DEPARTMENT OF THE NAVY
FISCAL YEAR (FY) 2008/2009
BUDGET ESTIMATES

JUSTIFICATION OF ESTIMATES
FEBRUARY 2007

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

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, $18,673,894,000, to remain available for obligation until September 30, 2008: *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."

DEPARTMENT OF DEFENSE

FY 2008 RDT&E PROGRAM

SUMMARY
($ IN THOUSANDS)

29 JAN 2007

APPROPRIATION	FY 2006	FY 2007	FY 2008
Research, Development, Test & Eval, Navy	3,501,859	3,794,534	3,697,171
Total Research, Development, Test & Evaluation	3,501,859	3,794,534	3,697,171

DEPARTMENT OF DEFENSE
FY 2008 RDT&E PROGRAM
SUMMARY
($ IN THOUSANDS)

Summary Recap of Budget Activities	FY 2006	FY 2007	FY 2008
Operational Systems Development	3,501,859	3,794,534	3,697,171
Total Research, Development, Test & Evaluation	3,501,859	3,794,534	3,697,171

Summary Recap of FYDP Programs			
Strategic Forces	177,827	208,838	155,187
General Purpose Forces	997,005	924,056	842,341
Intelligence and Communications	1,129,280	1,365,077	1,367,519
Research and Development		1,207,693	1,254,642
Central Supply and Maintenance	73,059	88,870	77,482
Total Research, Development, Test & Evaluation	3,501,859	3,794,534	3,697,171

UNCLASSIFIED
DEPARTMENT OF THE NAVY
FY 2008 RDT&E PROGRAM
SUMMARY
($ IN THOUSANDS)

29 JAN 2007

Summary Recap of Budget Activities	FY 2006	FY 2007	FY 2008
Operational Systems Development	3,501,859	3,794,534	3,697,171
Total Research, Development, Test & Eval, Navy	3,501,859	3,794,534	3,697,171

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Total Research, Development, Test & Eval, Navy	3,501,859	3,794,534	3,697,171

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2008 RDT&E PROGRAM

EXHIBIT R-1

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

Date: 29 JAN 2007

Line No	Program Element Number	Item	Act	Thousands of Dollars FY 2006	FY 2007	FY 2008	SEC
162	0603660N	Advanced Development Projects	07				
163	0604227N	HARPOON Modifications	07		27,894	43,470	U
164	0604402N	Unmanned Combat Air Vehicle (UCAV) Advanced Component and Prototype Development	07		99,622	161,665	U
165	0101221N	Strategic Sub & Weapons System Support	07	87,897	126,691	81,398	U
166	0101224N	SSBN Security Technology Program	07	42,538	42,707	33,109	U
167	0101226N	Submarine Acoustic Warfare Development	07	9,299	2,123	4,149	U
168	0101402N	Navy Strategic Communications	07	38,093	37,317	36,531	U
169	0203761N	Rapid Technology Transition (RTT)	07	26,378	39,326	44,756	U
170	0204136N	F/A-18 Squadrons	07	83,538	39,279	44,891	U
171	0204152N	E-2 Squadrons	07	20,954	9,803	22,691	U
172	0204163N	Fleet Telecommunications (Tactical)	07	30,482	26,997	23,108	U
173	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	26,096	24,144	11,405	U
174	0204311N	Integrated Surveillance System	07	27,010	40,429	27,740	U

175	0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	4,655	1,805	1,845	U
176	0204571N	Consolidated Training Systems Development	07	45,875	19,085	6,987	U
177	0204574N	Cryptologic Direct Support	07	1,402	1,420	1,443	U
178	0204575N	Electronic Warfare (EW) Readiness Support	07	13,671	20,595	34,340	U
179	0205601N	HARM Improvement	07	87,212	99,829	34,762	U
180	0205604N	Tactical Data Links	07	84,917	41,798	5,534	U
181	0205620N	Surface ASW Combat System Integration	07	12,387	18,546	11,200	U
182	0205632N	MK-48 ADCAP	07	21,594	24,870	17,941	U
183	0205633N	Aviation Improvements	07	92,494	98,324	100,284	U
184	0205658N	Navy Science Assistance Program	07	5,609	3,363	3,473	U
185	0205675N	Operational Nuclear Power Systems	07	63,140	69,088	71,720	U
186	0206313M	Marine Corps Communications Systems	07	246,086	233,708	280,140	U
187	0206623M	Marine Corps Ground Combat/ Supporting Arms Systems	07	73,816	65,486	57,177	U
188	0206624M	Marine Corps Combat Services Support	07	17,182	17,456	12,946	U
189	0207161N	Tactical AIM Missiles	07	9,032	7,916	4,445	U
190	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	3,475	6,680	4,579	U
191	0208058N	Joint High Speed Vessel (JHSV)	07		14,109	18,934	U

Line No	Program Element Number	Item	Act	Thousands of Dollars FY 2006	FY 2007	FY 2008	SEC
192	0301303N	Maritime Intelligence	07				
193	0301323N	Collection Management	07				
194	0301327N	Technical Reconnaissance and Surveillance	07				
195	0303109N	Satellite Communications (SPACE)	07	527,432	748,416	736,572	U
196	0303140N	Information Systems Security Program	07	21,362	28,911	28,393	U
197	0303158M	Joint Command and Control Program (JC2)	07		997	1,007	U
198	0303158N	Joint Command and Control Program (JC2)	07	4,928	5,040	5,015	U
199	0305149N	COBRA JUDY	07	119,527	134,815	132,679	U
200	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07	9,805	8,275	4,887	U
201	0305188N	Joint C4ISR Battle Center (JBC)	07	50,109			U
202	0305192N	Military Intelligence Program (MIP) Activities	07	4,228	6,767	5,444	U
203	0305204N	Tactical Unmanned Aerial Vehicles	07	114,998	119,098	50,185	U
204	0305205N	Endurance Unmanned Aerial Vehicles	07		26,238	116,666	U
205	0305206N	Airborne Reconnaissance Systems	07	36,564	38,991	50,677	U

UNCLASSIFIED
DEPARTMENT OF THE NAVY
FY 2008 RDT&E PROGRAM

EXHIBIT R-1

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

Date: 29 JAN 2007

Line No	Program Element Number	Item	Act	Thousands of Dollars FY 2006	FY 2007	FY 2008	SEC
206	0305207N	Manned Reconnaissance Systems	07	67,234	36,725	22,488	U
207	0305208N	Distributed Common Ground/Surface Systems	07	12,134	17,801	19,350	U
208	0307207N	Aerial Common Sensor (ACS)	07	4,793	17,117	16,606	U
209	0308601N	Modeling and Simulation Support	07	7,611	7,475	7,832	U
210	0702207N	Depot Maintenance (Non-IF)	07	12,051	6,137	19,402	U
211	0702239N	Avionics Component Improvement Program	07		1,370	1,635	U
212	0708011N	Industrial Preparedness	07	57,745	60,941	56,445	U
213	0708730N	Maritime Technology (MARITECH)	07	3,263	20,422		U
		Operational Systems Development		3,501,859	3,794,534	3,697,171	
		Total Research, Development, Test & Eval, Navy		3,501,859	3,794,534	3,697,171	

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0604227N, HARPOON MODIFICATIONS		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		27.894	43.470	72.868	30.314	6.002	0	0
1843 HARPOON Block III		27.894	43.470	72.868	30.314	6.002	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.

