131.836	101.114	62.040	32.377	22.785	1.255
4021 / CJR System Engineering			134.815	131.836	101.114	62.040	32.377	22.785	1.255
A. MISSION DESCRIPTION:									
Cobra Judy funds will replace the current U.S. Naval Ship (USNS) Observation Island which has become unsustainable and due to leave service no later than 2012. This program will fund the development of a single ship-based radar suite for world wide technical data collection against ballistic missiles in flight. Prior funding provided instrumentation of quality radar data and imaging, detailing threat assessment of ballistic missile development, testing and range augmentation and monitored or verified specific aspects of United States treaties with other countries. To avoid vulnerabilities in our national security it is imperative we replace the current capability of Cobra Judy in a timely manner 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.									
B. PROGRAM CHANGE SUMMARY:									
Funding:			FY 2007	FY 2008	FY 2009				
FY 2008 President's Budget			134.815	132.679	87.430				
FY 2009 President's Budget			134.815	131.836	101.114				
Total			0.000	-0.843	13.684				
Undistributed/General Reductions			0.000	0.000	0.000				
Program Adjustment			0.000	0.000	13.684				
C. OTHER PROGRAM FUNDING SUMMARY:									
PE 0303901N (Details and funding profile are classified)			FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
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.									

CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY			PROJECT NUMBER AND NAME 4021/CJR System Engineering		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	134.815	131.836	101.114	62.040	32.377	22.785	1.255
RDT&E Articles Qty	0	0	0	0	0	0	0
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
A. (U) Mission Description							
<p>Cobra Judy Replacement is a program that has been transferred from the Air Force to the Navy, per an Office of the Secretary of Defense (OSD) Milestone A Acquisition Decision Memorandum dated 6 August 2002. Funding depicted herein represents approximately half of the total budget.</p> <p>Cobra Judy funds will replace the current U.S. Naval Ship (USNS) Observation Island which has become unsustainable and due to leave service no later than 2012. This program will fund the development of a single ship-based radar suite for world wide technical data collection against ballistic missiles in flight. Prior funding provided instrumentation of quality radar data and imaging, detailing threat assessment of ballistic missile development, testing and range augmentation and monitored or verified specific aspects of United States treaties with other countries. To avoid vulnerabilities in our national security it is imperative we replace the current capability of Cobra Judy in a timely manner 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.</p>							

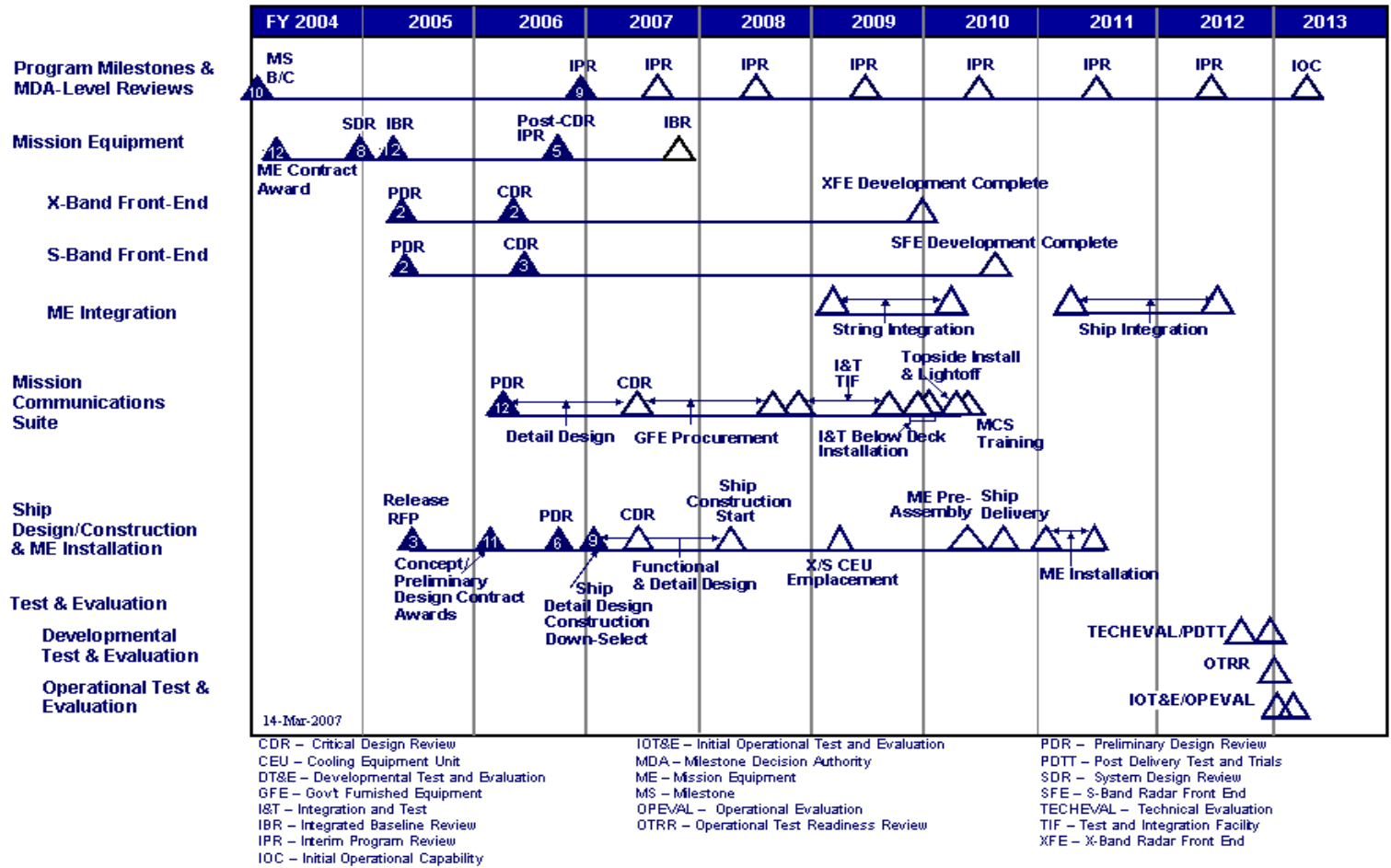
CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY	PROJECT NUMBER AND NAME 4021/CJR System Engineering	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	99.321	84.036	69.467
RDT&E Articles Quantity	0	0	0
DESIGN AND RISK REDUCTION			
Accomplishments			
- Completed critical detailed designs for prime mission (X-band & S-band) radars			
- Completed critical detailed design of the Mission Communications Suite (MCS)			
- Complete Pilot Build and Test (X-Band and S-Band Front Ends)			
Planned:			
- Continue Common BackEnd software development and array build and test			
- Conduct Mission Equipment Production Readness Reviews			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	31.293	43.700	27.245
RDT&E Articles Quantity	0	0	0
SHIPBUILDING			
Accomplishments:			
- Awarded ship construction contract			
- Awarded ship concept and preliminary design contracts			
- Completed three ship preliminary designs in preparation for down-select to one ship construction contractor			
- Critical Detailed Design Review			
Planned:			
-Commence Ship construction			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.042	2.536	1.730
RDT&E Articles Quantity	0	0	0
SYSTEM ENGINEERING			
Accomplishments:			

CLASSIFICATION:		UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)				DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY	PROJECT NUMBER AND NAME 4021/CJR System Engineering		
- Development of specifications / interface design documents and detailed test plans Planned: - Complete designs for non-prime mission equipment (C4I, data handling, classified mission equipment)				
		FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost		0.307	0.196	0.396
RDT&E Articles Quantity		0	0	0
TEST & EVALUATION Planned: - Maintain Test and Evaluation master Plan (TEMP) - Develop and maintain detailed test and integration plans - Support Technical Interchange Meetings (TIMs)				
		FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost		1.852	1.368	2.276
RDT&E Articles Quantity		0	0	0
PROGRAM MANAGEMENT SUPPORT Planned: '- Program planning, assessment of technical alternatives, risk identification and mitigation - Cost and schedule development and execution				

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE		
										February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RD TEN/BA 7		0305149N/COBRA JUDY					4021/CJR System Engineering					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
System Engineering	WR	Various	3.864	0.113	DEC-06	0.164	JAN-08	0.119	DEC-08	CONT	CONT	0.000
System Engineering	MIPR	Various	2.690	0.406	DEC-06	0.000		0.320	DEC-08	0.000	3.416	0.000
System Engineering	GSA	Various	1.691	0.000		0.000		0.000		0.000	1.691	0.000
System Engineering	CPAF	BAE	0.840	0.000		0.553	JAN-08	0.000		0.000	1.393	0.000
System Engineering	C NF	GTRI	1.733	0.125	DEC-06	0.259	JAN-08	0.121	DEC-08	0.000	2.238	0.000
System Engineering	CPFF	JHU/APL	5.134	0.154	DEC-06	0.202	JAN-08	0.149	DEC-08	0.000	5.639	0.000
System Engineering	MIPR	MIT/LL	4.269	0.000		0.144	JAN-08	0.000		0.000	4.413	0.000
System Engineering	WR	NRL	1.566	0.000		0.314	JAN-08	0.000		0.000	1.880	0.000
System Engineering	WR	NSWC CSS	2.942	0.000		0.000		0.000		0.000	2.942	0.000
System Engineering	WR	NSWC DD	8.541	1.244	DEC-06	0.900	JAN-08	1.021	DEC-08	0.000	11.706	0.000
System Engineering	WR	NSWC PHD	1.535	0.000		0.000		0.000		0.000	1.535	0.000
System Engineering	Various	PEO Ships	3.000	0.000		0.000		0.000		0.000	3.000	0.000
System Engineering	WR	SEG	1.195	0.000		0.000		0.000		0.000	1.195	0.000
Systems Engineering	WR	SPAWAR	2.922	0.000		0.000		0.000		0.000	2.922	0.000
Subtotal Support Costs			41.922	2.042		2.536		1.730		CONT	CONT	0.000
Remarks:												
Test and Evaluation	PAF/WR/R	Various	0.040	0.255	DEC-06	0.000		0.247	DEC-08	CONT	CONT	0.000
Test and Evaluation	CPAF	Raytheon	1.200	0.000		0.000		0.000		CONT	CONT	0.000
Test and Evaluation		AFOTEC	0.210	0.026	DEC-06	0.000		0.025	DEC-08	0.000	0.261	0.000
Test and Evaluation		COMOPTEVFOR	0.289	0.026	DEC-06	0.000		0.025	DEC-08	0.000	0.340	0.000
Test and Evaluation		JITC	0.225	0.000		0.000		0.000		0.000	0.225	0.000
Test and Evaluation	WR	NSWC DD	1.019	0.000		0.196	JAN-08	0.099	DEC-08	0.000	1.314	0.000
Test and Evaluation		PMS 325	0.365	0.000		0.000		0.000		0.000	0.365	0.000
Test and Evaluation		TSC	0.250	0.000		0.000		0.000		0.000	0.250	0.000
Development Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Operational Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Live Fire Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Test Assets			0.000	0.000		0.000		0.000		0.000	0.000	0.000

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY					PROJECT NUMBER AND NAME 4021/CJR System Engineering					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
Tooling			0.000	0.000		0.000		0.000		0.000	0.000	0.000
GFE			0.000	0.000		0.000		0.000		0.000	0.000	0.000
			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Subtotal Test and Evaluation			3.598	0.307		0.196		0.396		CONT	CONT	0.000
Remarks:												
Contractor Engineering	WR/REQN	Various	0.885	0.802	DEC-06	0.000		1.260	DEC-08	0.000	2.947	0.000
	CPAF	BAE Systems	10.611	0.000		0.000		0.000		0.000	10.611	0.000
	GSA	Computer Science Corp	3.155	0.000		0.000		0.000		0.000	3.155	0.000
	GSA	Systems Planning & Analysis	1.900	0.000		0.000		0.000		0.000	1.900	0.000
Program Management	CPAF	BAE Systems	10.851	1.024	DEC-06	1.368	DEC-07	0.991	DEC-08	0.000	14.234	0.000
	CPFF	DTI	0.435	0.000		0.000		0.000		0.000	0.435	0.000
Travel			0.670	0.026	DEC-06	0.000		0.025	DEC-08		0.721	0.000
Subtotal Management Services			28.507	1.852		1.368		2.276		0.000	34.003	0.000
Remarks:												
Design and Risk Reduction	CPAF/IF	Raytheon	230.858	93.466	DEC-06	84.036	DEC-07	66.666	DEC-08	0.000	475.026	0.000
Design and Risk Reduction	Various	PEO Ships	26.332	31.293	SEP-06	43.700	SEP-06	27.245	SEP-06	0.000	128.570	0.000
Design and Risk Reduction	Various	SPAWAR	0.000	5.855	VAR	0.000		2.801	VAR	0.000	8.656	0.000
Subtotal Product Development			257.190	130.614		127.736		96.712		0.000	612.252	0.000
Remarks:												
Total Cost			331.217	134.815		131.836		101.114		CONT	CONT	0.000

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY	PROJECT NUMBER AND NAME 4021/CJR System Engineering



CLASSIFICATION:		UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL						DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0305149N/COBRA JUDY			PROJECT NUMBER AND NAME 4021/CJR System Engineering			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Initial Operational Capability (IOC)								1Q
Mission Equipment IBR		4Q						
X- Band Radar CDR								
X-Band Development Complete					1Q			
S-Band Radar CDR								
S- Band Radar Development Complete					3Q			
Mission Equipment String Integration Complete					2Q			
ME Ship Integration Complete							2Q	
Mission Communications Suite PDR								
Mission Communications Suite CDR		3Q						
Mission Communications Suite Lightoff					2Q			
Ship PDR								
Ship CDR		2Q						
Ship Contruction Start			2Q					
Ship Delivery					3Q			
TECHEVAL/ Post Delivery Test & Trials							2Q-3Q	
OTRR							4Q	
IOT&E/OPEVAL								1Q

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						February 2008	
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7			0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	8.169	4.782	8.208	18.999	32.540	17.901	19.392
0524 METOC Space-Based Sensing Capabilities	6.159	3.704	2.682	1.099	1.009	1.943	1.163
1452 Geosat Follow-on	1.039	1.078	5.526	17.900	31.531	15.958	18.229
9999 Congressional Increases	0.971						
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This program element supports the Naval service's unique requirements in meteorological and oceanographic (METOC) space-based remote sensors. Navy participates in joint efforts to leverage national polar-orbiting and geostationary satellite programs to demonstrate and validate improved war fighter capabilities. These requirements include the need to ensure a smooth transition from the current joint Defense Meteorological Satellite Program (DMSP) to the future National Polar-orbiting Operational Environmental Satellite System (NPOESS). NPOESS readiness and risk reduction preparations include development of hardware and software that will allow ground stations to receive, ingest and exploit the NPOESS Preparatory Project (NPP) data. Unique naval war fighter capabilities will be transitioned to NPOESS and planned upgrades to NPOESS. Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) satellite was launched on February 10, 1998 and is nearing end of life. Beginning in FY2009 these requirements include the development of a follow-on on-orbit altimetry capability as required to ensure continuing support to naval operations.</p> <p>These requirements include commitments to satellite, sensor, and operational demonstration/development activities as well as transition to fleet applications associated with five satellite programs: 1) the converged National Polar-orbiting Operational Environmental Satellite System (NPOESS), 2) the joint Defense Meteorological Satellite Program (DMSP), 3) the jointly funded Coriolis satellite which includes Navy Satellite Based Wind Speed (WindSat) and Air Force SMEI (Solar Mass Ejection Imager) instruments, 4) the Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) funded entirely by Navy and 5) a future on-orbit altimetry capability. GFO altimeter data are used to observe significant wave height, ocean thermal and acoustic structure. The Navy METOC Space-Based Sensing Capabilities project provides for Navy participation in Navy/Air Force cooperative efforts leading to DMSP sensor development, specifically participation in the calibration and validation of instruments and delivery of satellite products to the Fleet. The passive microwave instruments carried on DMSP and future NPOESS satellites provide global oceanic 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 NPOESS satellites' Microwave Imaging Sensor (MIS) instrument. The future altimetry satellite will be a partnered program to provide continuity in altimetry data. 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.</p> <p>FY07 included Congressional increase for the Radiation Hardened Vector Processor to increase the Technology Readiness Level (TRL) of reconfigurable technology for satellite onboard processing with consideration toward targeted applications such as future satellite reconnaissance, surveillance and strategic missile warning systems that may use Wide Field of View (WFOV) Staring Sensors and large format Focal Plane Arrays (FPAs).</p> <p>This budget reflects a reorganization by program/project to better support the acquisition process.</p> <p>(U) 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.</p>							

R-1 Line Item No. 196

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)		
(U) C. PROGRAM CHANGE SUMMARY:			
(U) Funding:	FY 2007	FY 2008	FY 2009
FY08 President's Budget	8.275	4.887	3.820
FY09 President's Submit	8.169	4.782	8.208
Total Adjustments	<u>-0.106</u>	<u>-0.105</u>	<u>4.388</u>
Summary of Adjustments			
Misc. Adjustments		-0.031	4.388
Small Business Innovation (SBIR) Tax	-0.106	-0.074	
Subtotal	<u>-0.106</u>	<u>-0.105</u>	<u>4.388</u>
 (U) Schedule:			
This budget reflects a reorganization by program/project to better support the acquisition process.			
Schedules are now presented separately for each program/project.			
 (U) Technical:			
Not Applicable			

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)			PROJECT NUMBER AND NAME 0524 NAVY METOC SUPPORT (SPACE)			
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost			6.159	3.704	2.682	1.099	1.009	1.943	1.163
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Navy Meteorological and Oceanographic (METOC) Support (Space) project provides for the naval service's unique sensor development efforts (Navy Satellite Based Wind Speed (WindSat) and Advanced Altimeters) and Navy participation in Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave/Imager (SSM/I) and Special Sensor Microwave Imager Sounder (SSM/IS) 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 National Polar-orbiting Operational Environmental Satellite System (NPOESS) satellites' Conical Microwave Imaging Sensor (CMIS) instrument. The passive microwave instruments carried on DMSP and future NPOESS 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 National Polar-orbiting Operational Environmental Satellite System (NPOESS) and the National Oceanic and Atmospheric Administration's (NOAA) Geostationary Operational Environmental Satellites (GOES). These efforts fulfill naval service unique requirements that are not funded within the DMSP, NPOESS or GOES programs, and are in accordance with current inter-agency agreements. The project also provides for the Navy's direct participation in the NPOESS Integrated Program Office (IPO), and the application of data provided at the NPOESS Interface Data Processing Segments (IDPSs) to naval METOC warfighting products.

This budget reflects a reorganization by program/project to better support the acquisition process.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)	PROJECT NUMBER AND NAME 0524 NAVY METOC SUPPORT (SPACE)

(U) B. Accomplishments/Planned Program

METOC Space-Based Sensing Capabilities	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	6.159	3.704	2.682
RDT&E Articles Quantity			

FY07: Determined system design for advanced altimetry mission. Developed additional Warfighter products (sea ice coverage); continued risk reduction to Conical Microwave Imaging Sensor (CMIS) through Navy Satellite Based Wind Speed (WindSat) data exploitation and control Coriolis and monitor state of health of the WindSat on-orbit payload. Monitored Special Sensor Microwave Imager Sounder (SSMIS) performance and continued calibration and validation. Prepared for launch of F-18; Phase C Approval for Advanced Altimeter; Preliminary Design Reviewed for Advanced Altimeter; Global Data Processing System (GDPS) updated for sea ice; and F-17 SSMIS Calibration/Validation Final Report. Efforts formerly part of the "WINDSAT/Sensor/Observing Systems (Space)." Delivered initial set of advanced National Polar-orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project (NPP)/NPOESS data assimilation algorithms. Conducted test and evaluation of these algorithms with NPP data. Efforts formerly part of the "NPOESS Assim/Prediction Models (Atmosphere/Ocean)."

FY08 - Prepare for launch of F-18. Develop additional Warfighter products (sea ice coverage); continue risk reduction to CMIS through Navy Satellite Based Wind Speed (WindSat) data exploitation and ground control and operations of Coriolis and monitor state of health of the WindSat on-orbit payload. Monitor Special Sensor Microwave/Imager (SSM/I) and SSMIS performance and continue calibration and validation. Efforts formerly part of the "WINDSAT/Sensor/Observing Systems (Space)."

FY09 - Continue performance assessments of microwave imagers (e.g.: SSMIS/SSMI/MIS) and continue to calibrate sensors and validate data and resolve anomalies. Continue ground control and operations of the Coriolis spacecraft and monitor the state of health of the WindSat on-orbit payload.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)	PROJECT NUMBER AND NAME 0524 NAVY METOC SUPPORT (SPACE)
<p>(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <p><u>Line Item No. & Name</u></p> <p>Not Applicable</p>		
<p>(U) D. ACQUISITION STRATEGY:</p> <p>Naval service unique, space based meteorological and oceanographic (METOC) requirements are not fully funded through Joint or converged national program plans. Particular sensors or data sources with unique naval service mission needs are targeted to accelerate acquisition or ensure threshold accomplishment. WindSat provides risk reduction data and developmental technology that the National Polar-orbiting Operational Environmental Satellite System (NPOESS) Integrated Program Office (IPO) will use in the development of the Conical Microwave Image 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 (DSMP). It will be the primary instrument for satisfying 20 NPOESS Integrated Operational Requirements Document (IORD) Environmental Data Records (EDRs). These CMIS sensors will be acquired as part of the NPOESS 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 arial coverage to support Navy requirements for sea surface topography measurement in the littorals.</p>		
<p>(U) E. MAJOR PERFORMERS:</p> <p>FY07 - FY09 - Naval Research Laboratory, Washington D.C. 60% Satellite Mission and Technical Support, Sensor Calibration and Data Validation</p>		

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)					PROJECT NUMBER AND NAME 0524 NAVY METOC SUPPORT (SPACE)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Spacecraft Development	FF	Spectrum Astro, AZ	2.500								2.500	
Spacecraft Development	CP	TRW, Redondo Beach, CA	4.885								4.885	
Subtotal Product Development			7.385	0.000		0.000		0.000			7.385	
WindSat-Sensor/Observing Systems (Space)	CP	Various	84.452	3.386		1.979		1.690		Continuing	Continuing	
*IOMI PM and System Engineering	CP	Various	3.754								3.754	
*SSMIS Cal/Val	CP	Various	9.292	0.000		1.000		0.486		Continuing	Continuing	
*Future Mission Engineering	CP	Various	0.316	0.000		0.725		0.506		Continuing	Continuing	
*APMIR	CP	Various	1.590								1.590	
NPP/NPOESS Algorithms-Assimilation/Prediction Models (Atmosphere/Ocean)		NRLs		2.773						Continuing	Continuing	
Subtotal Support			99.404	6.159		3.704		2.682		Continuing	Continuing	
Total Cost			106.789	6.159		3.704		2.682		Continuing	Continuing	
Remarks: *Indian Ocean METOC Imager (IOMI) *Special Sensor Microwave Imager Sounder (SSMIS) *Airborne Polarimetric Microwave Imaging Radiometer (APMIR) * Future Mission Engineering will address Navy unique METOC requirements for littoral applications												

EXHIBIT R4, Schedule Profile																								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7					PROGRAM ELEMENT NUMBER AND NAME 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)														PROJECT NUMBER AND NAME 0524 NAVY METOC SUPPORT (SPACE)									
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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
WindSat / Coriolis	▲ Risk reduction demonstration.																											
Microwave Imager	Sensor Calibration / Data Validation																											
NPP/NPOESS	Data Assimilation Algorithm Development																											

Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E BA-7		PROGRAM ELEMENT 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)				PROJECT NUMBER AND NAME 0524 NAVY METOC SUPPORT (SPACE)	
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
WindSat / Coriolis	1Q						

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)				PROJECT NUMBER AND NAME 1452 GEOSAT FOLLOW-ON		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		1.039	1.078	5.526	17.900	31.531	15.958	18.229
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project provides a satellite-borne radar altimeter sensor to obtain ocean topography measurements from which tactically significant features such as ocean fronts and eddies, wave heights, internal acoustic structure, and sea-ice edges are derived. Topography provides a unique and important data source in support of a number of naval service unique warfare areas such as anti-submarine and undersea warfare. Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) data are made freely available to other agencies such as the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA) who value its input to studies involving global warming and climate change including El Nino Southern Oscillation (ENSO) effects. Ocean topography data was previously provided by GEOSAT from 1985 until the satellite failed in January 1990. The GFO satellite was launched in February 1998 and is nearing its end of life. A future satellite based altimeter will provide for continuation of this capability.