FY07-11 RDT&E funding will support full development and integration of Selected Availability Anti-Spoof Security Module (SAASM), data link integration, and test and evaluation for both Surface- and Air-Launched weapons.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	0.000	36.284	53.325	24.044
Current President's Budget:	0.000	27.894	43.470	72.868
Total Adjustments	0.000	-8.390	-9.855	48.824
Summary of Adjustments				
Congressional Reductions		-8.284		
Congressional Rescissions				
Congressional Undistributed Reductions		-0.106		
Congressional Increases				
Economic Assumptions			0.029	0.171
Miscellaneous Adjustments			-9.884	48.653
Subtotal	0.000	-8.390	-9.855	48.824

Schedule: Changes reflect: FY07 Congressional program reduction; PB 08 budget includes the Air variant; ACAT change from III to II because RDT&E threshold exceeded. Milestone schedule for Surface and Air have been combined as a result. Missile changes will be identical for both Surface and Air-Launched. Milestone B will be for a combined Surface and Air-Launched program, Milestone C will be for an LRIP decision, LRIP will establish an initial production base for the system and allow for the transition from FY10 LRIP quantity of 40 units to an FY11 quantity of 225 units. Milestone B decision change due to ACAT change.

Technical: Added an Air-Launched Harpoon Block III requirement with integration on F/A-18E/F.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1843 HARPOON Block III		27.894	43.470	72.868	30.314	6.002	0	0
RDT&E Articles Qty		4		3				

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.

FY07-11 RDT&E funding will support full development and integration of Selected Availability Anti-Spoof Security Module (SAASM), data link integration, and test and evaluation for both Surface- and Air-Launched weapons.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Surface Harpoon Block III Design/Development	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		22.689	30.900	31.741
RDT&E Articles Qty		4		

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

Air Harpoon Block III Design/Development	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			2.852	32.557
RDT&E Articles Qty				3

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

Launch Control System Interface Design	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		5.205	9.718	8.570
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.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	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	0.000	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	0.000	9.646	42.514	43.883	42.103	20.088	158.234

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 (Formally an ACAT 1C program). Program insertion will be at the System Development and Demonstration level, followed by a production and installment effort funded in 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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0604227N, HARPOON MODIFICATIONS				PROJECT NUMBER AND NAME 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				3.400	Jan 2008	5.505	Nov 2008	2.336	11.241	
Aircraft Integration		MCDONNELL DOUGLAS CORP, SAINT LOUIS						1.600	Nov 2008	.560	2.160	
Ancillary Hdw Development	SS-CPFF	BSC SYSTEMS INC, RESTON, VA		.268	Mar 2007	.760	Nov 2007	1.018	Nov 2008	.487	2.533	2.533
Ancillary Hdw Development	WX	NAWCWD, CHINA LAKE CA		9.406	Oct 2006	4.813	Nov 2007	6.119	Nov 2008	1.728	22.066	
Primary Hdw Development	SS-CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS		2.500	Jan 2007						2.500	2.500
Primary Hdw Development	SS-CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS,		2.655	Jun 2007	13.197	Nov 2007	14.943	Nov 2008	1.401	32.196	32.196
Ship Integration	WX	NSWC PHD PORT HUENEME CA		.301	Dec 2006	.485	Nov 2007	1.049	Nov 2008	.325	2.160	
Ship Integration	WX	SPAWARSYSCEN SAN DIEGO CA		.500	Nov 2006	.342	Nov 2007	.454	Nov 2008	.000	1.296	
Systems Engineering	WX	NAWCAD, PATUXENT RIVER MD		.131	Jan 2007	1.122	Nov 2007	1.263	Nov 2008	.000	2.516	
SUBTOTAL PRODUCT DEVELOPMENT				15.761		24.119		31.951		6.837	78.668	

Remarks: Target Value of Contracts represents the Program Manager's latest estimates. The $2.7M Primary Hardware Development contract in FY07 is for Pre-SDD Risk Reduction.

SUPPORT												
Development Support	SS-CPFF	SOUTHEASTERN COMPUTER CONSULTANTS IN		.268	Mar 2007	.388	Nov 2007	.489	Nov 2008	.214	1.359	1.359
Integrated Logistic Support	WX	NAWCWD, CHINA LAKE CA		.209	Jan 2007	.275	Nov 2007	.336	Nov 2008	.300	1.120	
Software Development	SS-CPFF	DELEX SYSTEMS INC, VIENNA,VA				1.631	Nov 2007	1.615	Nov 2008	1.089	4.335	4.335
Software Development	SS-CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS,		8.694	Jun 2007	9.630	Apr 2008	17.950	Nov 2008	2.219	38.493	38.493
Software Development	WX	NSWC INDIAN HEAD DIV, INDIAN HD MD		.100	Nov 2006	.256	Nov 2007	.267	Nov 2008	.129	.752	
SUBTOTAL SUPPORT				9.271		12.180		20.657		3.951	46.059	

Remarks: Target Value of Contracts represents the Program Manager's latest estimates.

TEST & EVALUATION												
Developmental Test & Evaluation	SS-CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS,		1.085	Jun 2007	4.501	Nov 2007	8.498	Nov 2008	6.009	20.093	20.093
Developmental Test & Evaluation	WX	NAWCAD, PATUXENT RIVER MD				.228	Nov 2007	1.678	Nov 2008	.550	2.456	
Developmental Test & Evaluation	WX	NAWCWD, CHINA LAKE CA		.351	Mar 2007	.900	Nov 2007	6.685	Nov 2008	11.156	19.092	
Developmental Test & Evaluation	WX	NSWC PHD PORT HUENEME CA		.910	Dec 2006	1.292	Nov 2007	.939	Nov 2008	.234	3.375	
Developmental Test & Evaluation	Various	VARIOUS		.367	Jan 2007					.000	.367	
Operational Test & Evaluation	SS-CPFF	DELEX SYSTEMS INC, VIENNA,VA						1.618	Nov 2008	.577	2.195	2.195
Operational Test & Evaluation	VARIOUS	VARIOUS								3.815	3.815	
Operational Test & Evaluation	WX	OPER T & E FOR CD 30, NORFOLK VA						.292	Nov 2008	1.580	1.872	
SUBTOTAL TEST & EVALUATION				2.713		6.921		19.710		23.921	53.265	

Remarks: Target Value of Contracts represents the Program Manager's latest estimates.

MANAGEMENT												
Government Engineering Support	WX	NAWCAD, PATUXENT RIVER MD				.100	Nov 2007	.400	Nov 2008	.500	1.000	
Travel		NAVAIR, Patuxent River, MD		.149	Oct 2006	.150	Nov 2007	.150	Nov 2008	.150	.599	
SUBTOTAL MANAGEMENT				.149		.250		.550		.650	1.599	

Remarks:

Total Cost				27.894		43.470		72.868		35.359	179.591	

Remarks:

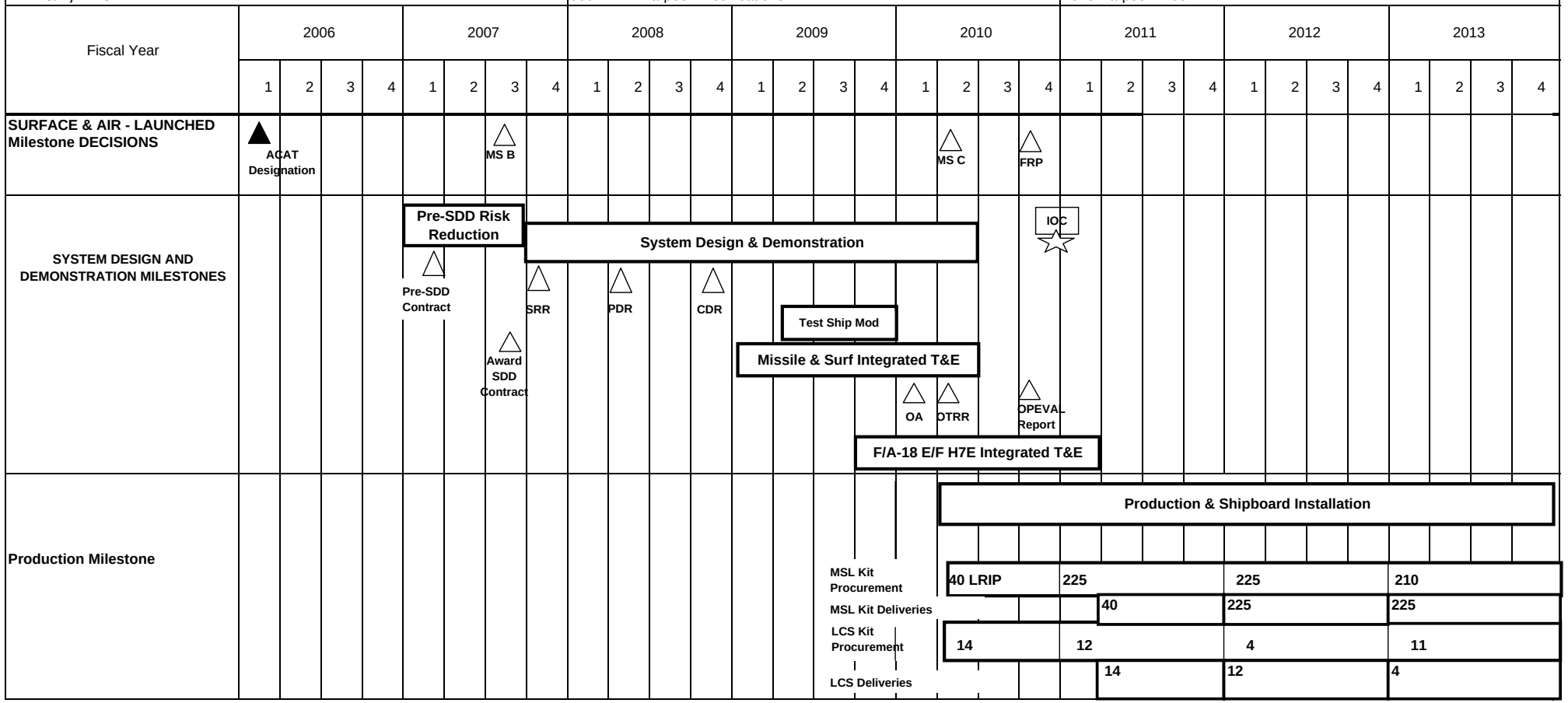
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT NUMBER AND NAME: 0604227N Harpoon Modifications

PROJECT NUMBER AND NAME: 1843 Harpoon Block III



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA7**	PROGRAM ELEMENT **0604227N Harpoon Modifications**				PROJECT NUMBER AND NAME **1843 Harpoon Block III**			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
ACAT Designation	1Q							
Milestone B		3Q						
Milestone C					2Q			
Full Rate Production (FRP)					4Q			
Pre-SDD Risk Reduction Phase		1Q - 3Q						
Pre-SDD Risk Reduction Contract Award		1Q						
System Design and Demonstration (SDD)		4Q	1Q-4Q	1Q-4Q	1Q-2Q			
SDD Contract Award		3Q						
Systems Requirements Review (SRR)		4Q						
Preliminary Design Review (PDR)			2Q					
Critical Design Review (CDR)			4Q					
Initial Operational Capability (IOC)					4Q			
Test ship Mod				2Q-4Q				
Integrated Test & Evaluation (IT&E)				1Q-4Q	1Q-2Q			
Operational Assessment (OA) to support LRIP					1Q			
Operational Test Readiness Review (OTRR)					2Q			
OPEVAL Report					4Q			
F/A-18 E/F H7E Integrated Test & Evaluation (IT&E)				4Q	1Q-4Q	1Q		
Production & Shipboard Installations					2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
MSL Kit Procurement Qty - 40					2Q-4Q			
MSL Kit Procurement Qty - 225						1Q-4Q		
MSL Kit Procurement Qty - 225							1Q-4Q	
MSL Kit Procurement Qty - 210								1Q-4Q
LCS Kit Procurement Qty - 14					2Q-4Q			
LCS Kit Procurement Qty - 12						1Q-4Q		
LCS Kit Procurement Qty - 4							1Q-4Q	
LCS Kit Procurement Qty - 11								1Q-4Q
MSL Kit Deliveries Qty - 40						2Q-4Q		
MSL Kit Deliveries Qty - 225							1Q-4Q	
MSL Kit Deliveries Qty - 225								1Q-4Q
LCS Kit Deliveries Qty - 14						2Q-4Q		
LCS Kit Deliveries Qty - 12							1Q-4Q	
LCS Kit Deliveries Qty - 4								1Q-4Q

R-1 SHOPPING LIST - Item No. 163

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV)		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		99.622	161.665	273.617	417.512	406.231	219.963	306.585
3178 UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)		99.622	161.665	273.617	376.114	347.749	150.677	135.419
3191 UCAS TECHNOLOGY MATURATION					41.398	58.482	69.286	171.166

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

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 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 research and development data developed will support a follow-on acquisition milestone decision. System Development & Demonstration (SDD) funding is not covered, nor described in this exhibit.

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 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.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	0.000	239.163	310.212	369.617
Current President's Budget:	0.000	99.622	161.665	273.617
Total Adjustments	0.000	-139.541	-148.547	-96.000
Summary of Adjustments				
Congressional Reductions		-139.163		
Congressional Rescissions				
Congressional Undistributed Reductions		-0.378		
Congressional Increases				
Economic Assumptions			1.023	2.267
Miscellaneous Adjustments			-149.570	-98.267
Subtotal	0.000	-139.541	-148.547	-96.000

Schedule: Re-phasing in the budget profile in fiscal years 2007 through 2011 has shifted the entire UCAS program to a FY2013 completion vice FY2011. The revised schedule reflects a refinement in planned activities and program requirements to achieve the capability to conduct carrier demonstrations of unmanned combat air systems with Low Observable (LO) planform(s).

Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3178 UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)		99.622	161.665	273.617	376.114	347.749	150.677	135.419
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		92.325	149.082	261.707
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 primary flight control (PRI-FLY) displays, Landing Safety Officer (LSO) displays and Carrier Air Traffic Control Center (CATCC) stations. Shipboard research and development efforts include establishment and evaluation of launch/recovery envelopes.

Management	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		6.892	7.383	7.910
RDT&E Articles Qty				

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

Test and Evaluation Support	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		.405	5.200	4.000
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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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 2006	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. Source Selection is ongoing.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO DEV				PROJECT NUMBER AND NAME 3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)						
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												
Air Ship Integration	WX	NAWCAD, PATUXENT RIVER MD		3.260	Nov 2006	4.300	Nov 2007	5.050	Nov 2008	16.200	28.810	
Air Ship Integration	C-CPIF	VARIOUS		6.246	Dec 2006	9.600	Dec 2007	6.500	Dec 2008	16.000	38.346	38.346
Automated Aerial Refueling	MIPR	AFRL/VAFB, DAYTON OH		2.500	Nov 2006						2.500	
Primary Hdw Development	OTA	MCDONNELL DOUGLAS CORP, SAINT LOUIS		20.711	Oct 2006						20.711	20.711
Primary Hdw Development	OTA	NORTHROP GRUMMAN SYSTEMS CORPORATIO		36.375	Oct 2006						36.375	36.375
Primary Hdw Development	C-CPIF	TBD		18.259	Jul 2007	128.216	Nov 2007	239.657	Nov 2008	864.419	1,250.551	1,250.551
Systems Eng	WX	VARIOUS		4.825	Nov 2006	5.965	Nov 2007	8.500	Nov 2008	37.500	56.790	
SUBTOTAL PRODUCT DEVELOPMENT				92.175		148.081		259.707		934.119	1,434.082	

Remarks:

SUPPORT												
Integrated Logistics Sup	WX	NAWCAD, PATUXENT RIVER MD		.150	Nov 2006	1.000	Nov 2007	2.000	Nov 2008	8.750	11.900	
SUBTOTAL SUPPORT				.150		1.000		2.000		8.750	11.900	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD		.405	Nov 2006	5.200	Nov 2007	4.000	Nov 2008	34.100	43.705	
SUBTOTAL TEST & EVALUATION				.405		5.200		4.000		34.100	43.705	

Remarks:

Exhibit R-3 Cost Analysis (page 1)			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO DEV	PROJECT NUMBER AND NAME 3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)	

MANAGEMENT													
Contractor Eng Sup	C-CPIF	VARIOUS		.100	Jun 2007	.100	Nov 2007	.100	Nov 2008	.400	.700	.700
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD		3.000	Nov 2006	1.500	Nov 2007	1.650	Nov 2008	6.000	12.150	
Government Eng Sup	WX	NAWCWD, CHINA LAKE CA		.100	Nov 2006						.100	
Program Mgmt Support	C-CPIF	VARIOUS		1.747	Jun 2007	3.600	Nov 2007	3.770	Nov 2008	16.350	25.467	25.467
Program Mgmt Support	WX	NAWCAD, PATUXENT RIVER MD		1.845	Nov 2006	2.074	Nov 2007	2.270	Nov 2008	9.760	15.949	
Program Mgmt Support	WX	NAWCWD, CHINA LAKE CA		.100	Nov 2006	.110	Nov 2007	.120	Nov 2008	.480	.810	
SUBTOTAL MANAGEMENT				6.892		7.384		7.910		32.990	55.176	

Remarks:

Total Cost			99.622		161.665		273.617		1,009.959	1,544.863	

Remarks:

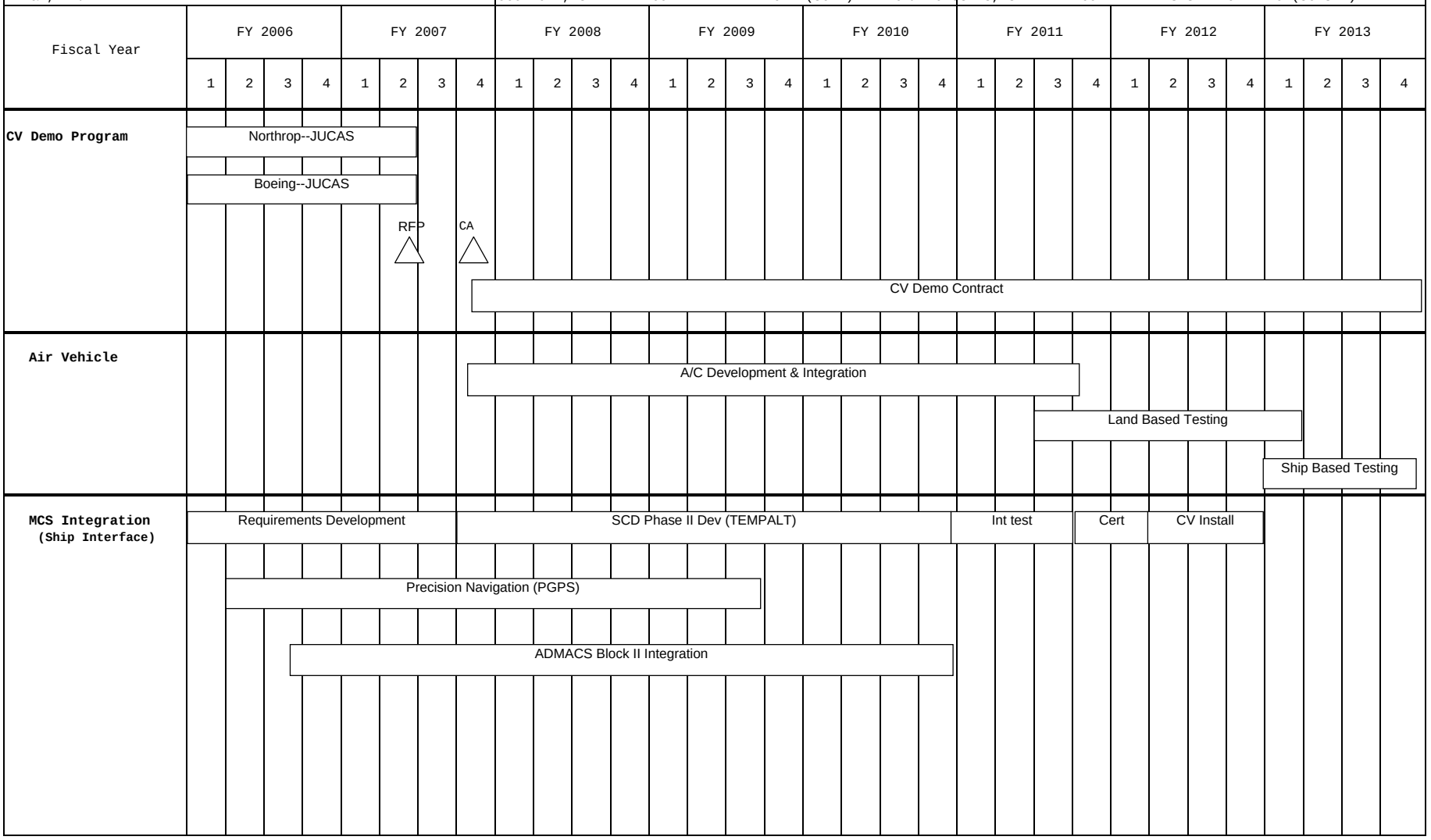
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2007