This budget reflects a reorganization by program/project to better support the acquisition process.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)	PROJECT NUMBER AND NAME 1452 GEOSAT FOLLOW-ON

(U) B. Accomplishments/Planned Program

Meteorology and Oceanography (METOC) Space	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.039	1.078	5.526
RDT&E Articles Quantity			

FY07 - Investigated and implemented life extension solutions to work arounds for degraded components. Assessed on-orbit system performance, calibrated payload and validated data, resolved anomalies. Assessed impact of differing orbits on metric effectiveness. Completed Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) Performance Validation Reports (every 17 days) and GFO Engineering Anomaly Resolution Reports (upon retirement of anomaly). Completed meteorological and oceanographic (METOC) metric end of year report. Efforts formerly part of the "Algorithm Development and Sensor Cal/Val/Sensors/Observing Systems (Space)."

FY08 - Continue investigations and implementation of life extension solutions as work arounds for degraded components. Continue performance assessments and continue to calibrate payload and validate data and to resolve anomalies. Continue assessing impact of differing orbits on metric effectiveness. Complete GFO Performance Validation Reports (every 17 days) and GFO Engineering Anomaly Resolution Reports (upon retirement of anomaly). Complete METOC metric end of year report. Efforts formerly part of the "Algorithm Development and Sensor Cal/Val/Sensors/Observing Systems (Space)."

FY09 - Continue Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) performance assessments and continue to calibrate GFO payload and validate data and resolve anomalies. Continue investigations and implementation of life extension solutions as work arounds for degraded components of GFO. Complete GFO Performance Validation Reports (every 17 days) and GFO Engineering Anomaly Resolution Reports (upon retirement of anomaly). Begin engineering analysis of alternative configurations for a future satellite based altimeter and prepare acquisition documentation.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)	PROJECT NUMBER AND NAME 1452 GEOSAT FOLLOW-ON
<p>(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <p><u>Line Item No. & Name</u></p> <p>Not Applicable</p>		
<p>(U) D. ACQUISITION STRATEGY:</p> <p>The naval service requires a satellite-borne radar altimeter sensor on orbit to obtain ocean topography measurements from which tactically significant features such as ocean fronts and eddies, wave heights, internal acoustic structure, and sea-ice edges are derived. Rigorous payload calibration, data validation and precision orbit determination maintain accuracy and usefulness of data. Continued refinement of sensor performance works toward satisfying the Navy and Marine Corps' littoral data requirements. As the Geodetic/geophysical Satellite GEOSAT Follow-On (GFO) satellite reaches its end of life, the program will transition to a future on-orbit altimeter to satisfy naval service unique altimetry requirements.</p>		
<p>(U) E. MAJOR PERFORMERS:</p> <p>FY07 - Ball Aerospace, Boulder, CO 32% Satellite Mission Support; Computer Sciences Corporation (CSC), Monterey, CA 50% Sensor Calibration, Data Validation and Technical Support. FY08 - Ball Aerospace, Boulder, CO 32% Satellite Mission Support; Computer Sciences Corporation (CSC), Monterey, CA 50% Sensor Calibration, Data Validation and Technical Support. FY09 - Ball Aerospace, Boulder, CO 6%, Computer Sciences Corp. (CSC) Monterey, CA 9% Sensor Calibration, Data Validation and Technical Support, contractor TBD for analysis of a future satellite based altimeter and preparation of acquisition documentation.</p>		

EXHIBIT R4, Schedule Profile																					DATE: February 2008																											
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7					PROGRAM ELEMENT NUMBER AND NAME 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)												PROJECT NUMBER AND NAME 1452 GEOSAT FOLLOW-ON																															
Fiscal Year	2007				2008				2009				2010				2011				2012				2013																							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																				
Future Altimeter Mission									▲	Pre-Acq Activities							▲	Prime Contract Award											▲	Launch																		
GFO Altimeter Satellite	▲								GFO Cal/Va/Life Extension Solutions																																							

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA - 7	PROGRAM ELEMENT NUMBER AND NAME 0305160N DEFENSE METEOROLOGICAL SATELLITE PROGRAM (SPACE)	PROJECT NUMBER AND NAME 9999 Congressional Increases

(U) B. Accomplishments/Planned Program

	FY07	FY08	FY09
9282 Congressional Adds - Radiation Hardened Vector Processor			
Accomplishments/Effort/Subtotal Cost	0.971		
RDT&E Articles Quantity			

FY07 - Congressional Add for Radiation Hardened Vector Processor. Demonstrated satellite based signal processing using Field Programmable Object Array (FPOA) technology. The demonstration of FPOA technology reduces the risk of implementing full-earth staring/ Wide Field of View (WFOV) and large format Focal Plane Arrays (FPAs) that are being considered for future strategic missile warning systems.

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0305204N, TACTICAL UNMANNED AERIAL VEHICLES			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	120.293	56.787	45.717	53.892	30.093	26.668	19.429	
2478 TCS	13.848	9.330	8.844	8.957	9.408	9.585	9.757	
2768 VTUAV	100.000	32.752	9.651	26.246	4.995	1.329	1.358	
2910 JOINT TECH CENTER/SYSTEMS INTEG LABORATORY	1.664	1.679	1.724	1.747	1.784	1.822	1.863	
3192 STUAS		6.105	25.498	16.942	13.906	13.932	6.451	
9999 CONGRESSIONAL ADDS	4.781	6.921						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

TCS (Tactical Control System): TCS is a standards-based system that provides interoperability and commonality for Command and Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) interfaces, and Command and Control of Naval Unmanned Air Systems (UASs). Interoperability across the Naval UAS Family of Systems (FoS) is achieved through use of TCS software operating on Ground Control Station hardware utilizing a NATO STANAG-4586 architecture communicating across a Tactical Common Data Link. TCS provides a full range of scaleable 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, and incorporate NATO STANAG-4586 and C4I enhancements. TCS software is interoperable and is compliant with the OSD Command and Control, Communications, Intelligence (C3I) Joint Technical Architecture, Distributed Common Ground System standards, and NATO standards.

VTUAV (Vertical Take-Off and Landing Tactical Unmanned Air Vehicle; MQ-8B; popular name 'Fire Scout): 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 VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting, laser designation and battle management (including communications relay). The VTUAV 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, and the incorporation of an electro-optical/infrared/laser designator-laser range finder modular mission payload. 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 VTUAV will be provided through standard DoD Command, Control, Communications, Computers and Intelligence Surveillance, and Reconnaissance (C4ISR) system architectures and protocols.

JTC/SIL (Joint Technology Center/System Integration Laboratory): JTC/SIL provides experimentation for UAV technology assessment, insertion, demonstration, transfer, as well as simulation and exercise support.

STUAS (Small Tactical Unmanned Aircraft System) / Tier II UAS: STUAS / Tier II UAS is a new start program in FY08 that will provide persistent Intelligence, Surveillance, and Reconnaissance/Target Acquisition (ISR/TA) support for tactical level maneuver decisions and unit level force defense/force protection for Naval ships (multi-ship classes) 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. A notional system may include three air vehicles, one ground station, multi-mission (plug & play) payloads, and associated launch, recovery, and support equipment. This system will support Naval missions such as building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and support of Naval units operating from sea/shore in the Global War on Terrorism. This system will also support Marine Corps missions such as close range UAS, enabling enhanced decision-making and improved integration with ground schemes of maneuver. The STUAS/Tier II UAS system will continue to evolve and upgrade capabilities to satisfy capability shortfalls, new requirements, and reliability, maintainability, and safety issues. Upgraded capabilities may include MAGTF and Navy C2 integration, a common control station with other UASs, SIGINT, SAR, & NBC detecting payloads and weapons integration. Marine Corps RDTE funding for STUAS/Tier II UAS is in PE 0206313M.

FY2008 funding totals do not include \$23.5M previously requested for current FY2008 GWOT requirements.

Congressional Adds. (FY07)

Advanced Airship Flying Laboratory

Capability studies for development of a modernized naval airship featuring contemporary composited, digital flight controls, vectored thrust and remote piloted capabilities that can provide immediate utility for missions requiring heavy lift (logistics and/or sensor suites), long endurance (measured in days vs. hours), and persistent Intelligence, Surveillance, and Reconnaissance (ISR).

UAV Payload-NBC Detection

Naval UAV Payload effort to be used only for the continuation of an industry-based research program for lightweight low power Nuclear, Chemical and Biological (NBC) sensors and isotope identification techniques utilizing Micro-Electro-Mechanical systems (MEMS) technology and innovative detection devices to identify airborne chemical/biological threats and hazardous materials.

UAS Tactical Control System Open Architecture

This initiative includes the open systems migration of unique military standard sensors, electronics, and software system components to lower cost/higher performance commercial equivalent capabilities.

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0305204N, TACTICAL UNMANNED AERIAL VEHICLES	

Joint Strike Fighter (JSF)
Innovative technology for an open architecture JSF/F/A-18 E/F core processor. This initiative includes the open systems migration of unique military standard sensors, electronics, and software system components to lower cost/higher performance commercial equivalent capabilities.

Congressional Adds. (FY08)

UAS Tactical Control System Open Architecture
This initiative includes the open systems migration of unique military standard sensors, electronics, and software system components to lower cost/higher performance commercial equivalent capabilities.

Micro-munitions Interface for Tactical Unmanned Systems
This initiative is to develop an interface between Unmanned Air Systems (UAS) and micro-munitions, defined as weapons weighing less than 100 pounds. Integration of micro-munitions onto UASs requires a stores/weapons management interface that provides a safe and effective integration between the weapon and the unmanned system.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	119.098	50.185	22.393
Current President's Budget:	120.293	56.787	45.717
Total Adjustments	1.195	6.602	23.324
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.005	-0.398	
Congressional Increases	1.200	7.000	
Economic Assumptions			-0.021
Miscellaneous Adjustments			23.345
Subtotal	1.195	6.602	23.324

Schedule:

TCS - IOC moved from 4Q FY2008 to 1Q FY2009 to align with VTUAV and LCS. Integration with VTUAV and software support for VTUAV moved to align with IOC change. Added additional detail regarding Software Update versions.

VTUAV - MS C and LRIP I contract award moved to 3Q FY2007 to support processing of Capability Production Document (CPD) in accordance with Joint Capabilities Integration & Development System IOC moved from 4Q FY2008 to 1Q FY2009 to support LCS schedule adjustments. IOC is predicated on completion of operational test aboard LCS. 1Q FY2009 is within the VTUAV APBA trade space for IOC. Added multi-mode radar sensor integration effort in FYs 2009 through 2011, and radar T&E in FY2011. LRIP II moved to 2Q of FY2008.

STUAS/Tier II UAS - Schedule adjusted to reflect change in scope of program. Program now funded for Increment 0 and Increment 1, and associated tasks scheduled. Increment 0 Milestone B, Milestone C, and IOC realigned. Increment 1 milestones established.

Technical:
Not applicable

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EXHIBIT R-2a, RDT&E Project Justification						DATE:	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME	
RDT&E,N / BA-7			0305204N, TACTICAL UNMANNED AERIAL VEHICLES			2478, TCS	
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2478 TCS			13.848	9.330	8.844	8.957	9.408
RDT&E Articles Qty							

February 2008

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. 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 (C4ISR) interfaces, and Command and Control of Naval Unmanned Air Systems (UASs). Interoperability across the Naval UAS Family of Systems (FoS) is achieved through use of TCS software operating on Ground Control Station hardware utilizing a NATO STANAG-4586 architecture communicating across a Tactical Common Data Link.

TCS provides a full range of scaleable 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, and incorporate NATO STANAG-4586 and C4I enhancements.

TCS software will be incorporated into the Vertical Take-off and Landing Unmanned Air Vehicle (VTUAV) system, which will IOC in 1Q FY09. TCS software addresses VTUAV 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 obsolescence. TCS software is interoperable, and is compliant with the OSD Command and Control, Communications, Intelligence (C3I) Joint Technical Architecture, and Distributed Common Ground System standards, and NATO standards.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

TCS DEVELOPMENT AND INTEGRATION	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	11.699	7.983	7.643
RDT&E Articles Qty			

Continue TCS integration with VTUAV development. Continue new TCS capabilities to support requirements for Littoral Combat Ship (LCS) integration. Continue TCS NATO STANAG 4586 compliance. Continue TCS Command and Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) interface testing for VTUAV required C4ISR systems. Complete multi-vehicle UAS control through FY2008.

TECHNICAL AND ENGINEERING SERVICES	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.149	1.347	1.201
RDT&E Articles Qty			

Continue government engineering support, contractor support, program support, and travel for the TCS program.

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N, TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 2478, TCS
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C. OTHER PROGRAM FUNDING SUMMARY:
Not Applicable

FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 FY 2012 FY 2013 To Complete Total Cost

D. ACQUISITION STRATEGY:

The TCS program continues under the FY04 Congressionally-directed restructure of the program to focus on Navy requirements and standards based on interoperability. Navy requirements for TCS include supporting fielding of the Navy Vertical Take-off and Landing Tactical Unmanned Aerial Vehicle (VTUAV) aboard the Littoral Combat Ship (LCS), addition of plug-and-play payloads, and implementation of NATO Standardization Agreement for Standard Interfaces of UAV Control System for NATO UAV Interoperability (STANAG 4586).

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0305204N, TACTICAL UNMANNED AERIAL VEHICLES				PROJECT NUMBER AND NAME 2478, TCS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Award Fees	C/CPAF	RAYTHEON COMPANY, FALLS CHURCH	7.445	.897	11/06	.500	11/07	.431	11/08	1.344	10.617	10.617
Primary Hdw Development	C/CPAF	RAYTHEON COMPANY, FALLS CHURCH	89.400	10.802	11/06	7.453	11/07	7.182	11/08	28.730	143.567	143.567
SUBTOTAL PRODUCT DEVELOPMENT			96.845	11.699		7.953		7.613		30.074	154.184	

Remarks:Numbers may not add due to rounding.

SUPPORT												
SUBTOTAL SUPPORT												

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	VARIOUS	1.200			.030	11/07	.030	11/08	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			1.200			.030		.030				

Remarks:

MANAGEMENT												
Contractor Eng Sup	VARIOUS	VARIOUS	1.235	.500	11/06	.391	11/07	.407	11/08	Continuing	Continuing	
Government Eng Sup	WX	VARIOUS	6.087	1.259	11/06	.580	11/07	.330	11/08	Continuing	Continuing	
Program Mgmt Sup	VARIOUS	VARIOUS	2.379	.340	11/06	.326	11/07	.419	11/08	Continuing	Continuing	
Travel	TO	NAVAIR, PAXTUXENT RIVER MD	.048	.050	11/06	.050	11/07	.045	11/08	Continuing	Continuing	
SUBTOTAL MANAGEMENT			9.749	2.149		1.347		1.201				

Remarks:

Total Cost			107.794	13.848		9.330		8.844		Continuing	Continuing	
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Remarks:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0305204N, TACTICAL UNMANNED AERIAL VEHICLES			PROJECT NUMBER AND NAME 2768, VTUAV			
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2768 VTUAV			100.000	32.752	9.651	26.246	4.995	1.329	1.358
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Vertical Take-Off and Landing Tactical Unmanned Air Vehicle (VTUAV; MQ-8B; popular name 'Fire Scout) 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 VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting, laser designation and battle management (including communications relay). The VTUAV 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, and the incorporation of an electro-optical/infrared laser designator-laser range finder modular mission payload. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the groundcontrol station, and through the use of the Tactical Common Data Link (TCDL). The data from the VTUAV will be provided through standard DoD Command, Control, Communications, Computers and Intelligence, Surveillance, and Reconnaissance (C4ISR) system architectures and protocols.

A VTUAV system is comprised of air vehicles, electro-optical/infrared/laser designator-rangefinder payloads, Ground Control Stations (with TCS and TC DL integrated for interoperability), and a UAV Common Automatic Recovery System (UCARS) for automatic take-off and landings, and associated spares and support equipment. The VTUAV system will support Surface Warfare, Mine Interdiction Warfare, and Anti-Submarine Warfare mission modules while operating onboard LCS, and system procurement is tied to mission modules supporting LCS, vice sea frames. A limited number of land-based ground control stations supplement the system to support shore-based operations, such as predeployment or acceptance functional check flights. These land-based ground control stations will also support depot level maintenance/post-maintenance activities.

A program to continue development of the VTUAV to meet the Littoral Combat Ship (LCS) mission requirements was initiated in FY04. Program funding in FY08-10 includes efforts required to integrate the Coastal Battlefield Reconnaissance and Analysis (COBRA) payload, a mine detection sensor, under development by PMS-495. VTUAV development and testing activities will continue in FY09. Funding is also provided in FY09 to initiate integration of a multi-mode radar sensor.

The U.S. Army has selected the MQ-8B as their Class IV UAV for the Future Combat Systems (FCS). Coordination with the U.S. Army FCS Program is on-going to investigate the potential cost savings for both programs where system commonalities and common logistics support can be identified.

The VTUAV program received Milestone C approval in May 2007, authorizing Low Rate Initial Production (LRIP).

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

SD&D-HARDWARE AND SYSTEM DEVELOPMENT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	85.268	23.900	8.900
RDT&E Articles Qty			

Continue incremental procurement and integration of EMD MQ-8B Air Vehicles to support the Engineering and Manufacturing Development (EMD) program. Continue to completion EMD of the VTUAV system. Continue combined developmental and operational testing. Continue integration of the Coastal Battlefield Reconnaissance and Analysis (COBRA) payload. Begin integration of a multi-mode radar sensor.

ILS AND TRAINING SYSTEMS	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.450	3.061	
RDT&E Articles Qty			

Continue ILS, technical data, and training system development. Procurement of trainers and spares to support OPEVAL.

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N, TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 2768, VTUAV
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DEVELOPMENT TESTING	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.092	.407	.344
RDT&E Articles Qty			

Complete developmental testing of the VTUAV system. Continue combined developmental and operational testing, TECHEVAL, and planning for OPEVAL.

ENGINEERING AND TECHNICAL SERVICES	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	7.190	5.384	.407
RDT&E Articles Qty			

Continue engineering management, program technical management, and management support for the VTUAV system. These include transportation of system assets, fleet introduction team and program office personnel travel, and contract support services. Continue to support system development, system integration and test, and TECHEVAL.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN: 044300: 0305204N VTUAV	37.419	37.432	55.337	73.347	75.560	96.345	102.799	1,013.122	1,491.361
APN Initial Spares: 060510: 0305204N VTUAV	5.843	1.118	6.914	0.490	0.501	0.767	0.784	90.842	107.259

D. ACQUISITION STRATEGY:

Continue with the VTUAV EMD program. Design and develop an improved system initiated in FY04 to support the Littoral Combat Ship Program. Achieved Milestone C in 3Q FY2007. FRP and IOC will follow completion of OPEVAL.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0305204N, TACTICAL UNMANNED AERIAL VEHICLES				PROJECT NUMBER AND NAME 2768, VTUAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	C/CPFF	NORTHROP GRUMMAN SYSTEMS CORPORATIO	286.704	85.268	11/06	23.900	11/07	8.900	11/08	30.935	435.707	435.707
SUBTOTAL PRODUCT DEVELOPMENT			286.704	85.268		23.900		8.900		30.935	435.707	

Remarks: Numbers may not add due to rounding.

SUPPORT												
Integrated Logistics Sup	VARIOUS	VARIOUS	16.223	4.450	11/06	3.061	11/07				23.734	
SUBTOTAL SUPPORT			16.223	4.450		3.061					23.734	

Remarks: Numbers may not add due to rounding.

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD	4.701								4.701	
Dev Test & Eval	VARIOUS	VARIOUS	.686	.986	11/06	.407	11/07			1.014	3.093	
Oper Test & Eval	WX	NAWCAD, PATUXENT RIVER MD						.080	11/08		.080	
Oper Test & Eval	WX	NAWCWD, CHINA LAKE CA						.264	11/08	1.027	1.291	
SUBTOTAL TEST & EVALUATION			5.387	.986		.407		.344		2.041	9.165	

Remarks: Numbers may not add due to rounding.

MANAGEMENT												
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD	21.920	7.063	11/06	3.482	11/07	.357	11/08	.934	33.756	
Program Mgmt Sup	VARIOUS	NAWCAD, PATUXENT RIVER MD	17.639	2.183	11/06	1.852	11/07				21.674	
Travel	TO	NAVAIR, PAXTUXENT RIVER MD	.617	.050	10/06	.050	10/07	.050	10/08	.200	.967	
SUBTOTAL MANAGEMENT			40.176	9.296		5.384		.407		1.134	56.397	

Remarks: Numbers may not add due to rounding.