APPROPRIATION/BUDGET ACTIVITY: RDT&E,N / BA-7

PROGRAM ELEMENT NUMBER AND NAME: 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO

PROJECT NUMBER AND NAME: 3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO				PROJECT NUMBER AND NAME 3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Boeing-JUCAS	1Q-4Q	1Q-2Q						
Northrop Grumman-JUCAS	1Q-4Q	1Q-2Q						
RFP Released		2Q						
CV Demo Contract Award		4Q						
CV Demo Contract		4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
A/C Development & Integration		4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Land Based Testing						3Q-4Q	1Q-4Q	1Q
Ship Based Testing							4Q	1Q-4Q
Requirements Develpment/SCD Phase II Dev (TEMPALT)/Int test/Cert/CV Install	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Precision Navigation (PGPS)	2Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q				
ADMACS Block II Integration	3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	R-1 ITEM NOMENCLATURE **PE 0101221N Strategic Sub & Wpns Sys Spt**

COST ($ in Millions)	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Total PE Cost* (total may or may not add due to rounding)	87.9	126.7	81.4	96.8	57.4	57.5	59.2	52.1
J2228 Technology Applications Program	82.9	80.9	45.2	45.5	47.0	47.0	48.7	51.6
J3158 Enhanced Special Weapons	0.0	42.9	6.0	0.9	0.9	0.0	0.0	0.0
J0951 TRIDENT II	0.0	0.0	0.0	0.0	9.1	10.0	10.0	0.0
J3196 Reliable Replacement Warhead	0.0	0.0	30.0	50.0	0.0	0.0	0.0	0.0
S0004 TRIDENT Submarine System Improvement	1.5	0.2	0.3	0.4	0.4	0.5	0.5	0.5
0004C Thin Plate Pure Lead Technology	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9A66N Advanced Conventional Strike Capability (SLIRBM)	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
9A67N Free Electron Laser Facility	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0

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 landslide 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 infrasturcture in support of the Nuclear Posture Review and the requirements of the new Strategic Triad.

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.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
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 2006	FY 2007	FY 2008	FY 2009
Previous Presidents Budget (FY 2007 President's Controls)	92.2	124.5	88.1	88.3
Current President's Budget Controls (FY 2008 PB Budget)	87.9	124.0	81.4	96.8
Total Adjustments	-4.3	-0.5	-6.7	8.5
Summary of Adjustments				
Program Reduction (Project 2228)			-40.0	-40.0
SBIR Reduction (Project 2228)	-2.2			
Efficiency Reduction (Project 3158)			-2.0	-2.0
Program Realignment for Nuclear Weapon Security (Project 3158)		-0.2	5.0	
SSBN funding adjustment (Project S0004)	-1.5			0.1
Reliable Replacement Warhead Program(Project 3196)			30.0	50.0
Pricing Adjustments (Project 2228)	-0.6	-0.3	0.3	0.4

C. (U) Other Program Funding Summary: See enclosed R-2a for each individual project data.

D. (U) Acquisition Strategy: See enclosed R-2a for each individual project data.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**				PROJECT NUMBER AND NAME **Technology Applications J2228**				
COST ($ in Millions)	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J2228 Technology Applications	82.9	80.9	45.2	45.5	47.0	47.0	48.7	51.6
RDT&E Articles Qty	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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 commence in FY 2004, address 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 recommend 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 provides 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 will be 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 compliments the GAP electronic part activities by specifically focusing on those tasks required to ensure producability of radiation hardened parts. As a result of affordability reductions to the Technical Applications programs during the POM-08 process, the RHAP program will be terminated beginning in FY2008.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

B. (U) Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Reentry Systems Application Program (RSAP)	26.6	27.0	27.7	28.1
RDT&E Articles Quantity				

(U) FY 2006 PLAN

(U) ($26.6) Continue Reentry System Applications Program. Fully obligated.

FY 2006 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 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) FY 2007 PLAN

(U) ($27.0) Continue Reentry System Applications Program. Full obligation is projected by the 3rd Quarter of the first year.

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.

(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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
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) ($27.7) Continue Reentry System Applications Program. Full obligation is projected by the 3rd quarter of the first year.

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 sensor 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

(U) FY 2009 PLAN

(U) ($28.1) Continue Reentry System Applications Program. Full obligation is projected by the 3rd Quarter of the first year.

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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

B. (U) Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Guidance Application Program (GAP)	21.1	21.4	17.5	17.4
RDT&E Articles Quantity				

(U) FY 2006 PLAN

(U) ($21.1) Continue Strategic Guidance Applications Programs (GAP). Fully obligated.

FY 2006 efforts include:

(U) Complete the prototype virtual system simulation model and demonstrate models in a closed-loop system. Modeling and simulation support for sub-system design and Hardware in the Loop (HWIL) infrastructure development.

(U) Continue to evaluate alternate 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-hard sensor build and test results for appropriate applications.

(U) Continue design, build and evaluate Silicon Oscillator Accelerometer (SOA) support electronics and improved build processes. Prove SOA capability to meet Rad-Hard strategic goals.

(U) Alternate Pendulous Integrating Gyro Accelerometer (AltPIGA) Develop producible long life, low cost hemispherical gas bearing wheel.

(U) Hemispherical Resonator Gyro (HRG). Examine and demonstrate technologies for reducing long term bias trending. Improve performance during and following shock and vibration events.

(U) Interferometric Fiber Optic Gyro (IFOG). Improve IFOG proximity electronics hardness to strategic radiation levels.

(U) FY 2007 PLAN

(U) ($21.4) Continue Strategic Guidance Applications Programs (GAP). Full obligation is projected by the 3rd Quarter of the first year.

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 subsystem/system simulation effort and support software Verification & Validation (V&V) testing.

(U) Continue to evaluate alternate 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
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) ($17.5) Continue Strategic Guidance Applications Programs (GAP). Full obligation is projected by the 3rd quarter of the first year.

FY 2008 efforts include:

(U) Production and Qualification (P&O) of OPTELECOM-based components for use in strategic grade sensors (e.g.fiber light source, integrated optics chip, couplers.).

(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.

(U) FY 2009 PLAN

(U) ($17.4) Continue Strategic Guidance Applications Programs (GAP). Full obligation is projected by the 3d Quarter of the first year.

FY 2009 efforts include:

(U) Production and Qualification (P&O) of OPTELECOM-based components for use in strategic grade sensors (e.g.fiber light source, integrated optics chip, couplers.).

(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. Continue to evaluate alternate sensor technologies, (accelerometer, gyro, and stellar) and proximity electronics.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

B. (U) Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Strategic Propulsion Applications Program (SPAP)	17.0	17.5	0.0	0.0
RDT&E Articles Quantity				

(U) FY 2006 PLAN
(U) ($17.0) Continue SPAP program. Fully obligated.
FY 2006 efforts include:
(U) Conduct biennial Industrial Base assessment.
(U) Complete boost rocket motor test demonstration.
(U) Complete boost rocket motor post test assessment and evaluation.
(U) Complete component tests for identified post boost control technologies.
(U) Continue component tests for identified missile ordnance technologies.

(U) FY 2007 PLAN
(U) ($17.5) Continue SPAP program. Full obligation is projected by the 3rd Quarter of the first year.
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.

(U) FY 2008 PLAN
(U) ($0) Program Terminated.

(U) FY 2009 PLAN
(U) ($0) Program Terminated.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

B. (U) Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Radiation Hardened Applications Program (RHAP)	18.2	15.0	0.0	0.0
RDT&E Articles Quantity				

(U) FY 2006 PLAN
(U) ($18.2) Continue RHAP program. Fully obligated.
FY 2006 efforts include:
(U) Initiate productization of 0.15 micron digital Complimentary Metal Oxide Semiconductor - Silicon On Insulator (CMOS SOI) technology.
(U) Continue productization of 0.35 micron mixed-signal SOI technology.
(U) Complete productization and initiate qualification of 0.35 micron digital SOI technology.
(U) Complete productization and initiate qualification of 0.7 micron mixed-signal SOI technology.
(U) Initiate productization of primary non-volatile memory technology, Magnetic (MRAM).
(U) Continue productization and qualification of high-voltage analog SOI technology.
(U) Complete physics based modeling methods for nuclear radiation effects (X-ray, gamma, and neutron) on missile and guidance/missile components.
(U) Continue physics based modeling for nuclear radiation effects on complex digital circuits with built in testability.
(U) Continue evaluation and validation of post radiation SPICE models for dose rate, total ionizing dose, neutron and single event effects.
(U) Initiate physics based modeling of survivability and rail-span collapse of complex digital circuits in dose-rate (x-ray and gamma) environment.

(U) FY 2007 PLAN
(U) ($15.0) Continue RHAP program. Full obligation is projected by the 3rd Quarter of the first year.
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) Program Terminated.

(U) FY 2009 PLAN
(U) ($0) Program Terminated.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
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 2006	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	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)

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROGRAM ELEMENT **PE 0101221N Strategic Sub & Wpns Sys Spt**	Project Number and Name **Technology Applications J2228**

Cost Categories	Contract Method & Type	Performing Activity &	Total PYs Cost	FY 06 Cost	FY0 06 Award Date	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
Support & Management														
Technology Applications	SS-CPFF	LMSS/CA	83.3	11.6	12-05	14.1	02-07	11.8	12-07	11.8	10-08	Cont.	Cont.	TBD
Technology Applications	WR	NSWC/VA	51.5	5.7	10-05	5.9	01-07	6.5	10-07	7.0	10-08	Cont.	Cont.	TBD
Technology Applications	MIPR	DOE/NM	19.9	3.9	10-05	1.4	12-06	1.0	10-07	1.0	10-08	Cont.	Cont.	TBD
Technology Applications	SS-CPFF	CSDL/MA	11.1	3.4	10-05	3.2	11-06	3.7	10-07	3.7	10-08	Cont.	Cont.	TBD
Technology Applications	SS-CPFF	ITT/CO	4.0	1.8	10-05	1.9	10-06	1.3	10-07	1.9	10-08	Cont.	Cont.	TBD
Technology Applications	SS-CPFF	CSDL/MA	156.6	18.0	02-06	20.1	11-06	18.4	02-08	17.4	10-08	Cont.	Cont.	TBD
Technology Applications	SS-CPFF	LMMSC/CA	24.5	15.0	12-05	16.8	02-07	0.0		0.0		Cont.	Cont.	TBD
Technology Applications	WR	NAWC/CA	2.9	0.4	10-05	0.1	11-06	0.0		0.0		Cont.	Cont.	TBD
Technology Applications	WR	NSWC/VA	1.2	0.8	10-05	0.6	11-06	0.0		0.0		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	CSDL/MA	7.4	3.5	02-06	10.7	11-06	0.0		0.0		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	HI/FL	11.8	10.3	10-05	0.0		0.0		0.0		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	NGMS/CA	2.5	0.0		0.0		0.0		0.0		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	AERO	0.0	0.0		3.0	2-06	0.0		0.0		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	BAE/MD	1.8	0.0		0.0		0.0		0.0		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	INTERSIL	1.5	2.0	10-05	0.0		0.0		0.0		Cont.	Cont.	TBD
Technology Applications	VARIOUS	VARIOUS	3.4	6.5	VAR	3.1	VAR	2.5		2.7		Cont.	Cont.	TBD
Subtotal Product Development			383.4	82.9		80.9		45.2		45.5				

Remarks:

Total Cost			383.4	82.9		80.9		45.2		45.5		Cont.	Cont.	TBD

Remarks:

R-1 SHOPPING LIST - Item No. 165 - 11 of 20

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**				PROJECT NUMBER AND NAME **Enhanced Special Weapons J3158**				
COST ($ in Millions)	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J3158 Enhanced Special Wpns	0.0	42.9	6.0	0.9	0.9	0.0	0.0	0.0
RDT&E Articles Qty	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Enhanced Special Weapons J3158**

B. (U) Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost J3158 Enhanced Special Weapons	0.0	35.0	5.0	0.0
RDT&E Articles Quantity				

(U) FY 2007 PLAN

(U) ($35.0) Enhanced Special Weapons/SSBN Escort Mission. Full obligation is projected by the 3rd quarter of the fiscal year.

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) ($5.0) Enhanced Special Weapons/SSBN Escort Mission. Full obligation is projected by the 3rd quarter of the fiscal year.

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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Enhanced Special Weapons J3158**

B. (U) Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost J3158 Enhanced Special Weapons	0.0	6.0	0.9	0.9
RDT&E Articles Quantity				

(U) FY 2007 PLAN

(U) ($6.0) Enhanced Special Weapons/Nuclear Weapons Security program. Full obligation is projected by the 3rd quarter of the first year.

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) ($0.9) Enhanced Special Weapons/Nuclear Weapons Security program. Full obligation is projected by the 3rd Quarter of the first year.

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) ($0.9) Enhanced Special Weapons/Nuclear Weapons Security program. Full obligation is projected by the 3rd Quarter of the first year.