Total Cost			348.490	100.000		32.752		9.651		34.110	525.003	
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Remarks: Numbers may not add due to rounding.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE:		
APPROPRIATION/BUDGET ACTIVITY					PROJECT NUMBER AND NAME		
RDT&E,N / BA-7					0305204N, TACTICAL UNMANNED AERIAL VEHICLES 2768, VTUAV		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones							
Milestone C	3Q						
COBRA Integration	3Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q			
Studies & Analysis		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Initial Operational Capability (IOC)			1Q				
Full Rate Production (FRP)			1Q				
Radar Sensor Integration			1Q-4Q	1Q-4Q	1Q-4Q		
VTUAV EMD (MQ-8B)	1Q-4Q	1Q-3Q					
Test & Evaluation Milestones							
IT-C-I	1Q-4Q	1Q-2Q					
IT-C-2A		2Q-4Q					
OT-C-I		4Q	1Q-2Q				
IT-D-1			1Q-4Q				
COBRA T&E				1Q-3Q			
Radar T&E					2Q-4Q		
Production Milestones							
EMD MQ-8B Air Vehicles contract award	1Q						
LRIP I MQ-8B Air Vehicles contract award	3Q						
LRIP II MQ-8B Air Vehicles contract award		2Q					
FRP contract awards (I-V)			1Q	1Q	1Q	1Q	1Q
Delivery							
Air Vehicles -- FY07 LRIP			2Q-3Q				
Air Vehicles -- FY08 LRIP			4Q	1Q-2Q			
Air Vehicles -- FRP I				3Q-4Q	1Q		
Air Vehicles -- FRP II					3Q-4Q	1Q-2Q	
Air Vehicles -- FRP III						3Q-4Q	1Q-2Q
Air Vehicles -- FRP IV							3Q-4Q

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N, TACTICAL UNMANNED AERIAL VEHICLES			PROJECT NUMBER AND NAME 2910, JOINT TECH CENTER/SYSTEMS INTEG LAB			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2910 JOINT TECH CENTER/SYSTEMS INTEG LAB		1.664	1.679	1.724	1.747	1.784	1.822	1.863
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a center of technical excellence to support all Unmanned Air Vehicle (UAV) programs within the services. The mission includes Service-specific and Joint Command, Control, Communications, Computers and Intelligence, Surveillance, and Reconnaissance (C4ISR) programs throughout DoD. The JTC/SIL provides a Government test bed for rapid prototyping, technology insertion and transition, systems engineering, modeling/simulation, training and Command and Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) optimization. The cornerstone of JTC/SIL's diverse tool set is the Multiple Unified Simulation Environment (MUSE), which is the Department's simulation/training system of choice for ISR systems, sensors, and platforms.

The Services and Warfighting Commanders have a requirement for the capability to train with a system that provides a real-time simulation environment containing multiple intelligence systems that can be integrated with larger force-on-force simulations. The MUSE creates a realistic operational environment which supports the ability to assess military utility, architecture and CONOPS development, Tactics, Techniques, and Procedures (TTP) development and refinement, conduct emerging concepts experimentation, and C4ISR optimization within warfighting exercises and experiments. It is the only simulation system used by the Combat Commanders and Joint Services to support command and battle staff C4ISR training; there is no alternative available to satisfy those requirements.

The MUSE also creates a realistic operational environment that supports an embedded training capability for multiple Program Managers; tools to minimize acquisition and life cycle cost and schedule impacts; the ability to conduct emerging concepts experimentation, future systems exploration, systems integration, and technology insertion; applications for Joint and Service-specific warfighting exercises; and C4ISR optimization.

MUSE is currently in use within all services and unified commands simulating Predator, Global Hawk, Hunter, Shadow 200, and MCTUAS UAVs, national and commercial satellite collectors, P-3, and the U-2. During warfighting exercises, the JTC/SIL integrates imagery simulations with associated C4ISR systems to support execution of critical imagery processes. For those assets normally not available for training, the JTC/SIL provides surrogate systems and interfaces. Distributed training environments, virtually linking participants from various locations worldwide, are routinely supported within the MUSE architecture. The MUSE is also used as a mission rehearsal tool for current, on-going military combat operations.

Additionally, the JTC/SIL supports a range of materiel developers, integrating prototypes and trainers into the C4ISR and training environments of supported units. The Tactical UAV (TUAV) ground station developed by the JTC/SIL includes an embedded MUSE trainer, and is planned to be incorporated into the VTUAV Ground Control Station (GCS). Interim training capabilities for the Tactical Exploitation System (TES) are currently employed in the joint exercises.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

MUSE DEVELOPMENT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.830	.830	.851
RDT&E Articles Qty			

MUSE Development - Continue development of VTUAV model, continued Common Trainer for current platforms, continue to provide C4ISR simulation support to major exercises and demonstrations, complete integration of Tactical Exploitation of National Capabilities (TENCAP) simulation into PC-based MUSE, complete development of virtual Signals Intelligence (SIGINT) platform, continue development of Laser Designator capability, continue upgrade for National Space Assets Enhancements, continue C4I Enhancements, continue initial Fixed Target Damage simulation.

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N, TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 2910, JOINT TECH CENTER/SYSTEMS INTEG LAB
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ENGINEERING AND MAINTENANCE	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.500	.500	.500
RDT&E Articles Qty			

Maintenance, Licenses and Equipment Purchases includes the day-to-day maintenance of lab equipment, license maintenance and license renewals from vendors for individual pieces of equipment, purchases of equipment to support the MUSE, and purchases to upgrade the MUSE capability.

PROGRAM MANAGEMENT SUPPORT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.334	.349	.373
RDT&E Articles Qty			

Laboratory Sustainment includes government management, contracts administration, cost accounting, configuration management, administrative support of the lab, MUSE architecture development, property management/accountability, and procurement of equipment.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Not Applicable									

D. ACQUISITION STRATEGY:
Not Applicable

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0305204N, TACTICAL UNMANNED AERIAL VEHICLES				2910, JOINT TECH CENTER/SYSTEMS INTEG LAB						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	MIPR	USA, REDSTONE ARSENAL AL	4.294	.830	11/06	.830	11/07	.851	11/08	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT			4.294	.830		.830		.851		Continuing	Continuing	

Remarks:

SUPPORT												
Develop Support Equip	MIPR	USA, REDSTONE ARSENAL AL	2.900	.500	11/06	.500	11/07	.500	11/08	Continuing	Continuing	
SUBTOTAL SUPPORT			2.900	.500		.500		.500		Continuing	Continuing	

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												

Remarks:

MANAGEMENT												
Government Eng Sup	MIPR	USA, REDSTONE ARSENAL AL	1.600	.334	11/06	.349	11/07	.373	11/08	Continuing	Continuing	
SUBTOTAL MANAGEMENT			1.600	.334		.349		.373		Continuing	Continuing	

Remarks:

Total Cost			8.794	1.664		1.679		1.724		Continuing	Continuing	
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Remarks:

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME										
RDT&E, N / BA-7										0305204N, TACTICAL UNMANNED AERIAL VEHICLES										2910, JOINT TECH CENTER/SYSTEMS INTEG LAB										
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Acquisition Milestones																														
Test & Evaluation Milestones																														
Provide MUSE Support to UAV developers																														

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N, TACTICAL UNMANNED AERIAL VEHICLES			PROJECT NUMBER AND NAME 3192, STUAS			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3192 STUAS			6.105	25.498	16.942	13.906	13.932	6.451
RDT&E Articles Qty				2				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Navy Small Tactical Unmanned Aircraft System (STUAS) / Tier II UAS

The Small Tactical Unmanned Aircraft System/Tier II Unmanned Aircraft System (STUAS/Tier II) is a new start program that will provide persistent Intelligence, Surveillance, and Reconnaissance/Target Acquisition (ISR/TA) support for tactical level maneuver decisions and unit level force defense/force protection for Naval ships (multi-ship classes) 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. A notional system may include three air vehicles, one ground station, multi-mission (plug & play) payloads, and associated launch, recovery, and support equipment. This system will support Naval missions such as building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and support of Naval units operating from sea/shore in the Global War on Terrorism. This system will also support Marine Corps missions such as close range UAS, enabling enhanced decision-making and improved integration with ground schemes of maneuver. The STUAS/Tier II UAS system will continue to evolve and upgrade capabilities to satisfy capability shortfalls, new requirements, and reliability, maintainability, and safety issues. Upgraded capabilities may include MAGTF and Navy C2 integration, a common control station with other UASs, SIGINT, SAR, & NBC detecting payloads and weapons integration.

The STUAS and Tier II programs were combined at the direction of ASN RDA in Jul 2006. The combined program is funded through separate USN and USMC Program Elements. Marine Corps RDTEN funding is in PE 0206313M. STUAS / Tier II UAS is a new start program in FY08.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

SDD DEVELOPMENT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			20.100
RDT&E Articles Qty			2

Award contract to initiate the System Development Demonstration (SDD) efforts for the STUAS / Tier II UAS program. The Prime System Contractor will be responsible for overall system development and performance as well as associated management, engineering and logistics activities.

ENGINEERING AND TECHNICAL SERVICES	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		6.105	5.398
RDT&E Articles Qty			

Government Technical Engineering Support, Logistics Support, Contractor Support Services, Program Management Support and travel.

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N, TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 3192, STUAS
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C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total Cost
APN: 044400: 0305204N STUAS				10.099	9.109	9.511	6.048		34.767
APN Initial Spares: 060510: 0305204N STUAS				1.032	2.137	2.107	1.266		6.542
OPN: 4272 Support Equipment STUAS				8.575	4.542	4.029	4.016		21.162
PMC: 464000, Tier II UAS				20.305	9.513	18.858	15.757		Continuing
RDT&E ,N: 0206313M, Proj C2273 TIER II UAS		5.742	13.616	9.642	5.150	3.378	1.865		Continuing

D. ACQUISITION STRATEGY:

STUAS will use an evolutionary acquisition strategy. Increasing capability will be fielded in Increments. Increments 0 and 1 are funded in this FYDP. An open competition will be conducted for the fulfillment of the requirement. Increment 0 Milestone B decision is scheduled for 1Q FY09. Increment 0 Milestone C and LRIP decision is scheduled for 2Q FY10. Marine Corps IOC is 2Q FY11, and Navy IOC is 4Q FY11.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0305204N, TACTICAL UNMANNED AERIAL VEHICLES				3192, STUAS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total P Y s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	CPFF	TBD						20.100	11/08	48.600	68.700	68.700
SUBTOTAL PRODUCT DEVELOPMENT								20.100		48.600	68.700	

Remarks:

SUPPORT												
Integrated Logistics Sup	WX	TBD						.940	11/08	Continuing	Continuing	
SUBTOTAL SUPPORT								.940				

Remarks:

TEST & EVALUATION												
Dev Test & Eval	TBD	TBD						1.102	11/08	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION								1.102				

Remarks:

MANAGEMENT												
Contractor Eng Sup	TBD	VARIOUS				1.310	12/07	.450	11/08	Continuing	Continuing	
Government Eng Sup	WX	VARIOUS				3.500	12/07	1.559	12/08	Continuing	Continuing	
Program Mgmt Sup	TBD	VARIOUS				1.260	01/08	1.312	12/08	Continuing	Continuing	
Travel	TO	NAVAIR HQ, Patuxent River. MD				.035	10/07	.035	10/08	Continuing	Continuing	
SUBTOTAL MANAGEMENT						6.105		3.356				

Remarks:

Total Cost						6.105		25.498		Continuing	Continuing	
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Remarks:

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EXHIBIT R4, Schedule Profile																				DATE: February 2008												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7								PROGRAM ELEMENT NUMBER AND NAME 0305204N, TACTICAL UNMANNED AERIAL VEHICLES								PROJECT NUMBER AND NAME 3192, STUAS																
Fiscal Year	2007				2008				2009				2010				2011				2012				2013							
	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				
Increment 0									△ MS B						△ MS C						☆ Marine IOC	☆ Navy IOC										
Pre-Milestone Activities																																
SDD Activities									△ CA	▽ SRR	▽ CDR																					
Test & Evaluation											△ DT/OT			△ OPEVAL																		
LRIP													△ LRIP CA																			
FRP																	△ FRP I CA			△ FRP II CA			△ FRP III CA									
Increment 1													△ MS B																			
Pre-Milestone Activities																																
SDD Activities									△ CA																							
Test & Evaluation																					△ DT/OT											
LRIP																									△ CA							
Production Deliveries																																
Marine Corps																																
Navy																																

Acronyms:
 FRP DR: Full Rate Production Decision Review
 IOC: Initial Operational Capability
 SDD: System Development & Demonstration
 CA: Contract Award
 SRR: System Requirements Review
 CDR: Critical Design Review
 CT: Combined Testing
 DT: Developmental Testing
 OT: Operational Testing
 OPEVAL: Operational Evaluation
 LRIP: Low Rate Initial Production

R-1 Line Item No. 198

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Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&E,N / BA-7	0305204N, TACTICAL UNMANNED AERIAL VEHICLES				3192, STUAS		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones							
Increment 0							
Pre-Milestone Activities		1Q-4Q	1Q				
Milestone B			1Q				
System Development & Demonstration (SDD) Activities			1Q-4Q	1Q-2Q			
Contract Award (CA)			1Q				
System Requirements Review (SRR)			2Q				
Critical Design Review (CDR)			3Q				
Test & Evaluation			3Q-4Q	1Q,3Q-4Q	1Q		
Development Testing (DT) / Operational Testing (OT)			3Q-4Q	1Q			
Operational Evaluation (OPEVAL)				3Q-4Q	1Q		
Milestone C				2Q			
Low Rate Initial Production (LRIP)				2Q-4Q	1Q-4Q		
LRIP CA				2Q			
Full Rate Production Decision Review (FRP DR)					2Q		
Full Rate Production (FRP)					2Q-4Q	1Q-4Q	1Q-4Q
FRP I CA					2Q		
FRP II CA						1Q	
FRP III CA							1Q
Marine Initial Operational Capability (IOC)					2Q		
Navy Initial Operational Capability (IOC)					4Q		
Increment 1							
Pre-Milestone Activities		4Q	1Q-4Q	1Q			
Milestone B				1Q			
SDD Activities				1Q-4Q	1Q-4Q	1Q-4Q	1Q
Contract Award (CA)				1Q			
Test & Evaluation					4Q	1Q-4Q	3Q-4Q
Development Testing (DT) / Operational Testing (OT)					4Q	1Q-4Q	
Operational Evaluation (OPEVAL)							3Q-4Q
Milestone C							1Q
Low Rate Initial Production (LRIP)							2Q-4Q
LRIP CA							2Q
Production Deliveries							
Marine Corps				4Q	1Q,4Q	1Q-4Q	1Q-4Q
Navy				4Q	1Q-4Q	1Q-4Q	1Q-4Q

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 9999 Congressional Adds

B. Accomplishments/Planned Program

9650C ADVANCED AIRSHIP FLYING LABORATOR	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.996		
RDT&E Articles Quantity			

Advanced Airship Flying Laboratory. Continue the development of new technologies to advance modern airships, such as digital automated flight controls, bow thrusters, and heavy fuel engines. Government Engineering Support, contractor support services, and travel.

9B02N NBC Payload Detection	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.594		
RDT&E Articles Quantity			

Develop an NBC Payload Detection for Small Tactical UAV. Develop integration and test plans for the NBC Payload. Execute the flight test program and report results. Government Engineering Support, contractor support services, and travel.

9B03N TCS Open Architecture	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.996	2.966	
RDT&E Articles Quantity			

Develop and accelerate Open Architecture Technology Insertion solution. Government Engineering Support, contractor support services, and travel.

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EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 9999 Congressional Adds
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B. Accomplishments/Planned Program Continued:

2261C Joint Strike Fighter (JSF)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.195		
RDT&E Articles Quantity			

Develop and accelerate Open Architecture Technology insertion solution. Government engineering support, contractor support services, and travel.

XXXX Micro-munitions Interface for Tactical UAS	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		3.955	
RDT&E Articles Quantity			

Develop an interface between Unmanned Air Systems and micro-munitions, defined as weapons weighing less than 100 pounds. Government engineering support, contractor support services, and travel.

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0305205N Endurance Unmanned Aerial Vehicles			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		26.238	121.315	480.098	557.037	462.773	383.737	279.193
4020 BAMS UAS		26.238	115.915	480.098	557.037	462.773	383.737	279.193
9999 CONGRESSIONAL ADDS			5.400					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program element provides for the development of endurance type Unmanned Aerial Vehicles (UAV) and systems that will provide warfighters with a persistent Intelligence, Surveillance and Reconnaissance (ISR) capability. NOTE: The DoD Unmanned Aircraft System (UAS) Roadmap introduced the standardized term "UAS" to replace the term "UAV", reflecting the fact that the unmanned aircraft is part of a system that includes ground control and other components.

Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS)

The BAMS UAS, which is an adjunct to the P-8A Multi-Mission Maritime Aircraft (MMA) / P-3, is integral in recapitalizing the Navy's Maritime Patrol and Reconnaissance Force. BAMS UAS will play a significant role in the Sea Shield and FORCENet pillars of Sea Power 21. In its Sea Shield role, BAMS UAS on-station time and range enables unmatched awareness of the maritime battlespace by sustaining the common operational tactical picture (COTP) for Surface Warfare (SUW) and the Global War on Terrorism (GWOT). The system will serve as a Fleet Response Plan enabler while acting as a trip wire for Intelligence Preparation Of the Environment (IPOE).

BAMS UAS will include an endurance-class UAS that will operate from land-based sites around the world. Sufficient unmanned aircraft at each operating location will provide persistent maritime ISR by being airborne 24 hours a day, 7 days a week out to ranges of 2,000 nautical miles. Worldwide access will be achieved by providing coverage to nearly all the world's high-density sea-lanes, littorals and areas of national interest from its operating locations. Because BAMS UAS and the MMA/P-3 have related complementary missions, it is intended that BAMS UAS will leverage the Maritime Patrol and Reconnaissance Forces (MPRF) community to enhance manpower, training and maintenance efficiencies.

BAMS UAS sensors will provide detection, classification, tracking and identification of maritime targets. Anticipated sensors to fulfill mission requirements include maritime radar, electro-optical/infrared (EO/IR) and Electronic Support Measures (ESM) systems. Additionally, BAMS UAS will have a communications relay capability linking dispersed forces in the theater of operation and serving as a node in the Navy's FORCENet strategy. The BAMS UAS will support the Fleet Commander's common operational tactical picture (COTP) of the battlespace, day and night. The UAS will cue other Navy assets for further situational investigation and/or attack, and will also provide battle damage assessment of the area of interest. Tactical-level data analysis will occur in real-time at shore-based Mission Control Systems via satellite communications. Further intelligence exploitation can be conducted at shore-based sites or aboard Carrier Vessel Nuclear (CVN) / Landing Helicopter Dock (LHD) ships.

Congressional Adds (FY08)

Advanced Airship Flying Laboratory

The Advanced Airship Flying Laboratory provides an airship-based capability to develop, test and demonstrate airborne mission systems equipment (Command, Control, Communications, Computers and Intelligence (C4I) and Infrared Search and Track (IRST)). Allows studies for development of a modernized naval airship featuring contemporary composited, digital flight controls, vectored thrust and remote piloted capabilities.

Coastal Airship Surveillance Demonstrator

The Coastal Airship Surveillance Demonstrator funding will be used to operate, demonstrate and assess the capabilities of an airship to perform the coastal surveillance and intelligence-gathering mission.

Skybus 80k and 130k LTA-UAS Multirole Technologies

Development, test, design and build of the Skybus 80K will provide a platform to evaluate airship capability in performing multirole, persistent ISR and long-dwell missions in both hostile and non-threatening environments.

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EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0305205N, Endurance Unmanned Aerial Vehicles
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B. PROGRAM CHANGE SUMMARY:

Funding:	FY 07	FY 08	FY 09
Previous President's Budget:	26.238	116.666	480.323
Current BES Budget:	26.238	121.315	480.098
Total Adjustments	0.000	4.649	-0.225

Summary of Adjustments

Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions		-0.751	
Congressional Increases		5.400	
Economic Assumptions			-0.114
Miscellaneous Adjustments			-0.111
Subtotal	0.000	4.649	-0.225

Schedule:

MS B realigned from 4Q FY07 to 2Q FY08 to match source selection / DAB schedule. In conjunction, SDD CA, SRR, and SFR moved one quarter due to associated MS B change. EDM deliveries begin in 2Q FY11 vice 3Q FY11 in order to align with Airworthiness First Flight.

Technical:

Not applicable

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305205N, ENDURANCE UNMANNED AERIAL VEHICLES			PROJECT NUMBER AND NAME 4020, BAMS UAS			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
4020 BAMS UAS		26.238	115.915	480.098	557.037	462.773	383.737	279.193
RDT&E Articles Qty				2		4		

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Along with the Multi-Mission Maritime Aircraft (MMA) and the EPX (follow on to the EP-3), the BAMS UAS is integral in recapitalizing the Navy's Maritime Patrol and Reconnaissance Force. Specifically, the BAMS UAS is intended to provide persistent, tactical airborne Intelligence, Surveillance and Reconnaissance (ISR) support to the Joint / Coalition Force Maritime Component Commander, including Navy Strike Groups (Carrier, Expeditionary and Surface). BAMS UAS addresses a unique capability gap in the Joint Force's ability to provide persistent, tactical-level ISR support to maritime commanders in the maritime environment. However, it is anticipated that the mission payloads which will be integrated with the system will support other Joint Force missions as needed. Within the Navy's Sea Power 21 concept, BAMS UAS will play a significant role in the Sea Shield and FORCEnet pillars. In its Sea Shield role, BAMS UAS on-station time supports the maritime commander's awareness of the maritime battlespace by sustaining the maritime Common Operational Tactical Picture (COTP) for Surface Warfare (SUW). In its FORCEnet role, BAMS UAS will conduct Intelligence Preparation Of The Environment (IPOE) and Maritime Domain Awareness (MDA) missions supporting the Global War on Terrorism (GWOT), Maritime Homeland Defense (MHL) and Surface Warfare (SUW). The Navy intends to rely on unmanned aircraft to execute persistent ISR, saving service life on its future manned patrol and reconnaissance aircraft by using BAMS UAS as a trip wire to enable the Fleet Response Plan (FRP).

BAMS UAS will include an endurance-class UAS that will operate from land-based sites around the world. Sufficient unmanned aircraft at each operating location will provide persistence by being airborne 24 hours a day, 7 days a week out to ranges of 2,000 nautical miles. Worldwide access will be achieved by providing coverage to nearly all the world's high-density sea-lanes, littorals and areas of national interest from its operating locations. Because BAMS UAS, the MMA/P-8A and the EPX have related, complementary missions, it is intended that BAMS UAS will leverage the Maritime Patrol Reconnaissance Forces (MPRF) community to enhance manpower, training and maintenance efficiencies.

BAMS UAS sensors will provide detection, classification and identification of maritime targets. Anticipated sensors to fulfill mission requirements include maritime radar, electro-optical/infrared (EO/IR) and Electronic Support Measures (ESM) systems. Additionally, BAMS UASs will have a communications relay capability linking dispersed forces in the theater of operation and serving as a communications node in the Navy's FORCEnet strategy. The UAS will support the Fleet Commander's common operational tactical picture of the battlespace day and night. It will cue other Navy assets for further situational investigation and/or attack, and also will provide battle damage assessment. Tactical data analysis will occur in real-time at shore-based Mission Control Systems via satellite communications. Further intelligence exploitation can be conducted at shore-based sites or aboard Carrier Vessel Nuclear (CVN) / Landing Helicopter Dock (LHD) ships.

The BAMS UAS will be 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, System Development and Demonstration (SDD) contract preparation, and Milestone B documentation development activities. Milestone B is planned for 2Q FY 2008 and SDD award in 2Q FY 2008. The SDD contract will be based on a competitive selection process for a Prime Contractor.

Two Mission Need Statements (MNSs) support the requirement; 1) BAMS and Littoral Armed ISR MNS, and 2) Long Endurance, Reconnaissance, Surveillance and Target Acquisition (RSTA) Capability MNS. The BAMS UAS Capabilities Development Document (CDD) was approved May 2007 by the Joint Requirements Oversight Council (JROC).

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305205N, ENDURANCE UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 4020, BAMS UAS

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

SD&D CONTRACT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		96.446	458.856
RDT&E Articles Qty			2

Award contract in FY08 to initiate the System Development Demonstration (SDD) efforts for the BAMS UAS program in 2Q FY 2008. Continue SDD in FY09. The Prime Contractor will be responsible for overall system development and performance, as well as associated management, engineering and logistics activities.

SENSORS, AND MODELING & SIMULATION	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.900	3.494	2.561
RDT&E Articles Qty			

Continue sensor risk reduction, modeling & simulation, integrated logistics support, and development of technical data to support fielding of the BAMS UAS capabilities.

ENGINEERING AND TECHNICAL SERVICES	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	21.338	15.975	16.141
RDT&E Articles Qty			

Continue the following: Contractor Support Services; Program Management Support and travel; technical support teaming on systems trade studies; solicitation activities; development of milestone and acquisition-related documentation; capability refinement and open systems architecture development; metric development and tracking; affordability assessments and cost analyses; test and evaluation planning, modeling and simulation activities; logistics supportability analyses and environmental planning; development of manpower and basing assessments; risk reduction and risk management; system integration and interoperability planning; systems engineering and technology maturity reviews; program protection planning; corrosion prevention planning; anti-tamper provisioning planning; and Joint and International Cooperation efforts.

DEVELOPMENTAL TESTING	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			2.540
RDT&E Articles Qty			

Initiate developmental testing to support fielding of the BAMS UAS.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN 044200 BAMS UAV	0	0	0	0	20.003	363.771	359.813	Cont	Cont
APN Initial Spares: 060510 BAMS UAV	0	0	0	0	0	16.538	18.637	Cont	Cont

D. ACQUISITION STRATEGY:

The BAMS UAS will be 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, System Development and Demonstration (SDD) contract preparation, and Milestone B documentation development activities. Milestone B is planned for 2Q FY 2008 and SDD award in 2Q FY 2008. The SDD contract will be based on a competitive selection process for a Prime Contractor.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0305205N, ENDURANCE UNMANNED AERIAL VEHICLES				PROJECT NUMBER AND NAME 4020, BAMS UAS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hardware Development	C/CPAF	TBD				93.800	02/08	435.206	11/08	Continuing	Continuing	
Primary Hardware Development	Various	Various	16.469								16.469	
Ancillary Hardware Development	C/CPAF	TBD				2.646	02/08	23.650	11/08	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT			16.469			96.446		458.856		Continuing	Continuing	

Remarks: BAMS is currently conducting a competitive source selection. The Award Fee is being negotiated, and will not be determined until a contractor is selected in 2Q FY08. Due to the sensitivity of the award fee negotiations, an estimated award fee cannot be provided at this time.

SUPPORT												
Integrated Logistics Sup	WX	VARIOUS	4.148	1.245	11/06	1.470	11/07	1.550	11/08	Continuing	Continuing	
Studies & Analysis	VARIOUS	VARIOUS		3.655	11/06	2.024	11/07	1.011	11/08	Continuing	Continuing	
Studies & Analysis	MP	MASS INST TECH, CAMBRIDGE MA	.500								.500	
SUBTOTAL SUPPORT			4.648	4.900		3.494		2.561		Continuing	Continuing	

Remarks:

TEST & EVALUATION												
Developmental Test & Eval	VARIOUS	VARIOUS						2.540	11/08	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION								2.540		Continuing	Continuing	

Remarks:

MANAGEMENT												
Contractor Eng and Log Sup	VARIOUS	VARIOUS		2.972	11/06	1.944	11/07	2.140	11/08	Continuing	Continuing	
Government Eng and Log Sup	WX	VARIOUS	21.258	13.954	11/06	9.500	11/07	9.350	11/08	Continuing	Continuing	
Program Mgmt Sup	VARIOUS	VARIOUS	14.728	4.337	11/06	4.381	11/07	4.486	11/08	Continuing	Continuing	
Travel	TO	VARIOUS	.167	.075	10/06	.150	10/07	.165	10/08	Continuing	Continuing	
SUBTOTAL MANAGEMENT			36.153	21.338		15.975		16.141		Continuing	Continuing	

Remarks:

Total Cost			57.270	26.238		115.915		480.098		Continuing	Continuing	
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Remarks:

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE: February 2008																	
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME																						
RDT&E, N / BA-7									0305205N Endurance Unmanned Aerial Vehicles									4020, BAMS UAS																						
Fiscal Year	2007				2008				2009				2010				2011				2012				2013															
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4												
Acquisition Milestones						◆ MS B														◆ MS C																				
Contracting Activities	▲ Draft RFP	▲ Final RFP					▲ SDD CA													▲ LRIP 1 CA					▲ LRIP 2 CA					▲ LRIP 3 CA										
System Engineering Activities	Pre-Systems Acquisition						▲ SRR			▲ SFR				▲ PDR				▲ CDR							▲ Airworthiness First Flight															
Test & Evaluation Activities																	Integrated Test CT/DT/OT																							
	Acronyms: RFP: Request For Proposal SDD: System Development & Demonstration CA: Contract Award LRIP: Low Rate Initial Production SRR: System Requirements Review SFR: System Functional Review PDR: Preliminary Design Review CDR: Critical Design Review CT: Combined Testing DT: Developmental Testing OT: Operational Testing OPEVAL: Operational Evaluation EDM: Engineering Development Model																																							
System Deliveries																				▼ 1	▼ 1																			

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Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT 0305205N Endurance Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME 4020, BAMS UAS		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Pre-Systems Acquisition	1Q-4Q	1Q					
Draft Request for Proposal (RFP)	1Q						
Final Request for Proposal (RFP)	2Q						
Milestone B (MS-B)		2Q					
System Development & Demonstration award (SDD/CA)		2Q					
System Readiness Review (SRR)		3Q					
System Functional Review (SFR)			1Q				
Preliminary Design Review (PDR)			3Q				
Integrated Test CT/DT/OT			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Critical Design Review (CDR)				2Q			
Airworthiness First Flight					2Q		
SDD Engineering Development Model (EDM) delivery					2Q & 3Q		
Milestone C (MS-C)					4Q		
Low Rate Initial Production 1 (LRIP 1) CA					4Q		
Low Rate Initial Production 2 (LRIP 2) CA						3Q	
Low Rate Initial Production 3 (LRIP 3) CA							3Q
Low Rate Initial Production 1 (LRIP 1) Delivery							3Q-4Q
OPEVAL							4Q

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305205N Endurance Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME 9999 Congressional Adds		
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
9999 Congressional Adds			5.400				
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305205N Endurance Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME 9999 Congressional Adds

B. Accomplishments/Planned Program

Advanced Airship Flying Laboratory	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		2.000	
RDT&E Articles Quantity			

Advanced Airship Flying Laboratory. Continue the development of new technologies to advance modern airships, such as digital automated flight controls, bow thrusters, and heavy fuel engines. Government Engineering Support, contractor support services, and travel.

Coastal Airship Surveillance Demonstrator	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.600	
RDT&E Articles Quantity			

Develop and conduct Coastal Airship Surveillance demonstrations. Government Engineering Support, contractor support services, and travel.

Skybus 80k and 130k LTA-UAS Multirole Technologies	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.800	
RDT&E Articles Quantity			

Development and testing of the Skybus 80K and 130K. Government Engineering Support, contractor support services, and travel.

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
APPROPRIATION/BUDGET ACTIVITY						February 2008	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE	
						0305206N, AIRBORNE RECONNAISSANCE SYSTEMS	
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	43.191	59.337	55.719	26.405	26.711	27.177	27.929
2694 ADVANCED DIGITAL SENSORS	39.106	50.355	55.719	26.405	26.711	27.177	27.929
9999 CONGRESSIONAL ADD	4.085	8.982					

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Provides funds for the development of sensor systems to improve present airborne reconnaissance capabilities. The developments are driven by evolving collection requirements and modern 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 (ARITA). 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 (SPA) 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 (ACTDs), by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the Integrated Airborne Reconnaissance Strategy (IARS). These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTIPP), published in November 1994.

FY07 Congressional Add of \$4.2M is to implement Environment Cooling System (ECS) upgrades for JCC Spiral 3 Aircraft.
 FY08 Congressional Add of \$5.0M is to implement Environmental Cooling System (ECS) upgrades for JCC Spiral 3 Aircraft.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget:	38.991	50.677	55.761
FY2009 President's Budget:	43.191	59.337	55.719
Total Adjustments	4.200	8.660	-0.042

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions		-0.380	
Congressional Increases	4.200	9.040	
Economic Assumptions			-0.042
Miscellaneous Adjustments			
Subtotal	4.200	8.660	-0.042

1. FY2008 funding totals do not include \$11,000 previously requested for current FY2008 GWOT requirements.

Schedule:

JCC Contract Spiral 2 DT decision moved from 2nd Qtr FY07 to 4th Qtr FY07, due to longer than anticipated contract negotiations. This DT slip created a corresponding move in Spiral 2 OT from 3rd Qtr FY08 to 4th Qtr FY08. LRIP moved from 4th Qtr FY07 to 2nd Qtr FY08. FRP decision moved from 4th Qtr FY08 to 1st Qtr FY09.

Technical:

Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS			PROJECT NUMBER AND NAME 2694, ADVANCED DIGITAL SENSORS			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2694 ADVANCED DIGITAL SENSORS		39.106	50.355	55.719	26.405	26.711	27.177	27.929
RDT&E Articles Qty			1	1				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Provides funds for the development of sensor systems to improve present airborne reconnaissance capabilities fielded in both the EP-3E and P-3 Special Projects Aircraft (SPA) platforms. The developments are driven by evolving collection requirements and modern 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 (ARITA). The advanced sensor program includes technical analysis, systems engineering assessments, planning, and development for advanced airborne sensor systems. This effort focuses on developments which support sensor system interoperability and standardization of multi-Service and multi-platform applications. The EP-3E and Special Projects will undergo a series of incremental modifications via an evolutionary acquisition process which began in FY 2001. The advanced sensor developments described herein will provide the technology transition modules necessary for the overall migration of the airborne fleet to JASA, (i.e., sensors, ground systems, data links, and platforms), and provide the mechanism required for timely dissemination of intelligence information to operational forces.

FY05 began the integration of JMOD Common Configuration (JCC) into all EP-3 aircraft. These efforts carry forward the developments from prior years and continue the development efforts to ensure that EP-3 aircraft maintain their interoperability and relevance to emerging threats and changing technology. This funding provides for the development of the JCC capabilities and Spirals. The JCC baseline program builds on a common baseline with two spirals. Spiral 1 (ForceNet) includes high band and special collection subsystems (Story Finder, Multi-platform emitter geolocation (MPEG)) and data dissemination (Story Teller). Spiral 2 includes development of additional special collection signal capabilities and obsolescence upgrades.

In FY06 the JCC program was further restructured due to delays in the Aerial Common Sensor (ACS) recapitalization program. The restructure added an obsolescence evolution and a JCC Spiral 3 upgrade to maintain EP-3E mission system viability until recapitalization platform can be fielded (est. 2017 IOC, 2019 FOC). This funding supported the required development of the restructured JCC program. The program procured an Engineering Development Model (EDM) in FY06 for Developmental Testing (DT) of the Spiral 2 system in FY07 to support the system Low Rate Initial Production (LRIP) Decision in FY08. Spiral 3 includes signal exploitation, low-band direction finding, Remote Tuning Receivers, Integrated Information Operations (I/O) and Environment Control System (ECS) upgrades. The program will procure two (2) Spiral 3 Engineering Development Models (EDM). The first EDM will be procured in FY08 for Developmental Testing (DT) of the system in FY09 and the Low Rate Initial Production (LRIP) Decision and procurement in FY10. The second Spiral 3 EDM production representative asset will be procured in FY09 to support Operational Testing (OT) in FY10 and the Full Rate Production (FRP) Decision and procurement in FY11. Obsolescence, Quick Response Capabilities (QRCs) and technical refresh efforts will be accomplished in conjunction with the above JCC Spiral upgrades to sustain EP-3E capabilities and viability until recapitalization/replacement. Recapitalization Capabilities Migration (RCM) funds will ensure EP-3E relevance beyond FY20 and to develop follow-on capabilities to be migrated into the recap platform.

The Special Projects Modernization and Common Configuration Baseline (MCCB) program provides rapid insertion of new capabilities including improved communications, collection and analysis capabilities and weight reduction. Additionally, MCCB addresses technology refresh and obsolescence engineering. Most of the MCCB upgrades are based on stand-alone Government-Of-The-Shelf and Commercial-Of-The-Shelf (GOTS/COTS) systems.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Spiral 2 development collection signal	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	16.269	.862	.500
RDT&E Articles Qty: Not applicable			

Restructured Spiral 2 development includes, obsolescence and data fusion capabilities. Additional special collection signal capabilities, Data Fusion and MPEG frequency extension development.

Spiral 3 development RFD, DF, I/O, ECS	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	13.797	22.993	23.226
RDT&E Articles Qty		1	1

Spiral 3 development includes low-band Radio Frequency Distribution (RFD) and Direction Finding (DF) subsystem replacement, Remote Tuning Receivers, Intergrated Information Operations (I/O) and Environmental Control System (ECS) upgrades.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS	PROJECT NUMBER AND NAME 2694, ADVANCED DIGITAL SENSORS

Technical Refresh dev for obsolete sys	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.764	2.531	2.214
RDT&E Articles Qty: Not applicable			

The Technical Refresh development of replacement technology for obsolete and unsupportable collection and support mission systems.

Develop Spiral upgrades to collection subsys	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	8.276	7.034	7.813
RDT&E Articles Qty: Not applicable			

Imagery engineering investigations completed. Developed and demonstrated Special Projects Projects (SPA) Direction Finding (DF) upgrades for SP Systems Requirements Review (SRR). SPA Communications/Infrastructure updated. SPA Modernization and Common Configuration Baseline (MCCB) program. Develop Spiral upgrades to the special collections subsystem, data communications and infrastructure. Address technology refresh and obsolescence issues. Mission system weight reduction development.

QRC for emergent threat technology	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			2.500
RDT&E Articles Qty: Not applicable			

Quick Response Capabilities (QRC) are for development of capabilities to meet requirements for emergent threat technology.

EP-3E Recap capabilities migration	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		16.935	19.466
RDT&E Articles Qty: Not applicable			

Engineering development of EP-3E mission capabilities to be deployed and procured on the legacy platform for the future migration to follow-on recap platform to stay abreast of emergent threat technologies.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
0537, EP-3E Series	66.775	55.545	72.370	194.954	103.137	105.320	77.930	134.549	810.580
0567, Special Projects Aircraft	22.251	19.987	14.113	15.290	15.339	15.878	16.196	84.211	203.265

D. ACQUISITION STRATEGY:

Leverages/complements Air Force, Naval Research Laboratory, Office of Naval Research RDTE efforts for technology insertions into EP-3E/SPA production programs.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0305206N, AIRBORNE RECONNAISSANCE SYSTEMS				2694, ADVANCED DIGITAL SENSORS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Ancillary Hdw Dev - OBS	SS-CPFF	L-3 COM. INTEGRATED SYSTEMS WACO,TX				2.110	Jan 2008	1.670	Jan 2009		3.780	3.780
Ancillary Hdw Dev - OBS	SS-CPFF	VARIOUS	2.050								2.050	2.050
Ancillary Hdw Dev - QRC	SS-CPFF	TBD						2.350	Dec 2008		2.350	2.350
Ancillary Hdw Dev - RCM	C-CPFF	TBD				14.435	Jan 2008	16.966	Jan 2009		31.401	31.401
Ancillary Hdw Dev - SPA	SS-CPFF	ARGON ST, INC, FAIRFAX, VA	9.700	4.168	Dec 2006	1.100	Dec 2007	1.100	Dec 2008		16.068	16.068
Ancillary Hdw Dev - SPA	SS-CPFF	L-3 COM. INTEGRATED SYSTEMS WACO,TX	2.240			2.285	Dec 2007	2.375	Dec 2008		6.900	6.900
Ancillary Hdw Dev - SPA	SS-CPFF	VARIOUS	.948	.747	Jan 2007	.900	Dec 2007	.247	Dec 2008		2.995	2.995
Ancillary Hdw Dev - Spiral 2	SS-CPFF	L-3 COM. INTEGRATED SYSTEMS WACO,TX	9.167	13.671	Feb 2007						20.439	20.439
Ancillary Hdw Dev - Spiral 3	SS-CPFF	L-3 COM. INTEGRATED SYSTEMS WACO,TX		12.397	May 2007	18.103	Dec 2007	15.050	Dec 2008	10.500	57.707	57.707
Ancillary Hdw Dev - Spiral 3	SS-CPFF	RAYTHEON TECH SVCS, INDIANAPOLIS,IN	5.116								5.116	5.116
Primary Hdw Development	C-CPFF	TBD								108.991	108.991	108.991
SUBTOTAL PRODUCT DEVELOPMENT			29.221	30.983		38.933		39.758		119.491	257.797	

Remarks:

SUPPORT												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Develop Support - OBS	VARIOUS	VARIOUS	1.106	.600	Dec 2006						1.706	
Develop Support - RCM	VARIOUS	TBD				1.000	Dec 2007	1.000	Dec 2008		2.000	
Develop Support - SPA	VARIOUS	VARIOUS	1.981	2.226	Dec 2006	1.540	Dec 2007	2.998	Dec 2008		8.356	
Develop Support - Spiral 1	VARIOUS	VARIOUS	2.965								2.965	
Develop Support - Spiral 2	VARIOUS	VARIOUS	1.956	1.207	Dec 2006	.326	Dec 2007			Continuing	Continuing	
Develop Support - Spiral 3	VARIOUS	TBD				1.409	Dec 2007	1.389	Dec 2008		2.798	
Develop Support - Spiral 3	VARIOUS	VARIOUS		.956	Dec 2006	.978	Dec 2007	.995	Dec 2008	Continuing	Continuing	
ETS (NON-FFRDC) SP2	VARIOUS	AT&T GOVT SOLUTIONS, INC, VIENNA, VA	.600							Continuing	Continuing	
ETS (NON-FFRDC) SP3	VARIOUS	AT&T GOVT SOLUTIONS, INC, VIENNA, VA		.307	Feb 2007	.550	Dec 2007	.562	Dec 2008	Continuing	Continuing	
ETS (NON-FFRDC) SPA	VARIOUS	AT&T GOVT SOLUTIONS, INC, VIENNA, VA	.600	.335	Feb 2007	.400	Dec 2007	.500	Dec 2008	Continuing	Continuing	
SUBTOTAL SUPPORT			9.208	5.630		6.203		7.444		Continuing	Continuing	

Remarks:Dollars may not add due to rounding.

TEST & EVALUATION												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
DT/Eval - SPA	VARIOUS	VARIOUS	.636	.691	Jan 2007	.700	Dec 2007	.480	Dec 2008	Continuing	Continuing	
DT/OT & Eval - RCM	VARIOUS	TBD				1.000	Dec 2007	1.000	Dec 2008		2.000	
DT/OT & Eval - Spiral 1	VARIOUS	NAWCAD, PATUXENT RIVER, MD	.056								.056	
DT/OT & Eval - Spiral 2	VARIOUS	NAWCAD, PATUXENT RIVER, MD	1.262	1.355	Oct 2006	.500	Dec 2007	.500	Dec 2008		3.617	
DT/OT & Eval - Spiral 3	VARIOUS	NAWCAD, PATUXENT RIVER, MD		.082	Oct 2006	.766	Dec 2007	3.735	Dec 2008	Continuing	Continuing	
Test & Eval - QRC	VARIOUS	NAWCAD, PATUXENT RIVER, MD						.150	Dec 2008		.150	
SUBTOTAL TEST & EVALUATION			1.954	2.129		2.966		5.865		Continuing	Continuing	

Remarks:Dollar may not add due to rounding.

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MANAGEMENT												

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Exhibit R-3 Cost Analysis (page 1)										DATE:		February 2008	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E,N / BA-7		0305206N, AIRBORNE RECONNAISSANCE SYSTEMS				2694, ADVANCED DIGITAL SENSORS							
Systems Eng Spt - OBS	WX	NAWCAD, PATUXENT RIVER, MD		.164	Oct 2006	.421	Dec 2007	.544	Dec 2008	Continuing	Continuing		
Systems Eng Spt - RCM	WX	TBD				.500	Dec 2007	.500	Dec 2008			1.000	
Systems Eng Spt - Spiral 2	WX	NAWCAD, PATUXENT RIVER, MD	.651									.651	
Systems Eng Spt - Spiral 3	WX	NAWCAD, PATUXENT RIVER, MD				1.132	Dec 2007	1.405	Dec 2008	Continuing	Continuing		
Travel - SPA	TO	NAWCAD, PATUXENT RIVER, MD	.244	.055	Dec 2006	.054	Dec 2007	.058	Dec 2008	Continuing	Continuing		
Travel - Spiral 2	TO	NAWCAD, PATUXENT RIVER, MD	.159	.036	Dec 2006	.036	Dec 2007					.231	
Travel - Spiral 3	TO	NAWCAD, PATUXENT RIVER, MD	.036	.055	Dec 2006	.055	Dec 2007	.090	Dec 2008	Continuing	Continuing		
Travel-NSMA	TO	NAWCAD, PATUXENT RIVER, MD						.055	Dec 2008			.055	
Travel-NSMA	TO	NAWCAD, PATUXENT RIVER, MD	.055	.054	Dec 2006	.055	Dec 2007					.164	
SUBTOTAL MANAGEMENT			1.145	.364		2.253		2.652		Continuing	Continuing		

Remarks:

Total Cost			41.528	39.106		50.355		55.719		Continuing	Continuing	
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EXHIBIT R4, Schedule Profile																							DATE:															
APPROPRIATION/BUDGET ACTIVITY																							PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME											
RDT&E,N / BA-7																							0305206N, AIRBORNE RECONNAISSANCE SYSTEMS				2694, ADVANCED SIGNAL RECOGNITION											
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013													
					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						
EP-3 Program Milestones Milestones									Spiral 2 - LRIP					Spiral 2 - FRP					Spiral 3 - LRIP					Spiral 3 - FRP														
Engineering Milestones																																						
Test & Evaluation Milestones																																						
Development Test																																						
Development Test/ Operational Test									Spiral 2 - DT									Spiral 3 - DT																				
Contract Milestones																																						
Deliveries																																						

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS			PROJECT NUMBER AND NAME 2694, ADVANCED SIGNAL RECOGNITION			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Spiral 2 LRIP Decisions			2Q					
Spiral 2 FRP Decisions				1Q				
Spiral 3 LRIP Decisions				4Q				
Spiral 3 FRP Decisions					4Q			
Spiral 2 DT		4Q	1Q					
Spiral 2 OT			4Q	1Q				
Spiral 3 DT				2Q-4Q				
Spiral 3 OT					3Q-4Q			
Spiral 2 EDM								
Spiral 3 EDM-1			1Q					
Spiral 3 EDM-2				1Q				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS			PROJECT NUMBER AND NAME 9999 Congressional Add			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9999 Congressional Add		4.085	8.982					
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Congressional Adds.</p>								

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS	PROJECT NUMBER AND NAME 9999 Congressional Add

B. Accomplishments/Planned Program:

9B04N	FY 07	FY 08	FY 09
Accomplishments / Effort / Sub-total Cost	1.445		
RDT&E Articles Quantity: Not applicable			

Provide non-recurring engineering development for a Navy low band airborne system trainer.