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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
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	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Complete	Total Cost
MILCON (CNI)	94.3	48.1	39.5	50.4	55.2	227.3	0.0	286.6	continuing	continuing
OPN BA7/812800/PE 0208147N	50.3	21.9	51.4	61.4	30.0	26.0	26.5	27.0	continuing	continuing
O&MN BA1/1D2D/PE Various	60.0	86.4	77.1	92.1	81.4	82.5	84.0	85.8	continuing	continuing
Transit/Escort										
MILCON (CNI)	0.0	0.0	0.0	0.0	25.0	35.0	0.0	0.0	continuing	continuing
OPN BA1/1210/PE 0204228N	60.9	20.8	8.6	0.0	22.5	66.9	68.2	69.5	continuing	continuing
WPN BA4/4217/PE 0101228N	5.1	0.0	7.0	45.4	44.3	31.2	0.0	0.0	continuing	continuing
O&MN BA1/1D2D/PE 0101221N	39.7	63.7	73.4	86.9	87.2	85.6	87.4	89.2	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:

- 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-3, Cost Analysis		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROGRAM ELEMENT **PE 0101221N Strategic Sub & Wpns Sys Spt**	Project Number and Name **Enhanced Special Weapons J3158**

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 05 Cost	FY0 05 Award Date	FY 06 Cost	FY 06 Award Date	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
Support & Management																
Enhanced Special Weapons	CPFF	TBD	0.0	0.0	N/A	0.0	N/A	35.0	04-07	5.0	10-08	0.0	N/A	Cont.	Cont.	TBD
Enhanced Special Weapons	WR	NFESC/CA	0.0	0.0	N/A	0.0	N/A	3.0	01-07	0.0	N/A	0.0	N/A	Cont.	Cont.	TBD
Enhanced Special Weapons	MIPR	DOE/NM	0.0	0.0	N/A	0.0	N/A	2.0	11-06	0.0	N/A	0.0	N/A	Cont.	Cont.	TBD
Enhanced Special Weapons	CPFF	APL/MD	0.0	0.0	N/A	0.0	N/A	1.1	11-06	0.0	N/A	0.0	N/A	Cont.	Cont.	TBD
Enhanced Special Weapons	VARIOUS	VARIOUS	0.0	0.0	N/A	0.0	N/A	1.8	02-07	0.9	10-08	0.9	10-09	Cont.	Cont.	TBD
Subtotal Product Development			0.0	0.0		0.0		42.9		5.9		0.9		Cont.	Cont.	TBD
Remarks:																
Total Cost			0.0	0.0		0.0		42.9		5.9		0.9		Cont.	Cont.	TBD
Remarks:																

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**				PROJECT NUMBER AND NAME **Reliable Replacement Warhead J3196**				
COST ($ in Millions)	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J3196 Reliable Replacement Warhead	0.0	0.0	30.0	50.0	0.0	0.0	0.0	0.0
RDT&E Articles Qty	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

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. 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. In December 2006, the Nuclear Weapons Council on selecting a 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 DoD dollars required to develop the cost estimate and the current estimate of the DoD portion of the effort required for the first two years of the design and development effort.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Reliable Replacement Warhead J3196**

B. (U) Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Reliable Replacement Warhead	0.0	0.0	30.0	50.0
RDT&E Articles Quantity				

(U) FY 2008 PLAN

(U) ($30 M) Continue the RRW Program into Phase 3 Engineering Development, when approved by Congress and the Nuclear Weapons Council. Full obligation is projected by the 3rd Quarter of the first year.
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) ($50 M) Continue the RRW Program into Phase 3 Engineering Development, when approved by Congress and the Nuclear Weapons Council. Full obligation is projected by the 3rd Quarter of the first year.
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.

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROGRAM ELEMENT **PE 0101221N Strategic Sub & Wpns Sys Spt**	Project Number and Name **Reliable Replacement Warhead J3196**

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 05 Cost	FY0 05 Award Date	FY 06 Cost	FY 06 Award Date	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
Support & Management																
Reliable Replacement Warhead	SS - CPFF	LMMS / CA								4.0	10-07	8.0	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	SS - CPFF	LMSS / FL								0.0		1.5	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	MIPR	DOE / NM								19.0	10-07	30.0	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	MIPR	DOE / MO								2.0	10-07	3.0	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	MIPR	DOE / CA								1.0	10-07	1.5	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	SS - CPFF	ITT / CO								2.0	10-07	2.5	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	WR	NSWC / VA								1.1	10-07	1.8	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	SS - CPFF	NGMS / MA								0.4	10-07	0.7	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	VARIOUS	VARIOUS								0.5		1		Cont.	Cont.	TBD
Reliable Replacement Warhead																
Total Cost								0.0		30.0		50.0				

Remarks:

Remarks:

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	**PE 0101221N Strategic Sub & Wpns Sys Spt**	9999 Congressional Plus-Up : 0004C

CONGRESSIONAL PLUS-UPS:

	FY 06	FY 07		
0004C				
Title of Congressional Add - Thin Plate Pure Lead Technology	3.500			

Thin Plate Pure Lead Batteries - Submarine main storage batteries are the primary back-up source of power for nuclear submarines. Thin Plate Pure Lead technology (TPPL) is designed to improve the efficiency of the chemical reaction that occurs on the plates of batteries. Hence, incorporating TPPL technology into submarine batteries could significantly increase the achievable energy, power density and life of future submarine batteries. This effort would attempt to scale up the current TPPL product to a size suitable for use in submarine main storage batteries. It is possible that by coupling TPPL plates with VRLA battery technology, the Navy could further increase the energy, power density and life of VRLA submarine main storage batteries. The increase in battery life could result in a commensurate reduction in life cycle cost. The $3.5M received will continue the research and development program to support the development and manufacture of TPPL technology for submarine main storage battery applications.

	FY 06	FY 07		
9A66N				
Advanced Conventional Strike Capability (SLIRBM)		1.295		

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.

	FY 06	FY 07		
9A67N				
Free Electron Laser Facility		1.345		

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.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification			DATE: **February 2007**					
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME **0101226N / Sub Acoustic Warfare Development**		PROJECT NUMBER AND NAME 1265/ Submarine Defensive Warfare Systems					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**9.299**	**2.123**	**4.149**	**7.387**	**7.667**	**7.828**	**7.969**	**8.098**
1265 Submarine Defense Warfare	**8.341**	**2.123**	**4.149**	**7.387**	**7.667**	**7.828**	**7.969**	**8.098**
Issue 9999 - Congressional Add	**0.958**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

Defense Emergency Responses Funds (DERF): Not Applicable

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. Common Very Lightweight Torpedo (CVLWT) (ATT/CRAW) will conduct a dynamic launch study to determine physical capability of the All-Up-Round (AUR), as designed for Surface Ship Torpedo Defense application, to survive storage and launch environments for the CSA MK 2 Countermeasure Launcher. Next Generation Countermeasure (NGCM) efforts entails simulation and effectiveness analysis of new technologies from Future Naval Capability (FNC) and SBIR efforts at the Weapons Analysis Facility (WAF). The WAF analysis provides the US Navy with robust testing of new hardware and software within a detailed representation of complex acoustic environments.

(U) Project 9790N - FY06 Congressional Add to continue the development of the Mobile Acoustic Countermeasure Device (MACD).

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 President's Budget:	8.399	2.131	4.280	7.576
FY 2008 President's Budget:	9.299	2.123	4.149	7.387
Total Adjustments	0.900	(0.008)	(0.131)	(0.189)
Summary of Adjustments:				
Undistributed General Reductions	(0.058)	(0.008)	(0.131)	(0.189)
Congressional Increases	0.958	0.000	0.000	0.000

Schedule:
Not Applicable

Technical:
Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7	**0101226N / Sub Acoustic Warfare Development**	1265/ Submarine Defensive Warfare Systems

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 to include the CVLWT (CRAW/ATT) and NGCM.