9437C	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.000		
RDT&E Articles Quantity: Not applicable			

Development of passive collision avoidance and reconnaissance system. This development targets the Unmanned Aerial Vehicle (UAV) mission to provide situational awareness and sense and avoid capability. Passive uncooled long wave infrared cameras will be integrated to a data collection system and flight tested to evaluate system level assumptions in flight and to further develop and mature tracking algorithms already developed. Design level effort will be initiated to design and build a small processor suite that is directly integratable to the UAVs existing electronics suite that is capable of accepting up to 10 camera inputs.

9437C	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.640		
RDT&E Articles Quantity:			

Develop and demonstrate advanced Intelligence, Surveillance and Reconnaissance (ISR) sensor systems for small-to-large Unmanned Aerial Vehicle (UAV)/manned platforms capable of intelligently cross-cueing for clear multi-int target identification. Additionally develop ground/air based control and display stations (CADS) providing screening, control, exploitation, and dissemination of simultaneous multiple dissimilar sensor ISR systems.

9999	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		4.982	
RDT&E Articles Quantity:			

Provide ancillary hardware development in support of Spiral 3. Spiral 3 development includes low-band Radio Frequency Distribution (RFD) and Direction Finding (DF) subsystem replacement, Remote Tuning Receivers, Intergrated Information Operations (I/O) and Environmental Control System (ECS) upgrades.

9999	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		4.000	
RDT&E Articles Quantity:			

Initiate the development of algorithmic, cueing and software focused efforts in support of the Deployable Unmanned Systems for Targeting, Exploitation, and Reconnaissance (DUSTER) system. This system could simultaneously extend the area of intelligence gathering, keep the operators out of harms way, and provide an airborne real-time exploitation and dissemination node to identify, geo-locate, and track enemy targets.

CLASSIFICATION: UNCLASSIFIED							
EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		R-1 ITEM NOMENCLATURE PE: 0305208N TITLE: Distributed Common Ground System - Navy					
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	17.801	21.141	44.540	43.024	38.054	37.952	30.634
2174 DCGS-N	16.506	19.154	44.540	43.024	38.054	37.952	30.634
9B08N/9999 Congressional Add	1.295	1.987	0.000	0.000	0.000	0.000	0.000
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>The Distributed Common Ground System – Navy (DCGS-N) is the Navy's portion of the Office of the Secretary of Defense (OSD) DCGS effort. 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. The DOD DCGS will access and ingest data from space borne, airborne, subsurface, and surface ISR collection assets, intelligence databases and intelligence producers. This collected data will be shared across a Joint enterprise using the DCGS Integration Backbone (DIB) standard to enhance interoperability of ISR information across Joint forces through the use of common enterprise standards and services. It will support Joint Task Force (JTF)-level combat operations and support Joint Task Force Commanders and below with critical intelligence for battle management and information dominance across the full spectrum of operations, including peace, conflict, war, and the Global War on Terrorism.</p> <p>The DCGS-N system represents the integration of: 1) The processing and exploitation of tactical and Imagery Intelligence (IMINT) and Signal Intelligence (SIGINT); 2) Precision target geopositioning, mensuration, and imagery dissemination capabilities; 3) Selected national IMINT requirements and processing capabilities from the National Geospatial Agency (NGA); and 4) Sharing of Intelligence, Surveillance, Reconnaissance and Targeting (ISR&T) and Command and Control (C2) information via DIB and Net-Centric Enterprise Services (NCES) standards with a wide range of anticipated and unanticipated customers (e.g. Global Command and Control System - Maritime, GCCS-M).</p> <p>DCGS-N will become part of the DoD DCGS Network Enterprise via DCGS Integration Backbone (DIB) standards. DCGS-N will stay abreast of evolving requirements and ensure compliance with the DoD DCGS network architecture. Engineering work is funded to migrate legacy Joint Fires Network (JFN)/ Joint Services Imagery Processing System - Navy (JSIPS-N) capabilities to this network environment. The government is the integrator for the DCGS-N system.</p> <p>The Navy is focusing on establishing an ISR Enterprise way ahead that will emphasize a reach back strategy with a focus on Maritime Headquarters (MHQ)/ Maritime Operations Center (MOC) activities 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 (MOC to MOC to afloat), development and migration of ISR SOA applications, and development and integration to leverage the Integrated Shipboard Network System (ISNS) strategy for a Common Computing Environment (CCE). This effort has resulted in a realignment of the program, replacing the DCGS-N 1.1 with a redesigned, smaller, maintainable, less expensive system that will eventually migrate to the CCE aboard ship and shift the focus of the program to producing SOA ISR applications. Additionally, DCGS-N will become the focal point for migration of Maritime Domain Awareness (MDA) fusion and analysis tool applications for the Navy. As a result, the funding profile was modified to revise the procurement schedule, maintain the equipment support line, and focus on product improvement for migration to the CCE and support to fielded systems until replaced by DCGS-N systems.</p>							

Exhibit R-2, RDTEN Budget Item Justification

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008
APPROPRIATION/BUDGET RDT&E, N / BA 7	PROGRAM ELEMENT NUMBER AND NAME PE: 0305208N TITLE: Distributed Common Ground System - Navy	PROJECT NUMBER AND NAME 2174 DCGS-N
(U) B. PROGRAM CHANGE SUMMARY:		
(U) Funding:		
FY08 President's Budget:	FY 2007 17.801	FY 2008 19.350
FY09 President's Budget:	17.801	21.141
Total Adjustments	<u>0.000</u>	<u>1.791</u>
		FY 2009 19.899
		44.540
		24.641
Summary of Adjustments		
Congressional Undistributed Reductions		-0.209
Congressional Increases		2.000
Economic Assumptions		24.667
Miscellaneous Adjustments		-0.026
Subtotal	<u>0.000</u>	<u>1.791</u>
		24.641
 (U) Schedule:		
<p>The DCGS-N 1 Increment (Block 1/2) program structure reflects the revised program plan endorsed in the Acquisition Decision Memorandum of 20 Sep 07. The main tenets of this plan include stop-work on development of the previous DCGS-N 1.1 system, continue legacy system technical refresh/support, and the development of new capability in an incremental, block upgrade fashion. This includes the following new major milestones: Block 1 MS C moving to 1Q FY09; Block 1 Full Rate Production 4QFY09; Block 2 MS C 4QFY10; Block 3 MS B 2QFY11; and Block 3/4 MS C 1QFY13.</p>		
 (U) Technical:		

Exhibit R-2, RDTEN Budget Item Justification

CLASSIFICATION: UNCLASSIFIED							
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT (PE) NUMBER AND NAME PE: 0305208N Distributed Common Ground System - Navy				PROJECT NUMBER AND NAME 2174 Distributed Common Ground System – Navy (DCGS-N)		
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	16.506	19.154	44.540	43.024	38.054	37.952	30.634
2174 Distributed Common Ground System – Navy (DCGS-N)	16.506	19.154	44.540	43.024	38.054	37.952	30.634
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>The Distributed Common Ground System – Navy (DCGS-N) is the Navy's portion of the Office of the Secretary of Defense (OSD) DCGS effort. 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. The DOD DCGS will access and ingest data from space borne, airborne, subsurface, and surface ISR collection assets, intelligence databases and intelligence producers. This collected data will be shared across a Joint enterprise using the DCGS Integration Backbone (DIB) standard to enhance interoperability of ISR information across Joint forces through the use of common enterprise standards and services. It will support Joint Task Force (JTF)-level combat operations and support Joint Task Force Commanders and below with critical intelligence for battle management and information dominance across the full spectrum of operations, including peace, conflict, war, and the Global War on Terrorism.</p> <p>The DCGS-N system represents the integration of: 1) The processing and exploitation of tactical and Imagery Intelligence (IMINT) and Signal Intelligence (SIGINT); 2) Precision target geopositioning, mensuration, and imagery dissemination capabilities; 3) Selected national IMINT requirements and processing capabilities from the National Geospatial Agency (NGA); and 4) Sharing of Intelligence, Surveillance, Reconnaissance and Targeting (ISR&T) and Command and Control (C2) information via DIB and NCES standards with a wide range of anticipated and unanticipated customers (e.g. Global Command and Control System - Maritime, GCCS-M).</p> <p>DCGS-N will become part of the DoD DCGS Network Enterprise via DCGS Integration Backbone (DIB) standards. DCGS-N will stay abreast of evolving requirements and ensure compliance with the DoD DCGS network architecture. Engineering work is funded to migrate legacy Joint Fires Network (JFN)/ Joint Services Imagery Processing System - Navy (JSIPS-N) capabilities to this network environment. The government is the integrator for the DCGS-N system.</p> <p>The Navy is focusing on establishing an ISR Enterprise way ahead that will emphasize a reach back strategy with a focus on Maritime Headquarters (MHQ)/ Maritime Operations Center (MOC) activities providing intelligence products to support deployed ship and shore operations. In FY09, the Navy will initiate migration to a Service Oriented Architecture (SOA) that requires the development, integration, and testing of ISR Enterprise capability (MOC to MOC to afloat), development and migration of ISR SOA applications, and development and integration to leverage the Integrated Shipboard Network System (ISNS) strategy for a Common Computing Environment (CCE). This effort has resulted in a realignment of the program, replacing the DCGS-N 1.1 with a redesigned, smaller, maintainable, less expensive system that will eventually migrate to the CCE aboard ship and shift the focus of the program to producing SOA ISR applications. Additionally, DCGS-N will become the focal point for migration of Maritime Domain Awareness (MDA) fusion and analysis tool applications for the Navy. As a result, the funding profile was modified to revise the procurement schedule, maintain the equipment support line, and focus on product improvement for migration to the CCE and support to fielded systems until replaced by DCGS-N systems.</p>							

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT (PE) NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0305208N Distributed Common Ground System - Navy	2174 DCGS-N

(U) B. Accomplishments/Planned Program

DCGS-N Increment Development	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	6.093	5.719	10.207
RDT&E Articles Quantity		4	

DCGS-N Increment Development: Primary and ancillary system software design/development and related activities for the DCGS-N Increment 1.

FY07 Accomplishments: Leveraged DCGS-N 1.1 development efforts to begin Block 1 architecture development and initiated Block 1 software development, including Common Geopositioning Service (CGS) modifications. Developed patch for the C2F system to correct discrepancies that arose during installation.

FY08 Plan: Continue BLK 1 software development and integration of component applications.

FY09 Plan: Begin development of applications for fielding in migration to a Service Oriented Architecture (SOA) environment, to include support for Maritime Domain Awareness efforts. Supports migration of additional SOA applications leveraging the ISNS CCE. Begin development of Block 2.

DCGS-N Systems Engineering	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.325	6.238	26.564
RDT&E Articles Quantity			

DCGS-N Systems Engineering: Requirements derivation and integration activities related to the DCGS-N Increment 1.

FY07 Accomplishments: Developed initial requirements for the Block 1 system. Integrated the DCGS-N 1.1 system at C2F. Conducted Requirements Review Board for DCGS-N 1.1 and Block 1 systems.

FY08 Plan: Continue hardware development/design for the BLK 1 system. Continued rigorous review of requirements for BLK 1.

FY09 Plan: Begin integration of SOA applications leveraging onto Integrated Shipboard Network System (ISNS) Increment 1 Common Computing Environment (CCE) hardware. Integrate SECNAV Maritime Domain Awareness (MDA) capabilities into DCGS-N BLK 1.

DCGS-N Test and Evaluation	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.338	2.447	4.519
RDT&E Articles Quantity			

DCGS-N Test and Evaluation: Combined system Testing & Evaluation (T&E) activities, both ashore and afloat for the Increment 1 DCGS-N systems.

FY07 Accomplishments: Completed final DCGS-N 1.1 system check out and turned system over to C2F. Continued testing of CGS modifications.

FY08 Plan: Conduct DCGS-N Block 1 DT/ OA Landbased events; prepare for DCGS-N Block 1 OT events.

FY09 Plan: Conduct Shipboard OT. Begin testing of SOA applications, to include support for Maritime Domain Awareness efforts. Supports testing the additional SOA applications in the ISNS CCE. Conduct tests with early adopters where possible.

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT (PE) NUMBER AND NAME PE: 0305208N Distributed Common Ground System - Navy	PROJECT NUMBER AND NAME 2174 DCGS-N

(U) B. Accomplishments/Planned Program

DCGS-N Testbeds	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.000	3.000	1.500
RDT&E Articles Quantity			

DCGS-N Testbeds: Funds the Navy's contribution to the Distributed Development, Test, Demonstration, and Experimentation Network.

FY07 Accomplishments: Began effort to establish a distributed net-centric approach to demonstrate, test, and evaluate DCGS joint interoperability among Service DCGS Integration Labs, Agency test facilities, DCGS Imagery Testbed, and the Joint Systems Integration Center.

FY08 Plan: Conduct interoperability T&E among service and agency DCGS labs, test facilities, etc.

FY09 Plan: Continue coordinated T&E among various service and agency DCGS labs and test facilities to ensure continued interoperability as system changes occur.

Common Security and Discovery Services	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.000	1.000	1.000
RDT&E Articles Quantity			

Common Security and Discovery Services: Effort to migrate to common security and discovery services within the DCGS programs via Net-Centric Enterprise Services (NCES). This effort will improve the coordination and the acceleration of the introduction of NCES 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.

FY07 Accomplishments: Provided user identification, authentication, and role-based access; user discovery of DCGS Enterprise Intel data and user request for exploitation of specific Intel imagery; and Delivery of User requested DCGS Enterprise Intel data and specific Intel imagery for exploitation; Participated in development and demonstration pilots of Core Enterprise Services (CES) and in the Enterprise Services Working Group (ES WG)

FY08 Plan: Continue participation in development and demonstration of CES and in the ES WG; Continue to follow Pilot Plan, which includes expanding services and capabilities

FY09 Plan: Continue participation in development and demonstration of CES and in the ES WG; Continue to follow Pilot Plan; integrate DCGS testbed capabilities into Project Plan

Concept of Operations (CONOPS):	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.750	0.750	0.750
RDT&E Articles Quantity			

FY07 Accomplishments: Developed Concept of Operations (CONOPS) that ensures DCGS interoperability with Services and Coalition partners, to maximize ISR processing capability and provide a common understanding of the direction and means to the desired end-state.

FY08 Plan: Continue with CONOPS that ensures DCGS interoperability with Services and Coalition partners. This effort will maximize ISR processing capability and provide a common understanding of the direction and means to the desired end-state.

FY09 Plan: Continue with CONOPS that ensures DCGS interoperability with Services and Coalition partners. This effort will maximize ISR processing capability and provide a common understanding of the direction and means to the desired end-state.

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE: 0305208N TITLE: Distributed Common Ground System - Navy	PROJECT NUMBER AND NAME 2174 DCGS-N
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(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN LI 2914	42,531	61,136	67,133	58,823	60,917	91,803	92,399	Continuing	Continuing

(U) D. ACQUISITION STRATEGY:

The Distributed Common Ground System - Navy (DCGS-N) program will utilize contracting vehicles already in place for the existing Army Tactical Exploitation of National Capabilities (TENCAP) and Joint Services Imagery Processing System – Navy (JSIPS-N) and other fielded programs. The Navy plan is to adapt these programs and develop interoperability with the DCGS Integration Backbone (DIB) standards for support of Navy Network Centric Warfare Time Critical Targeting. The government is the system integrator for the DCGS-N system.

CLASSIFICATION: UNCLASSIFIED										DATE: February 2008		
Exhibit R-3 Cost Analysis (page 1)												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT PE: 0305208N TITLE: Distributed Common Ground System - Navy				PROJECT NUMBER AND NAME 2174 DCGS-N					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Primary Hardware Development												
Systems Engineering	various	BAE, NGES, MIT/LL, Various	4.432	4.325	Various	6.238	Various	26.564	Various	Continuing	Continuing	
Systems Engineering												
Systems Engineering												
Prime Mission Product												
Subtotal Product Development			4.432	4.325		6.238		26.564		Continuing	Continuing	
Remarks:												
Development Support	MIPR	NAWC CL, Various		1.750	Various	1.750	Various	1.750	Various	Continuing	Continuing	
Software Development	various	BAE and Various	6.544	6.093	Various	5.719	Various	10.207	Various	Continuing	Continuing	
Integrated Logistics Support												
Documentation												
Technical Data												
Studies and Analysis												
Subtotal Support			6.544	7.843		7.469		11.957		Continuing	Continuing	
Remarks:												

CLASSIFICATION: UNCLASSIFIED											DATE: February 2008	
Exhibit R-3 Cost Analysis (page 2)												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT PE: 0305208N TITLE: Distributed Common Ground System - Navy				PROJECT NUMBER AND NAME 2174 DCGS-N					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	MIPR	BAE, NGES, NAWC CL, Various	1.158	3.000	Various	3.572	Various	2.863	Various			
Operational Test & Evaluation	MIPR	NAWC CL, Various		1.338	Various	1.875	Various	3.156	Various			
Operational Test & Evaluation												
Subtotal T&E			1.158	4.338		5.447		6.019		Continuing	Continuing	
Remarks:												
Subtotal			0.000	0.000		0.000		0.000				
Remarks:												
Total Cost			12.134	16.506		19.154		44.540		Continuing	Continuing	

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R4, Schedule Profile

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY

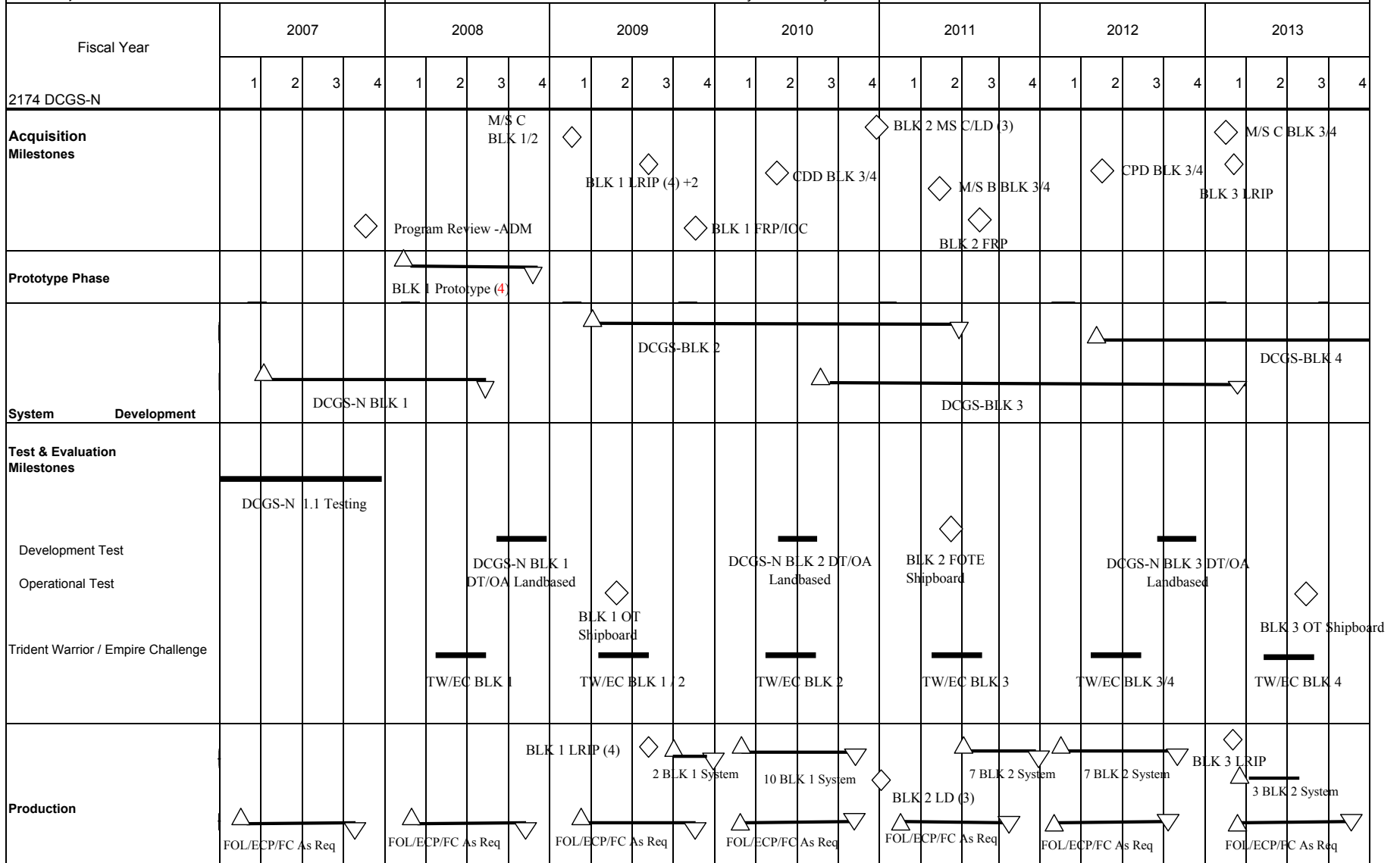
PROGRAM ELEMENT NUMBER AND NAME

PROJECT NUMBER AND NAME

RDT&E, N / BA-7

PE: 0305208N TITLE: Distributed Common Ground System - Navy

2174 DCGS-N



CLASSIFICATION:

UNCLASSIFIED

Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7				PROJECT NUMBER AND NAME 2174 DCGS-N			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Fleet Experiments							
DCGS-N 1.1 Testing	1Q - 4Q						
DCGS-N BLK 1 DT/OA Landbased		3Q - 4Q					
DCGS-N BLK 2 DT/OA Landbased				2Q - 3Q			
DCGS-N BLK 3 DT/OA Landbased						3Q - 4Q	
DCGS-N BLK 1 OT Shipboard			2Q				
DCGS-N BLK 2 FOTE Shipboard					2Q		
DCGS-N BLK 3 OT Shipboard							3Q
Trident Warrior / Empire Challenge BLK 1		2Q - 3Q	2Q - 3Q				
Trident Warrior / Empire Challenge BLK 2			2Q - 3Q	2Q - 3Q			
Trident Warrior / Empire Challenge BLK 3					2Q - 3Q	2Q - 3Q	
Trident Warrior / Empire Challenge BLK 4						2Q - 3Q	2Q - 3Q
Spiral development							
DCGS-N BLK 1 Development	2Q-4Q	1Q-3Q					
DCGS-N BLK 2 Development			2Q-4Q	1Q-4Q	1Q-2Q		
DCGS-N BLK 3 Development				3Q-4Q	1Q-4Q	1Q-4Q	1Q
DCGS-N BLK 4 Development						2Q-4Q	1Q-4Q
Acquisition Program							
Fact of Life Upgrades/ECPs/Field Changes to Legacy Equipment	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
DCGS-N Procurement			3Q - 4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Program Review - ADM	4Q						
BLK 1/2 M/S C Decision			1Q				
BLK 3/4 MS B Decision					2Q		
BLK 2 FRP					3Q		
BLK 1 LRIP			3Q				
BLK 1 FRP			4Q				
BLK 3/4 M/S C Decision / BLK 3 LRIP							1Q
BLK 3/4 CDD				2Q			
BLK 3/4 CPD						2Q	
Prototype							
BLK 1 Prototype		1Q-4Q					

Exhibit R-4, Schedule Detail

CLASSIFICATION:
UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification DATE:
February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT (PE) NUMBER AND NAME PE: 0305208N Distributed Common Ground System - Navy	PROJECT NUMBER AND NAME 9B08N Congressional Add
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COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9B08N Congressional Add Maritime Intelligence Integration	1.295	1.987					

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add.

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME PE: 0305208N TITLE: Distributed Common Ground System - Navy	PROJECT NUMBER AND NAME 9B08N Congressional Add

(U) B. Accomplishments/Planned Program

9B08N Maritime Intelligence Integration For Shared Situational Awareness	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.295	0.000	0.000
RDT&E Articles Quantity			

Maritime Intelligence Integration-Shared Situational Awareness: Congressionally added funds for continued support of the DCGS-N Experimentation and Analysis Laboratory (DEAL) to effect network-centric requirements through experimentation with Naval Aviation, inter-agency, multi-service and space-based Intelligence, Surveillance and Reconnaissance (ISR) data for increased Maritime Intelligence Integration and sharing of Maritime Domain Situational Awareness.

FY 07 Accomplishments: Exercised support for EMPIRE CHALLENGE 07 to demonstrate maritime domain awareness and maritime operations center interoperability with other Service DCGS systems, Joint Inter-Agency Task Force (JIATF) South and a surrogate DCGS-N Afloat, and to enhance maritime domain awareness interoperability with JIATF South.

9999 Maritime Intelligence Integration For Shared Situational Awareness/AFATDS Interoperability	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	1.987	0.000
RDT&E Articles Quantity			

Maritime Intelligence Integration-Shared Situational Awareness: Congressionally added funds for continued support of DCGS-N network-centric requirements through experimentation with inter-agency, multi-service and space-based Intelligence, Surveillance and Reconnaissance (ISR) data for increased Maritime Intelligence Integration and sharing of Maritime Domain Situational Awareness.

AFATDS Interoperability: Congressionally added funds for the exchange of information between existing ISR&T systems and C2 systems. Significant reduction in the sensor-to-effects timeline can be achieved through enhanced automated information exchange between DCGS-N ISR&T capability and C2, via Net-Centric Enterprise Service (NCEs) and DCGSN Integration Backbone (DIB) standards, offering data producers and consumers a single/common seamless capability for exposing, discovering, publishing and subscribing to ISR&T data, in accordance with DoD Directive 8320.2.

FY08 Plan: Continue to integrate and automate the interoperability between DCGS-N / ISR and the Service Oriented Architecture environment. Expand DCGS interoperability and integration via the Enterprise Services Interoperability and Integration (ESII) group to establish a network-centric, near-real time capability that can be shared, at appropriate security levels, by Federal, State, Local, and International agencies with maritime responsibilities.

Exhibit R-2a, RDTE Project Justification

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0307207N, AERIAL COMMON SENSOR	
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	13.717	8.164	74.604	102.562	253.281	262.845	268.904
3015 AERIAL COMMON SENSOR	13.717	8.164	74.604	102.562	253.281	262.845	268.904

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Provides funding for the Navy's Aerial Common Sensor (ACS) program. Subsequent to budget submission, this program has been approved a new Program Element (PE): 0307217 EP-3 replacement (EPX). Funds should be appropriated under new PE.

EPX is the Navy's recapitalization of existing EP-3E capabilities and will be a transformational platform to fulfill Navy and OSD requirements for a manned multi-intelligence Intelligence, Surveillance, Reconnaissance and Targeting (ISR&T) capability. EPX RDT&E efforts will develop the system to meet the multi-intelligence ISR&T requirements, ensure connectivity to other service platforms and ground stations, and address an ISR capability gap presented by service life limits of the EP-3E.

Prior Navy ACS efforts were undertaken as part of the Army ACS contract, awarded 4th quarter FY2004 to Lockheed Martin Integrated Systems and Solutions, Littleton, Colorado. Army terminated the ACS contract for convenience on 12 January 2006. An April 2007 OSD Acquisition Decision Memorandum (ADM) rescinded the Army ACS Milestone (MS) B and directed that the services establish independent plans to re-capitalize their ISR systems. The Joint Requirements Oversight Council (JROC) validated separate service requirements in December 2007, and the Navy has established EPX as the program to accomplish their ISR&T re-capitalization.

The acquisition plan for EPX has been established, and system development activities are underway. FY07 and FY08 Pre-MS A risk reduction efforts with industry participation include requirements analysis, Concept of Operations (CONOPS) development, trade study analysis, specification development, system concept development, and threat analysis. MS A and award of Technology Development (TD) phase contracts are planned in FY09. MS B is planned in FY11.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget:	17.117	16.606	74.726
FY2009 President's Budget:	13.717	8.164	74.604
Total Adjustments	-3.400	-8.442	-0.122

Summary of Adjustments			
Congressional Reductions		-10.000	
Congressional Rescissions			
Congressional Undistributed Reductions		-0.042	
Congressional Increases		1.600	
Economic Assumptions			-0.122
Miscellaneous Adjustments	-3.400		
Subtotal	-3.400	-8.442	-0.122

Schedule:
FY07 and FY08 include pre-MS A risk reduction efforts. MS A and TD phase development is planned in FY09. MS B is planned in FY11.

Technical:
Pre-MS A technical activities include requirements analysis, Concept of Operations (CONOPS) development, trade study analysis, specification development, system concept development, and threat analysis. TD phase technical activities include maturation and approval of the requirements document and specification, requirements allocation to system and subsystem levels with industry, identification of program resource requirements, and initiation of prototype activities for key system technologies.

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0307207N, AERIAL COMMON SENSOR			PROJECT NUMBER AND NAME 3015, AERIAL COMMON SENSOR			
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3015 AERIAL COMMON SENSOR			13.717	8.164	74.604	102.562	253.281	262.845	268.904
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>Provides funding for the Navy's Aerial Common Sensor (ACS) program. EPX is the Navy's recapitalization of existing EP-3E capabilities and will be a transformational platform to fulfill Navy and OSD requirements for a manned multi-intelligence Intelligence, Surveillance, Reconnaissance and Targeting (ISR&T) capability. EPX RDT&E efforts will develop the system to meet the multi-intelligence ISR&T requirements, ensure connectivity and interoperability to other service platforms and ground stations, and address an ISR capability gap presented by service life limits of the EP-3E.</p> <p>Prior Navy ACS efforts were undertaken as part of the Army ACS contract, awarded 4th quarter FY2004 to Lockheed Martin Integrated Systems and Solutions, Littleton, Colorado. Army terminated the ACS contract for convenience on 12 January 2006. An April 2007 OSD Acquisition Decision Memorandum (ADM) rescinded the Army ACS Milestone (MS) B and directed that the services establish independent plans to re-capitalize their ISR systems. The JROC validated separate service requirements in December 2007, and the Navy has established EPX as the program to accomplish their ISR&T re-capitalization.</p> <p>The acquisition plan for EPX has been established, and program development system engineering activities are underway. FY07 and FY08 Pre-MS A risk reduction efforts with Industry participation include requirements analysis, Concept of Operations (CONOPS) development, trade study analysis, specification development, system concept development, and threat analysis. MS A and award of Technology Development (TD) phase contracts are planned in FY09. MS B is planned in FY11.</p>									
B. ACCOMPLISHMENTS / PLANNED PROGRAM:									
ACS/EPX Trade Study and Tech Develop Activities			FY 2007	FY 2008	FY 2009				
Accomplishments / Effort / Sub-total Cost			6.000	.250	65.018				
RDT&E Articles Qty									
<p>FY07 pre-MS A risk reduction tasks include requirements analysis, Concept of Operations (CONOPS) development, trade study analysis, and system concept development. Period of performance for these activities includes work in FY08. MS A and award of Technology Development (TD) phase contracts are planned in FY09. FY09 TD phase tasks will include requirements allocations to system and subsystem levels, identification of program resource requirements, and prototype efforts of key system technologies.</p>									
Support ACS/EPX initial test and eval doc/plan			FY 2007	FY 2008	FY 2009				
Accomplishments / Effort / Sub-total Cost				.160	1.356				
RDT&E Articles Qty									
Support initial test and evaluation planning and documentation.									
ACS/EPX govt/contr sys eng support; ISR study			FY 2007	FY 2008	FY 2009				
Accomplishments / Effort / Sub-total Cost			7.717	7.754	8.230				
RDT&E Articles Qty									
<p>Fund Government and Contractor systems engineering and engineering support to accomplish technical activities in FY07, FY08, and FY09. Fund Government EPX program management.</p>									
C. OTHER PROGRAM FUNDING SUMMARY: Not Applicable									
D. ACQUISITION STRATEGY: The EPX acquisition strategy will utilize an evolutionary program approach to develop increments of capability to meet the Navy's ISR&T mission needs and address the ISR gap presented by the service life limits of the EP-3E. A competitive environment will be maintained through the TD phase, with a single contractor selected following MS B to develop the system solution. The Pre-MS A and TD phase focus will be to establish achievable performance requirements, reduce technical risk, and identify mature cost and schedule parameters for development, procurement, and life cycle support. The System Development and Demonstration phase will design and produce production representative systems for test and evaluation. Production and deployment will occur following successful operational evaluation of those production representative systems.									

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Exhibit R-3 Cost Analysis (page 1)										DATE:					
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT			PROJECT NUMBER AND NAME		
RDT&E,N / BA-7										0307207N, AERIAL COMMON SENSOR			3015, AERIAL COMMON SENSOR		
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract			
PRODUCT DEVELOPMENT															
Primary Hdw Dev	FFP	VARIOUS	19.590								19.590	19.590			
Primary Hdw Dev - TD Award	C-CPAF	TBD						52.598	Jan 2009	Continuing	Continuing				
Primary Hdw Dev - Trade Study	C-CPAF	TBD		5.000	Jan 2007	.250	Jul 2008			Continuing	Continuing				
Systems Engineering	WX	SPAWARSYSCEN SAN DIEGO CA						.444	Nov 2008	Continuing	Continuing				
Systems Engineering	WX	NAWCAD, PATUXENT RIVER, MD	.870					6.413	Nov 2008	Continuing	Continuing				
Training Development	WX	NAWCTSD, ORLANDO, FL	.702					.368	Nov 2008	Continuing	Continuing				
SUBTOTAL PRODUCT DEVELOPMENT			21.162	5.000		.250		59.823		Continuing	Continuing				
Remarks: Contract terminated for convenience on 12 January 2006.															
SUPPORT															
Dev Support	WX	NAWCAD, PATUXENT RIVER, MD						1.406	Nov 2008	Continuing	Continuing				
Dev Support	WX	VARIOUS						1.815	Nov 2008	Continuing	Continuing				
ENG & TECH SRVC (NON-FFRDC)	C-CPFF	VARIOUS						1.469	Nov 2008	Continuing	Continuing				
Software Development	WX	NAWCAD, PATUXENT RIVER, MD						.505	Nov 2008	Continuing	Continuing				
SUBTOTAL SUPPORT								5.195		Continuing	Continuing				
Remarks:															
TEST & EVALUATION															
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER, MD	.790			.160	Nov 2007	1.356	Nov 2008	Continuing	Continuing				
SUBTOTAL TEST & EVALUATION			.790			.160		1.356		Continuing	Continuing				
Remarks:															
MANAGEMENT															
ENG & TECH SRVC (NON-FFRDC)	C-CPFF	AT&T GOVT SOLUTIONS, INC, VIENNA, VA	3.793	.295	Jul 2007	2.000	Nov 2007	1.344	Nov 2008	Continuing	Continuing				
ENG & TECH SRVC (NON-FFRDC)	C-CPFF	JOHNS HOPKINS UNIV, COLUMBIA, MD		2.000	Mar 2007	1.000	Nov 2007	.500	Nov 2008	Continuing	Continuing				
Govt Engineering Support	WX	NAWCAD, PATUXENT RIVER, MD	2.064	4.443	Dec 2006	2.000	Nov 2007	2.171	Nov 2008	Continuing	Continuing				
Govt Engineering Support	WX	VARIOUS	.460	1.030	Dec 2006	1.529	Nov 2007	.214	Nov 2008	Continuing	Continuing				
Program Management Support	WX	NAWCAD, PATUXENT RIVER, MD	.749	.826	Dec 2006	1.154	Nov 2007	3.956	Nov 2008	Continuing	Continuing				
Travel	WX	NAWCAD, PATUXENT RIVER, MD	.111	.123	Dec 2006	.071	Oct 2007	.045	Oct 2008	Continuing	Continuing				
SUBTOTAL MANAGEMENT			7.177	8.717		7.754		8.230		Continuing	Continuing				
Remarks:															
Total Cost			29.129	13.717		8.164		74.604		Continuing	Continuing				
Remarks:															

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE:								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME								
RDT&E,N / BA-7										0307207N, AERIAL COMMON SENSOR										3015, AERIAL COMMON SENSOR								
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones										MS A											MS B							
Contract Milestones			BAA Contract Award							TD Contract Award												SDD Contract Award						
System Development														SRR				Pre-IBR				SFR				IBR		
Test & Evaluation Milestones																										PDR		
Production Milestones																												
Deliveries																												

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: FEBRUARY 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7				R-1 ITEM NOMENCLATURE 0308601N/MODELING AND SIMULATION SUPPORT			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	7.287	7.665	8.007	8.144	8.336	8.503	8.672
2222/Modeling and Simulation	7.287	7.665	8.007	8.144	8.336	8.503	8.672

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:

Funding:	FY 2007	FY 2008	FY 2009
FY 08 DON Budget	7.475	7.832	8.007
FY08/09 OSD Budget	7.287	7.832	8.007
FY09 OSD Budget		7.665	8.007
Total Adjustments	0.188	0.167	0.000
Summary of Adjustments			
Congressional Undistributed Reductions Contrator Efficiency		-0.013	
Congressional Undistributed Reductions Revised Economic		-0.037	
Miscellaneous Adjustments	0.188	-0.117	
Subtotal	0.188	-0.167	0.000

PROGRAM CHANGE EXPLANATION:

Technical: Not applicable
 Schedule: Not applicable

C. OTHER PROGRAM FUNDING SUMMARY:

Not applicable

D. ACQUISITION STRATEGY:

Not applicable

E. PERFORMAMCE 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE: FEBRUARY 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0308601N Modeling and Simulation Support		PROJECT NUMBER AND NAME 2222/MODELING AND SIMULATION			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
2222/Modeling and Simulation		7.287	7.665	8.007	8.144	8.336	8.503
RDT&E Articles Qty							

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 PROGRAM:

	FY 2007	FY 2008	FY 2009
ENGINEERING STUDIES AND ANALYSIS	3.222	3.718	3.814

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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0308601N MODELING AND SIMULATION SUPPORT	PROJECT NUMBER AND NAME 2222/MODELING AND SIMULATION
<p>For FY07, the Navy Modeling and Simulation Office (OPNAV N70M1) reallocated funds between the four functional areas (Engineering Studies and Analyses; Products and Services; M&S Quality Assurance; and Simulation Experiments) to more closely reflect current priorities for modeling and simulation support to the Fleet/Force. The increase in overall FY07 budget, and the earlier reallocation of funds among the functional areas account for the change in this functional area.</p> <p>FY 2007 Accomplishments:</p> <ul style="list-style-type: none"> • Continued to segment the Embedded Simulation Infrastructure and two Mission Applications and continued to prepare and demonstrate documentation for test and release in Global Command and Control System (GCCS) and Global Command and Control System/Maritime (GCCS/M). • Continued to develop a set of models, architectures, and standards for communications M&S. • Continued to work with the MOVES Institute and the MOVES degree program to provide military relevant thesis topics for research. • Continued M&S support to Fleet Forces Command (FFC) for the CNO-directed Task Force Sim. • Continued M&S utilization in Campaign/Mission assessments to support OPNAV N70 analysis of warfighting requirements. <p>FY 2008 Plans:</p> <ul style="list-style-type: none"> • Continue all efforts of FY07. <p>FY 2009 Plans:</p> <ul style="list-style-type: none"> • Continue all efforts of FY08. 		
R-1 Line Item No. 204		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0308601N MODELING AND SIMULATION SUPPORT	PROJECT NUMBER AND NAME 2222/MODELING AND SIMULATION

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 07	FY 08	FY 09
PRDDUCT AND SERVICES	1.500	1.544	1.682

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 standardization within the Navy. It provides annual updates to the Naval M&S Catalog, Master Plan, and Investment Strategy.

For FY07, the Navy Modeling and Simulation Office (OPNAV N70M1) reallocated R2222 funds between the four functional areas (Engineering Studies and Analyses; Products and Services; M&S Quality Assurance; and Simulation Experiments) to more closely reflect current priorities for M&S support to the Fleet/Force. The increase in overall FY07 budget, and the earlier reallocation of funds among the functional areas account for the change in this functional area.

FY 2007 Accomplishments:

- 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 DIR, SECNAVINST, and OPNAVINST.
- Continued to organize and facilitate quarterly Navy M&S Technical Interchange Meetings to bring together the Navy M&S community for a direct interchange of M&S requirements, technology, standards and experience.
- Continued to foster and develop the Navy M&S Standards Process that draws M&S experts from the acquisition, training and operational communities, and from industry.
- Continued development of a Navy Enterprise M&S Support Plan.

FY 2008 Plans:

- Continue all efforts of FY07

FY 2009 Plans:

- Continue all efforts of FY08.

R-1 Line Item No. 204

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0308601N MODELING AND SIMULATION SUPPORT	PROJECT NUMBER AND NAME 2222/MODELING AND SIMULATION

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 07	FY 08	FY 09
M&S QUALITY ASSURANCE PROGRAM	0.520	0.529	0.541

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, and provides an annual VV&A assessment to CNO.

For FY07, the Navy Modeling and Simulation Office (OPNAV N70M1) reallocated funds between the four functional areas (Engineering Studies and Analyses; Products and Services; M&S Quality Assurance; and Simulation Experiments) to more closely reflect current priorities for modeling and simulation support to the Fleet/Force. The increase in overall FY07 budget, and the earlier reallocation of funds among the functional areas account for the change in this functional area.

FY 2007 Accomplishments:

- Continued to develop and update case studies within the VV&A Handbook.
- Continued to incorporate information developed for training/education into the VV&A Handbook.
- Continued to coordinate with the NMSIS effort to update and Beta test new VV&A data entry fields as required.

FY 2008 Plans:

- Continue all efforts of FY07.

FY 2009 Plans:

- Continue all efforts of FY08.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0308601N MODELING AND SIMULATION SUPPORT	PROJECT NUMBER AND NAME 2222/MODELING AND SIMULATION

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 07	FY 08	FY 09
SIMULATION EXPERIMENTS	2.045	1.874	1.970

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.

For FY07, the Navy M&S Office (OPNAV N70M1) reallocated funds between the four functional areas (Engineering Studies and Analyses; Products and Services; M&S Quality Assurance; and Simulation Experiments) to more closely reflect current priorities for modeling and simulation support to the Fleet/Force. The increase in overall FY07 budget, and the earlier reallocation of funds among the functional areas account for the change in this functional area.

FY 2007 Accomplishments:

- Continued to define Fleet training initiatives and M&S enhancements.
- Continued to support the Olympic Challenge series of Joint experimentations using a synergetic M&S approach.
- Continued development of the Virtual at Sea Training (VAST) concept to provide the capability to conduct training in a virtual environment that would otherwise require a land-based training range or be cost or schedule prohibitive.
- Continued to document elements of the maritime virtual environment and models that can be used effectively to enable reuse in naval simulations and to establish best practices where standards are not yet feasible.
- Continued the upgrade of Virtual Missile Range (VMR) virtual threat capabilities.

FY 2008 Plans:

- Continue all efforts of FY07.

FY 2009 Plans:

- Continue all efforts of FY08.

R-1 Line Item No. 204

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0308601N MODELING AND SIMULATION SUPPORT	PROJECT NUMBER AND NAME 2222/MODELING AND SIMULATION												
<p>C. OTHER PROGRAM FUNDING SUMMARY:</p> <p>NAVY RELATED RDT&E: PE 0603235N (Common Picture Advanced Technology)</p> <p>NON-NAVY RELATED RDT&E: Not applicable.</p> <p>D. ACQUISITION STRATEGY: Not applicable.</p> <p>E. MAJOR PERFORMERS:</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Recipients</th> <th style="text-align: left;">City/State</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>SPAWARSSYSCEN CHASN</td> <td>Charleston, SC</td> <td>Integrated Direct Support to Navy Modeling and Simulation Office</td> </tr> <tr> <td>SPAWARSSYSCEN SAN DIEGO</td> <td>San Diego, CA</td> <td>Standards Maintenance and VV&A of Navy M&S Projects</td> </tr> <tr> <td>NPS MOVES Institute</td> <td>Monterey, CA</td> <td>M&S Research and Functional Namespace Management</td> </tr> </tbody> </table>			Recipients	City/State	Description	SPAWARSSYSCEN CHASN	Charleston, SC	Integrated Direct Support to Navy Modeling and Simulation Office	SPAWARSSYSCEN SAN DIEGO	San Diego, CA	Standards Maintenance and VV&A of Navy M&S Projects	NPS MOVES Institute	Monterey, CA	M&S Research and Functional Namespace Management
Recipients	City/State	Description												
SPAWARSSYSCEN CHASN	Charleston, SC	Integrated Direct Support to Navy Modeling and Simulation Office												
SPAWARSSYSCEN SAN DIEGO	San Diego, CA	Standards Maintenance and VV&A of Navy M&S Projects												
NPS MOVES Institute	Monterey, CA	M&S Research and Functional Namespace Management												
R-1 Line Item No. 204														

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0702207N Depot Maintenance (NON-IF)			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		5.878	18.988	21.130	9.577			
3030 F/A-18 SLAP		2.770	18.018	17.180	8.590			
3182 T-45 SLAP			0.970	3.950	0.987			
9999 Portable Laser Depainting System		3.108						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

3030: The F/A-18A-F 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 for all models. An increase in total landings and flight hours would allow the F/A-18A/B/C/D/E/F 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.

3182: The T-45 SLAP is assessing the structural condition of the T-45 Fleet in order to determine structural modifications necessary to extend the aircraft designed service life to support Pilot Training Requirements (PTR) and Naval Flight Officer Training Requirements (NTR) until 2026. 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 PTR/NTR requirements past 2016. 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 to 21,600 flight hours, which will support meeting PTR/NTR until 2026. A T-45 SLAP is required to assess the critical areas within the structure that require modifications to achieve a 21,600 flight hour service life. This 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 critical structural areas that are either landing and/or flight hour limited.

9999: The Portable Laser Depainting System is a Congressional Add.

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008																																																								
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0702207N Depot Maintenance (NON-IF)																																																								
<p>B. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Funding:</th> <th style="text-align: right;"><u>FY 2007</u></th> <th style="text-align: right;"><u>FY 2008</u></th> <th style="text-align: right;"><u>FY 2009</u></th> </tr> </thead> <tbody> <tr> <td>FY2008 President's Budget:</td> <td style="text-align: right;">6.137</td> <td style="text-align: right;">19.402</td> <td style="text-align: right;">21.295</td> </tr> <tr> <td>FY2009 President's Budget:</td> <td style="text-align: right;">5.878</td> <td style="text-align: right;">18.988</td> <td style="text-align: right;">21.130</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.259</td> <td style="text-align: right; border-top: 1px solid black;">-0.414</td> <td style="text-align: right; border-top: 1px solid black;">-0.165</td> </tr> <tr> <td colspan="4" style="padding-left: 20px;">Summary of Adjustments</td> </tr> <tr> <td colspan="4" style="padding-left: 40px;">Congressional Reductions</td> </tr> <tr> <td colspan="4" style="padding-left: 40px;">Congressional Rescissions</td> </tr> <tr> <td colspan="4" style="padding-left: 40px;">Congressional Undistributed Reductions</td> </tr> <tr> <td></td> <td style="text-align: right;">-0.154</td> <td style="text-align: right;">-0.123</td> <td></td> </tr> <tr> <td colspan="4" style="padding-left: 40px;">Congressional Increases</td> </tr> <tr> <td colspan="4" style="padding-left: 40px;">Economic Assumptions</td> </tr> <tr> <td colspan="4" style="padding-left: 40px;">Miscellaneous Adjustments</td> </tr> <tr> <td></td> <td style="text-align: right;">-0.105</td> <td style="text-align: right;">-0.291</td> <td style="text-align: right;">-0.165</td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.259</td> <td style="text-align: right; border-top: 1px solid black;">-0.414</td> <td style="text-align: right; border-top: 1px solid black;">-0.165</td> </tr> </tbody> </table> <p>Schedule:</p> <p>3030 F/A-18 SLAP schedule changes in FY08-10 are a result of contract award for E/F SLAP moving from first quarter FY08 to second quarter FY08.</p> <p>3182 T-45 SLAP schedule is updated for Flight Loads Definition and Update Finite Element Model in FY08 through FY09 to reflect the latest detailed planning.</p> <p>Technical:</p> <p>Not Applicable.</p>		Funding:	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	FY2008 President's Budget:	6.137	19.402	21.295	FY2009 President's Budget:	5.878	18.988	21.130	Total Adjustments	-0.259	-0.414	-0.165	Summary of Adjustments				Congressional Reductions				Congressional Rescissions				Congressional Undistributed Reductions					-0.154	-0.123		Congressional Increases				Economic Assumptions				Miscellaneous Adjustments					-0.105	-0.291	-0.165	Subtotal	-0.259	-0.414	-0.165
Funding:	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>																																																						
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0702207N Depot Maintenance (NON-IF)			PROJECT NUMBER AND NAME 3030 F/A-18 SLAP			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3030 F/A-18 SLAP		2.770	18.018	17.180	8.590			
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18A-F 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 for all models. An increase in total landings and flight hours would allow the F/A-18A/B/C/D/E/F 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 Program

F/A-18A-D SLAP	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Co	2.770		
RDT&E Articles Quantity			

Continue to conduct analysis of aircraft structures and complete Landings/Cat/Trap/Flight Hour analysis and technical support.

F/A-18E-F SLAP	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		18.018	17.180
RDT&E Articles Quantity			

Begin 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.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0702207N Depot Maintenance (NON-IF)	PROJECT NUMBER AND NAME 3030 F/A-18 SLAP

C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
APN-5 P-1# 28 F/A-18 OSIP (11-99)	98.888	101.532	114.143	121.872	122.338	128.898	182.268	258.344	1433.863

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. These analyses will provide for the development of aircraft modifications necessary to extend total aircraft landings, catapults /arrestments, and flight hours. Engineering Change Proposals (ECPs) generated by the SLAP analyses will be incorporated into the Service Life Management Program (SLMP) under OSIP (11-99). The F/A-18E/F SLAP will employ sole source contracts with Boeing, the aircraft prime manufacturer. The program will consist of exploitation of complete structural fatigue testing with the expectation of extending the current service life of the F/A-18E/F. Conducting F/A-18E/F SLAP to study the aircraft lifetime will provide a better estimate of aircraft service life and a follow on Service Life Extension Program (SLEP).

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0702207N Depot Maintenance (NON-IF)			3030 F/A-18 SLAP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
SLAP - F/A-18A-D	SS/CPFF	McDonnell Douglas, St Louis	26.005	2.770	12/06						28.775	28.775
SLAP - F/A-18E-F	SS/CPFF	McDonnell Douglas, St Louis				18.018	01/08	17.180	01/09	8.590	43.788	44.180
Subtotal Product Development			26.005	2.770		18.018		17.180		8.590	72.563	
Remarks:												
Development Support												
Software Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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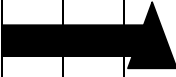
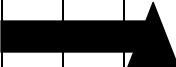
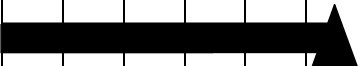

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-7			0702207N Depot Maintenance (NON-IF)			3030 F/A-18 SLAP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel												
Transportation												
SBIR Assessment												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			26.005	2.770		18.018		17.180		8.590	72.563	
Remarks:												

R-1 SHOPPING LIST - Item No. 205

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2008								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7					PROGRAM ELEMENT NUMBER AND NAME 0702207N Depot Maintenance (NON-IF)										PROJECT NUMBER AND NAME 3030 F/A-18 SLAP A-D													
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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
1.1 Flight Load Structure Crack Growth Analysis Using Design Loads																												
1.2 Flight Load Structure Usage Flight Spectrum Development																												
1.3 Flight Load Structure Fatigue Loads Development																												
1.4 Flight Load Structure Crack Initiation Life for 90% Spectrum Assessment																												
2.1 Ground Load Structure Crack Growth Analysis Using 90% Loads																												
2.2 Ground Load Structure Fatigue Life Assessment for 90% Spectrum																												
3.0 Fleet Aircraft Teardown																												

R-1 SHOPPING LIST - Item No. 205

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2008												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7					PROGRAM ELEMENT NUMBER AND NAME 0702207N Depot Maintenance (NON-IF)										PROJECT NUMBER AND NAME 3030 F/A-18 SLAP E/F																	
Fiscal Year	2007				2008				2009				2010				2011				2012				2013							
	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				
Contract Award						★																										
1.1 E/F SLAP Spectrum Development							△		△																							
1.2 Flight/Ground Loads Development							△		△																							
1.3 FT50/76/77/78/90 Failure Analysis							△		△				△																			
1.4 Damage Tolerance/ Crack Growth Analysis & Testing									△				△																			
1.5 Fleet Inspection Development													△				△															
1.6 ECP Development													△				△															

R-1 SHOPPING LIST - Item No. 205

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0702207N, DEPOT MAINTENANCE (NON-IF)			PROJECT NUMBER AND NAME 3182, T-45 SLAP			
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3182 T-45 SLAP				.970	3.950	.987			
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND ITEM JUSTIFICATION:

The T-45 Service Life Assessment Program (SLAP) is assessing the structural condition of the T-45 fleet in order to determine structural modifications necessary to extend the aircraft designed service life to support Pilot Training Requirements (PTR) and Naval Flight Officer Training Requirements (NTR) until 2026. 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 PTR/NTR requirements past 2016. 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 to 21,600 flight hours, which will support meeting PTR/NTR until 2026. A T-45 Service Life Assessment Program (SLAP) is required to assess the critical areas within the structure that require modifications to achieve a 21,600 flight hour service life. This 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 critical structural areas that are either landing and/or flight hour limited.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Analysis of T-45 structural condition	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		.970	3.950
RDT&E Articles Quantity			

The T-45 Service Lift Assessment Program will analyze structural critical areas requiring modification to increase service life from 14,400 flight hours to 21,600 flight hours, publishing results in three separate reports (Updated Finite Element Model report, SLAP Internal Loads Methodology report, and SLAP Fatigue Analysis report).

C. OTHER PROGRAM FUNDING SUMMARY:

Not Applicable

D. ACQUISITION STRATEGY:

The SLAP is a sole source contract with Boeing, the aircraft prime contractor. SLAP consists of structural analyses of landing gear, arresting hook and catapult back-up structure, vertical tail, wings and fuselage. These analyses will facilitate the development of aircraft modifications necessary to extend total aircraft service life from 14,400 to 21,600 flight hours.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROGRAM ELEMENT 0702207N, DEPOT MAINTENANCE (NON-IF)				PROJECT NUMBER AND NAME 3182, T-45 SLAP					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
SLAP - T -45	SS-FFP	BOEING, SAINT LOUIS, MO				.930	Jan 2008	3.860	Jan 2009	.927	5.717	5.717
SUBTOTAL PRODUCT DEVELOPMENT						.930		3.860		.927	5.717	

Remarks:

SUPPORT												
SUBTOTAL SUPPORT												

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												

Remarks:

MANAGEMENT												
Program Management Support	WX	NAWCAD, Patuxent River, MD				.005	Nov 2007	.005	Nov 2008	.005	.015	
Travel	TO	NAVAIR HQ, Patuxent River, MD				.035	Various	.085	Various	.055	.175	
SUBTOTAL MANAGEMENT						.040		.090		.060	.190	

Remarks:

Total Cost						.970		3.950		.987	5.907	
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Remarks:

EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME						
RDT&E,N / BA-7	0702207N DEPOT MAINTENANCE (NON-IF)	9999 Congressional Adds						
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9785C Portable Laser Depainting System		3.108						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

9785C-Portable Laser Depainting System	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.108		
RDT&E Articles Qty			

Portable Laser Depainting System

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7							February 2008	
R-1 ITEM NOMENCLATURE 0702239N, AVIONICS COMPONENT IMPROVEMENT PROGRAM								
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	1.336	1.600	1.877	2.755	3.776	3.875	3.975	
3170 AVIONICS COMPONENT IMPROVEMENT PROGRAM	1.336	1.600	1.877	2.755	3.776	3.875	3.975	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Avionics Component Improvement Program (AvCIP) develops, integrates and tests 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.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget:	1.370	1.635	1.892
FY 2009 President's Budget:	1.336	1.600	1.877
Total Adjustments	-0.034	-0.035	-0.015

Summary of Adjustments

Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.034	-0.035	
Congressional Increases			
Economic Assumptions			
Miscellaneous Adjustments			-0.015
Subtotal	-0.034	-0.035	-0.015

Schedule: FY07 project execution schedule portrayed for EA-6B TACAN Mod and F/A-18 Radar Altimeter Mod. Candidate Endorsement and Candidate Prioritization and Selection changed from 4Q/07 to 3Q/07 to allow for additional time for contract preparation based on lessons learned. FY08-FY13 AVCIP Cycle (Candidate Collection, Evaluation, Prioritization & Selection, Endorsement and Project Contract Establishment) entries represent future activities. These entries have been adjusted to reflect a revised process that implements lessons learned from FY07 activity.

Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification						DATE:		
APPROPRIATION/BUDGET ACTIVITY						February 2008		
RDT&E,N / BA-7		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
		0702239N, AVIONICS COMPONENT IMPROVEMENT PROGRAM			3170, AVIONICS COMPONENT IMPROVEMENT PROGRAM			
COST (\$ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3170 AVIONICS COMPONENT IMPROVEMENT PROGRAM		1.336	1.600	1.877	2.755	3.776	3.875	3.975
RDT&E Articles Qty Not Applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Avionics Component Improvement Program (AvCIP) provides design and development, 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 (BIC) as a cooperative tri-service program that adopts the better business practices and proven resourcing models of the Engine CIP. 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 electronics 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. In FY 2007, AvCIP transferred from Standards Development, PE 0604215N, Project Unit 0572.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Addresses Avionics Critical Readiness	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.336	1.600	1.877
RDT&E Articles Qty			

Investigate High Value Return on Investment Candidates, addressing avionics critical readiness and reliability deficiencies, obsolescence, loss of sustainability and top repair cost drivers. Prioritize critical avionics performance, capability and obsolescence problems that require immediate attention. Pursue solutions to these problems based upon urgency, warfighting contribution and return on investment. Develop and test system solutions based on priority. Resources will cover program management, engineering, contracting and logistics efforts; design and development, logistics elements such as technical data, support equipment, provisioning, and training; prototypes; platform integration; and developmental/operational testing.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Common Avionics, APN Line Item 057700, AvCIP			2.000	2.000	2.000	2.916	3.830	0.350	13.096
0702239A (Avionics Component Improvement Program, Army)									
0702239F (Avionics Component Improvement Program, Air Force)									

D. ACQUISITION STRATEGY: The Avionics Component Improvement Program (AvCIP) will annually compete candidate solutions according to criticality of operational contribution, technical risk, return on investment, and breadth of application. OPNAV N88 & N43, NAVAIR, NAVICP and the Fleet will participate in project selection for execution year allocation. The AvCIP IPT will monitor project execution and track return on investment using Fleet supply and component performance tracking systems (Snapshot, NALCOMIS, NALDA, LMDS/Deckplate, VAMOSOC). 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 program management, engineering, contracting and logistics efforts; design and development, logistics elements such as technical data, support equipment, provisioning, and training; prototypes; platform integration; and developmental/operational testing.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0702239N, AVIONICS COMPONENT IMPROVEMENT PROGRAM				PROJECT NUMBER AND NAME 3170, AVIONICS COMPONENT IMPROVEMENT PROGRAM						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY's Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
SUBTOTAL PRODUCT DEVELOPMENT												

Remarks:

SUPPORT												
Integrated Logistics Sup	WX	NAWCWD, PT MUGU CA		.020	Nov 2006						.020	
Studies & Analyses	WX	NAVAIR, PAXTUXENT RIVER MD		.081	Jan 2007	.100	Nov 2007	.117	Nov 2008	Continuing	Continuing	
Studies & Analyses	TBD	TBD		.539	Aug 2007	1.500	Jan 2008	1.760	Jan 2009	Continuing	Continuing	
SUBTOTAL SUPPORT				.640		1.600		1.877		Continuing	Continuing	

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												

Remarks:

MANAGEMENT												
Contractor Eng Sup	C/CPFF	PRECISE, LEXINGTON PARK, MD		.166	Apr 2007						.166	.166
Government Eng Sup	WX	NAWCWD, PT MUGU CA		.500	Nov 2006						.500	
Program Mgmt Sup	WX	NAWCWD, PT MUGU CA		.030	Nov 2006						.030	
SUBTOTAL MANAGEMENT				.696							.696	

Remarks:

Total Cost				1.336		1.600		1.877		Continuing	Continuing	
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Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2008								
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E,N / BA-7					0702239N, AVIONICS COMPONENT IMPROVEMENT PROGRAM										3170, AVIONICS COMPONENT IMPROVEMENT PROGRAM													
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	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
Management Milestones	FY08 AvCIP CYCLE				FY09 AvCIP CYCLE				FY10 AvCIP CYCLE				FY11 AvCIP CYCLE				FY12 AvCIP CYCLE				FY13 AvCIP CYCLE				FY14 AvCIP CYCLE			
Funding Allocation	▲				▲				△				△				△				△				△			
Candidate Collection		■	■		■	■			□				□				□				□				□			
Candidate Evaluation		■				□				□				□				□				□				□		
Candidate Prioritization & Selection		▲				△				△				△				△				△				△		
Candidate Endorsement		■				□				□				□				□				□				□		
Project Contract Establishment			■			□				□				□				□				□				□		
07A EA-6B TACAN Mod	▲ CA		Design Test		▼ Field																							
07B F/A-18 Radar Altimeter Mod		▲ CA	Design Test			▼ Field																						

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0702239N, AVIONICS COMPONENT IMPROVEMENT PROGRAM				PROJECT NUMBER AND NAME 3170, AVIONICS COMPONENT IMPROVEMENT PROGRAM			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
FY07 AvCIP Funding Allocation	1Q							
FY08 AvCIP Candidate Collection	2Q-3Q							
FY08 AvCIP Candidate Evaluation	3Q							
FY08 AvCIP Candidate Prioritization & Selection	3Q							
FY08 AvCIP Candidate Endorsement	3Q							
FY08 AvCIP Project Contract Establishment	3Q-4Q							
FY08 AvCIP Funding Allocation		1Q						
FY09 AvCIP Candidate Collection		1Q-2Q						
FY09 AvCIP Candidate Evaluation		2Q-3Q						
FY09 AvCIP Candidate Prioritization & Selection		3Q						
FY09 AvCIP Candidate Endorsement		3Q						
FY09 AvCIP Project Contract Establishment		3Q-4Q						
FY09 AvCIP Funding Allocation			1Q					
FY10 AvCIP Candidate Collection			1Q-2Q					
FY10 AvCIP Candidate Evaluation			2Q-3Q					
FY10 AvCIP Candidate Prioritization & Selection			3Q					
FY10 AvCIP Candidate Endorsement			3Q					
FY10 AvCIP Project Contract Establishment			3Q-4Q					
FY10 AvCIP Funding Allocation				1Q				
FY11 AvCIP Candidate Collection				1Q-2Q				
FY11 AvCIP Candidate Evaluation				2Q-3Q				
FY11 AvCIP Candidate Prioritization & Selection				3Q				
FY11 AvCIP Candidate Endorsement				3Q				
FY11 AvCIP Project Contract Establishment				3Q-4Q				
FY11 AvCIP Funding Allocation					1Q			
FY12 AvCIP Candidate Collection					1Q-2Q			
FY12 AvCIP Candidate Evaluation					2Q-3Q			
FY12 AvCIP Candidate Prioritization & Selection					3Q			
FY12 AvCIP Candidate Endorsement					3Q			
FY12 AvCIP Project Contract Establishment					3Q-4Q			
FY12 AvCIP Funding Allocation						1Q		
FY13 AvCIP Candidate Collection						1Q-2Q		
FY13 AvCIP Candidate Evaluation						2Q-3Q		
FY13 AvCIP Candidate Prioritization & Selection						3Q		
FY13 AvCIP Candidate Endorsement						3Q		
FY13 AvCIP Project Contract Establishment						3Q-4Q		
FY13 AvCIP Funding Allocation							1Q	
07A EA-6B TACAN Mod								
Contract Award (CA)	2Q							
Design/Test	2Q-4Q	1Q						
Field		1Q						
07B F/A-18 Radar Altimeter Mod								
Contract Award (CA)	3Q							
Design/Test	3Q-4Q	1Q-2Q						
Field		2Q						

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: February 2008

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N
PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

COST: (Dollars in Thousands)

Project Number & Title	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE	59,450	57,313	56,681	58,589	56,528	60,081	60,634
1050 MANUFACTURING TECHNOLOGY	53,623	55,326	56,681	58,589	56,528	60,081	60,634
9999 CONGRESSIONAL PLUS-UPS	5,827	1,987	0	0	0	0	0

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.

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: February 2008

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N
PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

B. PROGRAM CHANGE SUMMARY:

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2008/FY 2009 President's Budget Submission	60,941	56,445	56,705
Congressional Action	0	2,000	0
Congressional Undistributed Reductions/Rescissions	0	-371	0
Execution Adjustments	-97	0	0
Rate Adjustments	0	0	-24
SBIR Assessment	-1,394	-761	0
FY 2009 President's Budget Submission	59,450	57,313	56,681

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical:

Schedule:

C. OTHER PROGRAM FUNDING SUMMARY:

Not applicable.

D. ACQUISITION STRATEGY:

Efforts have been focused on the Integrated Systems Investment Strategy platforms: DDG 1000, CVN 21, Littoral Combat Ship (LCS), and the Virginia Class Submarine (VCS) as well as aircraft/other programs. Due to a recent change in strategy, FY 2007 and out increasingly focuses on affordability efforts for DDG 1000, CVN 21, LCS, and VCS with some concentration on improvements for non-ship systems.

E. PERFORMANCE METRICS:

The ManTech program's overall goal is to transition leading edge technology for the production of Navy weapons systems. Individual project metrics are tailored to the needs of specific acquisition programs. Example metrics include: enabling a 400 ton weight reduction for CVN 21 as a result of the High Strength and Toughness Naval Steels for Ballistic Protection Project; and a 60% cost reduction from the original baseline, for the Large Marine Composite to Steel Adhesives Joint Project, bolted joint effort.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: 1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

COST: (Dollars in Thousands)

Project Number & Title	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
1050 MANUFACTURING TECHNOLOGY	53,623	55,326	56,681	58,589	56,528	60,081	60,634

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 PROGRAM:

	FY 2007	FY 2008	FY 2009
METALS PROCESSING AND FABRICATION	18,385	18,000	18,000

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 in 2007 and outyears is on shipbuilding affordability for four major platforms: DDG-1000, CVN-21, VCS, and LCS.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: 1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

FY 2007 Accomplishments:

- Initiated Schedule Compression / Production Engineering Thrust for VCS Shipbuilding Affordability Initiative. Includes initiation of VCS Material Management; and initiation of Design for Production Process Improvement.
- Initiated Outfitting Thrust for VCS Shipbuilding Affordability Initiative. Includes initiation of Outfitting Process Improvement.
- Continued rapid response and teaching factory activities.
- Continued Metals Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative. Includes continuation of DDG-1000 Advanced Bonding Methods for Steel Structures; continuation of Low Cost Pallet Systems for DDG-1000 AGS; continuation of DDG-1000 Improved Tee Sections for High-Strength Steel Structures; completion of Manufacturing Large Marine Structures; completion of Large Marine Composite-to-Steel Adhesive Joints; initiation of Coating Application Improvement - formerly High Solids Coatings on DDG-1000; and initiation of PVLS Hull Integration (formerly Large Marine Structure Hull Integration).
- Continued Metals Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative. Includes continuation of Ballistic 10% Ni Steel; continuation of Laser Welded Lightweight Panel Structure Fabrication - NMC; continuation of Advanced Surface Ship Watertight Enclosures; continuation of Alloy 625 Formability for Future Carriers; continuation of CVN Preparation Methods for Coating Tanks; completion of CVN 21 Composites Joining; completion of Elimination of Weld Distortion of CVN-21 Heavy Plate Erection Units; completion of Tandam Gas Metal Arc Welding (GMAW) for High Strength Steel Structures; and initiation of Optimization of CVN-21 Power Unit Assembly Facility and Carrier Visual Build.
- Continued Metals Thrust for Littoral Combat Ship (LCS) Shipbuilding Affordability Initiative. Includes continuation of Improved Dimensional Accuracy for LCS; continuation of LCS Paint Facility Design; continuation of Low Cost FSW of Aluminum for LCS Applications; and completion of Austal USA - Facility Design and Simulation.
- Continued Metals Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes continuation of SSN Alloy 625 Pipe Welding; completion of Hybrid Laser Beam Welding; initiation of SSN-774 Damping Material Application; initiation of SSN Alternative Pipe Joining and Fittings; and initiation of Laser Cladding for Submarines.
- Continued Metal Materials and Process Improvements Thrust for Other Ship / NAVSEA Platforms. Includes completion of Hybrid Laser Welding of Ship Structures.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: 1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Continued Metals Materials and Process Improvement Thrust for Air Platforms. Includes continuation of Corrosion Resistant Coatings for Magnesium Transmission Gearboxes; continuation of Translational Friction Weld Repair of Blisks; continuation of Erosion Resistant Coatings for Stage 1 Compressor Components; continuation of N-UCAS Structural Design and Manufacturing Development; and completion of Turbine Inspection Techniques effort.
- Continued Metal Materials and Process Improvements Thrust for Marine Corps Systems. Includes completion of EFV Armor Skirt Manufacturing Development.

FY 2008 Plans:

- Continue Schedule Compression / Production Engineering Thrust for VCS Shipbuilding Affordability Initiative.
- Continue Outfitting Thrust for VCS Shipbuilding Affordability Initiative.
- Continue rapid response and teaching factory activities.
- Continue Metals Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative.
- Continue Metals Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative.
- Continue Metals Thrust for Littoral Combat Ship (LCS) Shipbuilding Affordability Initiative.
- Continue Metals Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative.
- Continue Metal Materials and Process Improvements Thrust for Other Ship / NAVSEA Platforms.
- Continue Metals Materials and Process Improvement Thrust for Air Platforms.
- Continue Metal Materials and Process Improvements Thrust for Marine Corps Systems.

FY 2009 Plans:

- Continue Schedule Compression / Production Engineering Thrust for VCS Shipbuilding Affordability Initiative.
- Continue Outfitting Thrust for VCS Shipbuilding Affordability Initiative.
- Continue rapid response and teaching factory activities.
- Continue Metals Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative. Includes completion of DDG-1000 Advanced Bonding Methods for Steel Structures; completion of Low Cost Pallet Systems for DDG-1000 AGS; completion of Coating Application Improvement - formerly High Solids Coatings on DDG-1000; and completion of PVLS Hull Integration (formerly Large Marine Structure Hull

R1 Line Item 207

Page 5 of 15

UNCLASSIFIED

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: 1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

Integration). Metallic materials and process efforts for DDG 1000 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 1000 components.

- Continue Metals Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative. Includes completion of CVN Preparation Methods for Coating Tanks completion of Optimization of CVN-21 Power Unit Assembly Facility and Carrier Visual Build. Metallic materials and process efforts for CVN 21 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 21 components.
- Continue Metals Thrust for Littoral Combat Ship (LCS) Shipbuilding Affordability Initiative.
- Continue Metals Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes completion of SSN Alloy 625 Pipe Welding; completion of SSN-774 Damping Material Application; and completion of Laser Cladding for Submarines. 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.
- Continue Metal Materials and Process Improvements Thrust for Other Ship / NAVSEA Platforms.
- Continue Metals Materials and Process Improvement Thrust for Air Platforms.
- Continue Metal Materials and Process Improvements Thrust for Marine Corps Systems.

	FY 2007	FY 2008	FY 2009
OTHER (SHIPBUILDING, REPAIR TECH, ENERGETICS, AND TECHNICAL ENGINEERING SUPPORT)	10,945	10,210	10,340

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. Repair technology addresses repair, overhaul, and sustainment functions that emphasize remanufacturing processes and advancing technology. Energetics efforts concentrate on 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).

FY 2007 Accomplishments:

- Initiated Shipbuilding Affordability Thrust for CVN-21.
- Initiated Shipbuilding Affordability Thrust for VCS. Includes initiation and completion of Computed Radiography, an Alternative to Conventional Film Radiography.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: 1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Initiated Shipbuilding Affordability Thrust for LCS. Includes initiation of Internal Supply Chain - Marinette Marine.
- Continued Shipbuilding Affordability Thrust for DDG-1000.
- Continued Shipbuilding Thrust for Other Ship / NAVSEA Platforms. Includes completion of Hybrid Pipe Welding System; completion of Technical Training and Data Collection (NGSS); completion of Re-engineer Internal Supply Chain (NGSS); and initiation and completion of Nested Material Manufacturing Technology Improvement.
- Continued Repair Technology Thrust for repair and sustainment of Navy weapons systems. Includes completion of Helicopter Blade Refurbishment; completion of CVN Propulsion Health Monitoring; completion of VLS Tube Repair; and initiation of Repair Technology projects based on high priority depot needs.
- Continued Energetics Thrust for PEO IWS and Other Acquisition Programs. Includes continuation of Flexible Manufacturing of Nitrogen Based Gun Propellants; completion of Alternative Manufacture of TATB; and initiation of energetics efforts to support PEO IWS and other acquisition programs.
- Continued to provide technical engineering support for the ManTech Program.

FY 2008 Plans:

- Continue Shipbuilding Affordability Thrust for CVN-21.
- Continue Shipbuilding Affordability Thrust for VCS.
- Continue Shipbuilding Affordability Thrust for LCS.
- Continue Shipbuilding Affordability Thrust for DDG-1000.
- Continue Shipbuilding Thrust for Other Ship / NAVSEA Platforms.
- Continue Repair Technology Thrust for repair and sustainment of Navy weapons systems.
- Continue Energetics Thrust for PEO IWS and Other Acquisition Programs.
- Continued to provide technical engineering support for the ManTech Program.

FY 2009 Plans:

- Continue Shipbuilding Affordability Thrust for CVN-21.
- Continue Shipbuilding Affordability Thrust for VCS.
- Continue Shipbuilding Affordability Thrust for LCS.
- Continue Shipbuilding Affordability Thrust for DDG-1000.
- Continue Shipbuilding Thrust for Other Ship / NAVSEA Platforms.
- Continue Repair Technology Thrust for repair and sustainment of Navy weapons systems.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: 1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Continue Energetics Thrust for PEO IWS and Other Acquisition Programs. Includes completion of Flexible Manufacturing of Nitrogen Based Gun Propellants; and initiation of energetics efforts to support PEO IWS and other acquisition programs.
- Continued to provide technical engineering support for the ManTech Program.

	FY 2007	FY 2008	FY 2009
ELECTRONICS PROCESSING AND FABRICATION	10,690	10,000	10,000

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 in 2007 and outyears is on shipbuilding affordability for four major platforms: DDG-1000, CVN-21, VCS, and LCS.

FY 2007 Accomplishments:

- Initiated Electronics / Electro-Optics Thrust for VCS Affordability Initiative. Includes initiation of Conformal Acoustic Velocity Sensor CAVES for VCS; initiation and completion of Sonar and Navigation for VCS.
- Initiated Electronics / Electro-Optics Thrust for LCS Shipbuilding Affordability Initiative. Includes initiation of LCS Reconfigurable Antenna.
- Initiated advanced electronics and electro-optics efforts/thrusts to address improvements/affordability for DDG-1000, CVN-21, VCS, LCS, F/A-18, EA-18G, and others.
- Continued Electronics / Electro-Optics Thrust for Air Platforms. Includes continuation of Helmet Mounted Display Visor; continuation of Digital Heads-Up Display; continuation of Multispectral Mie-IR Lasers for DIRCM; and completion of Manufacturability of OTWT for Jammer Applications.
- Continued Electronics / Electro-Optics Thrust for DDG-1000 Shipbuilding Affordability Initiative. Includes continuation of DDG-1000 Remote Source Lighting; continuation of SiGE-Based System-on-Chip for Low-Cost Weight Phased Array Antennas; and initiation of High-G Packaging and Miniaturization for Deeply Integrated Inertial Guidance Units.
- Continued Electronics / Electro-Optic Thrust for CVN-21 Shipbuilding Affordability Initiative. Includes continuation of High-Power Carbide PiN Diode Manufacturing; and completion of LASS for CVN-21 (Phase II).

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROJECT NUMBER: 1050

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT TITLE: MANUFACTURING TECHNOLOGY

FY 2008 Plans:

- Initiate and complete effort to determine applicability and performance capability of fiber optic acoustic sensors to reliably detect underwater swimmers approaching ships in port locations (Underwater Swimmer Detection System).
- Continue Electronics / Electro-Optics Thrust for VCS Affordability Initiative.
- Continue Electronics / Electro-Optics Thrust for LCS Shipbuilding Affordability Initiative.
- Continue advanced electronics and electro-optics efforts/thrusts to address improvements/affordability for DDG-1000, CVN-21, VCS, LCS, F/A-18, EA-18G, and others.
- Continue Electronics / Electro-Optics Thrust for Air Platforms.
- Continue Electronics / Electro-Optics Thrust for DDG-1000 Shipbuilding Affordability Initiative.
- Continue Electronics / Electro-Optic Thrust for CVN-21 Shipbuilding Affordability Initiative.

FY 2009 Plans:

- Continue Electronics / Electro-Optics Thrust for VCS Affordability Initiative. Includes completion of Conformal Acoustic Velocity Sensor CAVES for VCS and initiation of improved affordable electronics / electro-optics efforts.
- Continue Electronics / Electro-Optics Thrust for LCS Shipbuilding Affordability Initiative.
- Continue advanced electronics and electro-optics efforts/thrusts to address improvements/affordability for DDG-1000, CVN-21, VCS, LCS, F/A-18, EA-18G, and others.
- Continue Electronics / Electro-Optics Thrust for Air Platforms. Includes completion of Multispectral Mid-IR Lasers for DIRCM and initiation of electronics / electro-optics efforts to improve affordability for Air Platforms.
- Continue Electronics / Electro-Optics Thrust for DDG-1000 Shipbuilding Affordability Initiative. Includes radar/communications efforts to impact DDG 1000 affordability.
- Continue Electronics / Electro-Optic Thrust for CVN-21 Shipbuilding Affordability Initiative.

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROJECT NUMBER: 1050

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT TITLE: MANUFACTURING TECHNOLOGY

	FY 2007	FY 2008	FY 2009
COMPOSITES PROCESSING AND FABRICATION	6,863	6,000	6,000

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 in FY 2007 and the outyears is on composites processing for the following four platforms: DDG-1000, CVN-21, VCS, and LCS although ManTech will continue to develop composites manufacturing technology for high priority air platforms.

FY 2007 Accomplishments:

- Initiated Composite Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes initiation of Composite Sail Cusp; and initiation of VCS Impeller.
- Initiated other composites thrusts (formerly projects) to address improvements/affordability of DDG-1000, CVN-21, VCS, and other acquisition program offices.
- Continued Composite Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative. Includes completion of Large Marine Composite to Steel Bonded Joint; initiation of DDG-1000 Helodeck Stiffeners Affordability; and initiation of DDG-1000 Radomes Affordability.
- Continued Composite Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative. Includes completion of CVN-21 Weight Reduction.
- Continued Composite Materials and Process Improvement Thrust for Air Platforms. Includes continuation of Titanium-Graphite for F/A-18 Engine Bay Doors; completion of N-UCAS System Design and Manufacturing Demonstration; and completion of Weapons Bay Door; and initiation of Composite Frame Manufacturing Technology - V-22 and H-53.

FY 2008 Plans:

- Continue Composite Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative.
- Continue other composites thrusts (formerly projects) to address improvements/affordability of DDG-1000, CVN-21, VCS, and other acquisition program offices.

R1 Line Item 207

Page 10 of 15

UNCLASSIFIED

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: 1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

- Continue Composite Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative.
- Continue Composite Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative.
- Continue Composite Materials and Process Improvement Thrust for Air Platforms.

FY 2009 Plans:

- Continue Composite Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes completion of VCS Impeller and continuation/initiation of efforts to develop/optimize composite materials fabrication technology for reduced cost VCS construction.
- Continue other composites thrusts (formerly projects) to address improvements/affordability of DDG-1000, CVN-21, VCS, and other acquisition program offices.
- Continue Composite Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative.
- Continue Composite Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative.
- Continue Composite Materials and Process Improvement Thrust for Air Platforms. Includes completion of Composite Frame Manufacturing Technology - V-22 and H-53 and continuation/initiation of efforts to develop/optimize composite materials fabrication technology for reduced cost Air Platform construction.

	FY 2007	FY 2008	FY 2009
CORPORATE INVESTMENTS	6,740	11,116	12,341

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

UNCLASSIFIED

FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT NUMBER: 1050

PROJECT TITLE: MANUFACTURING TECHNOLOGY

improvements to cost and cycle time for weapon system development, production, and repair. Additionally, Corporate Investments include the funding of recently identified high priority shipbuilding affordability efforts for the four major platforms - DDG-1000, CVN-21, VCS, and LCS.

The increase from FY 2007 to FY 2008 and out funds the new Shipbuilding Affordability Strategy requirement.

FY 2007 Accomplishments:

- Initiate Near-Term High Priority Shipbuilding Affordability Thrust for CVN-21. Includes Light Activated Semiconductor Switches, HSLA-115 Evaluation and Implementation Support, and Digital Radiography Support.
- Continued Best Manufacturing Practices efforts in surveys, the Program Manager's WorkStation, and Collaborative Work Environment.
- Continued Near-Term High Priority Shipbuilding Affordability Thrust for Littoral Combat Ship (LCS). Includes completion of Packaging Reconfigurable Antenna Solutions for Improved Mission Adaptability for the LCS - Phase I.
- 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-1000, CVN 21, LCS, VCS, and others.

FY 2008 Plans:

- Initiate Near-Term, High Priority Shipbuilding Affordability Thrust for DDG-1000. Includes Pallet Manufacturing Process Modeling, Power Electronic Module Cost Out effort, and SiGe-based System-on-Chip Low Cost/Weight Phased Array Antennas.
- Initiate Near-Term High Priority Shipbuilding Affordability Thrust for VCS. Includes Design for Production Process Improvement, Automated Install of Studs, Deckplate Construction Information Network, Outfitting Process Improvement, and VCS Material Management.
- Continue Near-Term High Priority Shipbuilding Affordability Thrust for CVN-21.
- Continue Best Manufacturing Practices efforts in surveys, the Program Manager's WorkStation, and Collaborative Work Environment.
- Continue 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-1000, CVN 21, LCS, VCS, and others.

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROJECT NUMBER: 1050

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT TITLE: MANUFACTURING TECHNOLOGY

FY 2009 Plans:

- Continue Near-Term, High Priority Shipbuilding Affordability Thrust for DDG-1000.
- Continue Near-Term High Priority Shipbuilding Affordability Thrust for VCS. Includes completion of Design for Production Process Improvement, Automated Install of Studs, Deckplate Construction Information Network, Outfitting Process Improvement, and VCS Material Management and initiation of additional near-term high priority shipbuilding affordability efforts for VCS. Also includes initiation of Low Cost Impeller Support effort for Navy submarines/aircraft carriers and for shafts for Navy surface combatants.
- Continue Near-Term High Priority Shipbuilding Affordability Thrust for CVN-21.
- Continue Best Manufacturing Practices efforts in surveys, the Program Manager's WorkStation, and Collaborative Work Environment.
- Continue 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-1000, CVN 21, LCS, VCS, and others.

C. OTHER PROGRAM FUNDING SUMMARY - NAVY RELATED RDT&E:

Not applicable.

OTHER PROGRAM FUNDING SUMMARY - NON-NAVY RELATED RDT&E:

PE 0708045A End Item Industrial Preparedness Activities

PE 0708011S Industrial Preparedness

PE 0708611F Support Systems Development

D. ACQUISITION STRATEGY:

Not applicable.

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROJECT NUMBER: 9999

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT TITLE: CONGRESSIONAL PLUS-UPS

CONGRESSIONAL PLUS-UPS:

	FY 2007	FY 2008
FORMABLE ALIGNED CARBON THERMOSETS (FACTS)/STRETCH BROKEN CARON FIBER	2,137	0

Currently, carbon fibers used in composites for structural applications are in continuous tows. These continuous tows of fiber provide high strength and stiffness but are unable to conform to complex contours, which prevents them from being used in certain applications. Previous efforts in the FACTS/Stretch Broken Carbon Fiber projects have developed methodologies to manufacture tows where the fibers are randomly discontinuous, allowing the fiber tow to maintain its mechanical properties but conform to complex shapes. This effort scaled up the process to make preimpregnated tape with these tows, and used this tape to make contoured demonstration articles for naval aircraft applications.

	FY 2007	FY 2008
IMPROVED ADVANCED WATERTIGHT DOOR (IAWD) FOR NAVY SURFACE SHIPS	0	993

This effort is focused on transition of the Improved Advanced Watertight Door (IAWD) to fleet use. This involved completing the design and testing of the seal and improving manufacturability to reduce cost.

	FY 2007	FY 2008
NANO-IMPRINT AT MANUFACTURING SCALE (NIMS)	1,408	0

This effort conducted NIMS research to develop and manufacture beta prototypes.

	FY 2007	FY 2008
POLYETHERIMIDE RESIN FOAM DOMESTIC MANUFACTURING CAPABILITY	971	0

"Airex" polyetherimide (PEI) foam is used as a structural core material in a variety of radome applications for platforms such as DDG-1000 (formerly DD(X)) and F/A-18 due to its unique combination of mechanical and RF properties. There is only one worldwide manufacturer of this foam (Alcan), a Swiss company that has announced

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FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: February 2008

BUDGET ACTIVITY: 07

PROGRAM ELEMENT: 0708011N

PROJECT NUMBER: 9999

PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

PROJECT TITLE: CONGRESSIONAL PLUS-UPS

it will stop manufacturing the foam for environmental reasons. There is no alternate supplier of this foam, and switching to other foam cores would result in costly part redesigns and/or reduction in radome performance. This effort initiated development of a domestic manufacturing capability for an environmentally friendly version of PEI foam for use as a drop-in replacement for these naval applications.

	FY 2007	FY 2008
U.S. NAVY NUCLEAR POWER PLANT AND SHIP PROPULSION SHAFT MANUFACTURING IMPROVEMENT	1,311	994

FY 2007 Accomplishments: This effort concentrated on improving the manufacturing and lowering the cost of production for nuclear power plant components and shafts for Navy submarines/aircraft carriers and for shafts for Navy surface combatants. Completed the evaluation, design and specification of propulsion shaft forging furnaces.

FY 2008 Plans: Initiate development of enhanced computer-based process control and monitoring for the forging process and modern machining procedures for follow on processes.

CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7			R-1 ITEM NOMENCLATURE 0708730N/MARITIME TECHNOLOGY (MARITECH)				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	19.914	13.911	0.000	0.000	0.000	0.000	0.000
9999 / CONGRESSIONAL ADDS	19.914	13.911	0.000	0.000	0.000	0.000	0.000
A. MISSION DESCRIPTION:							
(U) Project 9999 - See the R2a for Congressional Add descriptions.							
B. PROGRAM CHANGE SUMMARY:							
Funding:	FY 2007	FY 2008	FY 2009				
FY 2008 President's Budget	20.422	0.000	0.000				
FY 2009 President's Budget	19.914	13.911	0.000				
Total Adjustments	-0.508	13.911	0.000				
Congressional Add		14.000					
Undistributed/General Reductions	-0.508	-0.089	0.000				
Subtotal	-0.508	13.911	0.000				

CLASSIFICATION:		UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0708730N/MARITIME TECHNOLOGY (MARITECH)	PROJECT NUMBER AND NAME 9999/CONGRESSIONAL ADDS	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
9B13N/National Shipbuilding Research Program	14.573	11.924	0.000
RDT&E Articles Quantity	0	0	0
<p>(U) FY 2007 - Provides funding for various shipbuilding and ship repair technology development projects specifically focused on reducing the cost of Navy ship design, construction and repair through NSRP. The NSRP is an industry directed, Navy co-sponsored, cost sharing, collaborative shipbuilding technology research consortium focused on reducing the cost of Navy shipbuilding and ship repair. It utilizes a unique legal mechanism which allows cooperation across the U.S. shipbuilding industry, while avoiding anti-trust concerns. It is structured as a collaboration of eleven major U.S. shipyards focused on industry-wide implementation of solutions to multi-yard, multi-program common cost drivers.</p> <p>(U) FY 2008 - Continued effort from FY 07.</p>			
	FY 2007	FY 2008	FY 2009
9B58C/Navy Automatic Identification Technology	2.429	0.795	0.000
RDT&E Articles Quantity	0	0	0
<p>(U) The Navy Automatic Identification Technology (AIT) Engineering Support Center (ESC) allows the Navy to incorporate AIT technologies and processes into the upfront planning of ship and aircraft acquisition programs, expeditionary forces, logistics, special operations forces, and all maintenance communities. Navy AIT ESC establishes the infrastructure for core life-cycle support to preclude redundancy and promote standardization as differing Navy organizations institute AIT-enabled systems/processes. AIT is a rapidly developing capability and its introduction and use must be coordinated throughout the Navy to ensure the most appropriate and cost-effective technologies are adopted. The Navy AIT ESC will operate as a Navy Service Office, administratively supported by the Naval Supply Systems Command (NAVSUP) Headquarters.</p>			
	FY 2007	FY 2008	FY 2009
9B14N/NAWC Asset Visibility Business Process Improvement	1.941	0.000	0.000
RDT&E Articles Quantity	0	0	0
<p>(U) The NAWC AV BPI provides for the accelerated test, implementation, and evaluation of a passive radio frequency identification (pRFID) set of technologies with relational supply (R-SUPPLY) Force in a Naval Warfare Center environment. The Navy, working with suppliers, must accelerate integration of this needed technology into the Navy's supply chain management process, specifically, receiving operations on the front end performed at Fleet and Industrial Supply Center (FISC) partner sites. This technology will directly enhance support to the combat commanders in support of War Operations by providing the tracking and accountability necessary to ensure critical material visibility, traceability, and availability. This initiative is of critical importance supporting Naval Air Warfare Centers and ensuring needed aircraft avionics, air-launched weapons, electronic warfare systems, cruise missiles, and unmanned aerial vehicles and other equipment related to Navy and Marine Corps air power are available for operational superiority.</p>			

CLASSIFICATION:		UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)				DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0708730N/MARITIME TECHNOLOGY (MARITECH)		PROJECT NUMBER AND NAME 9999/CONGRESSIONAL ADDS
		FY 2007	FY 2008	FY 2009
9B12N/Shipyard Enterprise Warehouse Management System		0.971	0.000	0.000
RDT&E Articles Quantity		0	0	0
<p>(U)Funding will provide a commercial Enterprise Warehouse Management System (EWMS), Radio Frequency Identification (RFID), and Common Access Card (CAC) Technology solution set. It will provide the functionality and capability to track, account, and provide Total Asset Visibility (TAV) of critically needed components and material urgently needed for overhaul, repair, and maintenance of Navy Combat Ships and Support Platforms for contingency or wartime operations. As the Navy transitions to a more responsive method of completing ship repair availabilities, the logistics business processes and information technology (IT) systems must keep pace. Both the shipyards and their stakeholders fully recognize that if they are to continue to support the increasing operational needs of the Warfighter in an ever tightening budget environment, Shipyards must repair and overhaul ships on time and within budget.</p>				
		FY 2007	FY 2008	FY 2009
9999/Enhanced Tracking and Asset Control (ETAC)		0.000	1.192	0.000
RDT&E Articles Quantity		0	0	0
<p>(U)Enhanced Tracking and Asset Control (ETAC) - The funding would be used by the Navy to implement ETAC at Navy repair, stock point and distribution sites across Navy air, surface, submarine and warfare center support environments.</p>				