B. Accomplishments/Planned Program

WAF Analysis	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.500	1.500	1.500	1.500
RDT&E Articles Quantity				

FY 06-09 - Continued to conduct countermeasure proofing and effectiveness analysis for designated torpedo at Weapons Analysis Facility (WAF) .

NGCM	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.841	0.623	2.649	5.887
RDT&E Articles Quantity				

FY06 - Continued transitioning of Future Naval Capability (FNC) technologies into existing fleet countermeasures including Single Crystal Sonar Freq., and Mobility capabilities.
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.

CVLWT (CRAW/ATT)	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.000	0.000	0.000	0.000
RDT&E Articles Quantity				

FY06 - Analyzed data from study to address constraints of the submarine launched ATT design and assess hardening ATT for Sub launch applications.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN - 221000/221005 SAWS	25.488	20.130	16.955	21.034	21.463	21.777	22.172	22.574	CONT.	CONT.

D. ACQUISITION STRATEGY:

See Attached Schedule.

E. MAJOR PERFORMERS:

See Attached R-3

CLASSIFICATION:

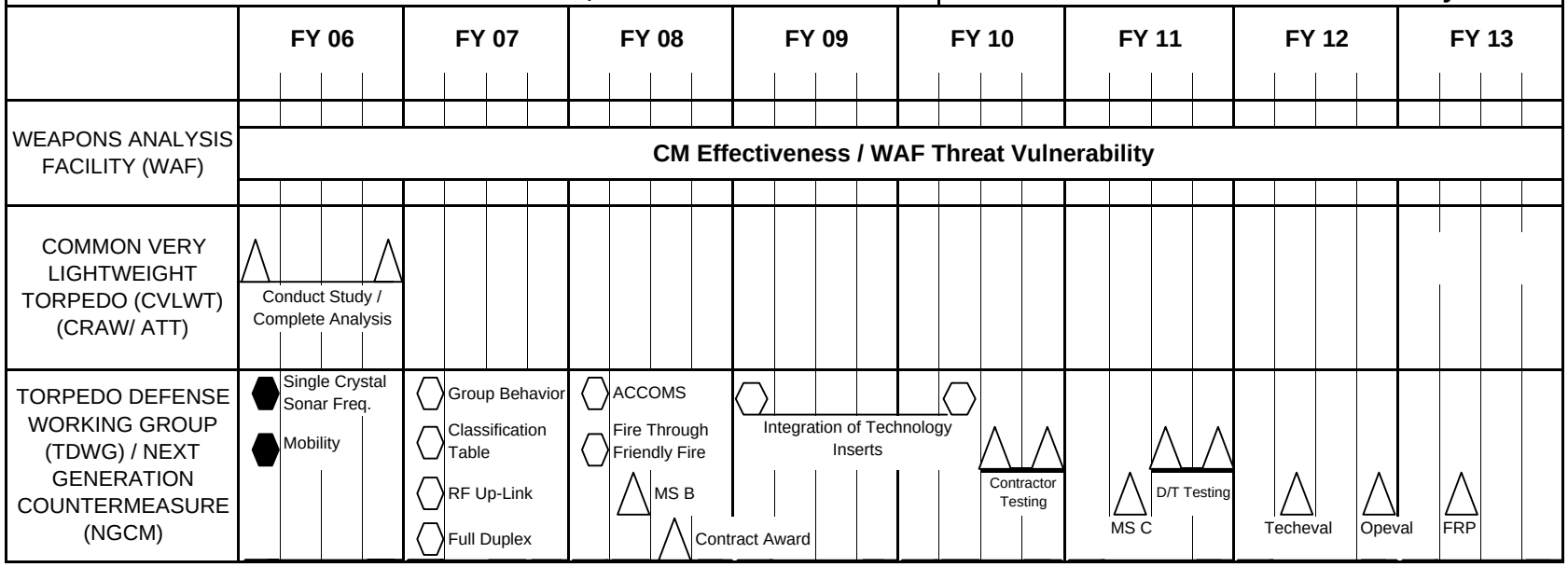
Exhibit R-3 Cost Analysis (page 1)										DATE: **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7**		PROGRAM ELEMENT NUMBER AND NAME **0101226N / Sub Acoustic Warfare Development**				PROJECT NUMBER AND NAME 1265/ Submarine Defensive Warfare Systems								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY05 and PY s Cost	FY 06 Cost	FY 06 Award Date	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
WAF Analysis System Engineering	WR	NUWC Newport, RI	4.981	1.500	02/06	1.500	01/07	1.500	12/07	1.500	12/08	CONT.	CONT.	
NGCM System Engineering	WR	NUWC Newport, RI	4.624	4.283	05/06	0.323	01/07	0.349	12/07	0.350	12/08	CONT.	CONT.	
NGCM Development	C/CPFF	Contractor TBD	0.000	0.000		0.000		2.000	06/08	5.237	01/09	CONT.	CONT.	
NGCM System Engineering	CPFF	System Planning and Analysis, Arlington, VA	0.429	0.300	03/06	0.000		0.000		0.000		0.000	0.729	
CVLWT (CRAW/ATT)	CPFF	PSU State College, PA	0.100	1.200	05/06	0.000		0.000		0.000		0.000	1.300	
CVLWT (CRAW/ATT) Sys. Eng.	WR	NUWC Newport, RI	0.225	0.379	10/05	0.000		0.000		0.000		0.000	0.625	
CVLWT (CRAW/ATT) Sys. Eng.	WR	NSWC Crane, IN	0.240	0.379	10/05	0.000		0.000		0.000		0.000	0.640	
SPVA System Engineering	CPFF	AAC Ronkonkoma, NY	1.855									CONT.	CONT.	
LWW	CPFF	Raytheon Middleton, RI	2.815									CONT.	CONT.	
LWW	CPFF	Lockheed Martin, Manassas, VA	1.800									CONT.	CONT.	
LWW	WX	NUWC Newport, RI	0.729									CONT.	CONT.	
LWW	MP	Peo Missiles $ Space, Redstone Arsenal, AL	0.359									CONT.	CONT.	
LWW	WX	NAWCW, Point Mugu, CA	0.027									CONT.	CONT.	
LWW	MP	Edwards AFB, Edwards, CA	0.018									CONT.	CONT.	
Subtotal Product Development			18.202	8.041		1.823		3.849		7.087		CONT.	CONT.	
Remarks:														
Development Support													0.000	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Miscellaneous													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000			0.000	

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2007**						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7**		PROGRAM ELEMENT NUMBER AND NAME **0101226N / Sub Acoustic Warfare Development**		PROJECT NUMBER AND NAME 1265/ Submarine Defensive Warfare Systems										
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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													0.000	
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000			0.000	
Remarks:														
Contractor Engineering Support													0.000	
Government Engineering Support													0.000	
Program Management Support	C/CPFF	EG&G Gaithersburg, MD	0.673	0.250	03/06	0.250	02/07	0.250	02/08	0.250	02/09	CONT.	CONT.	
Travel		PMS415	0.250	0.050	10/05	0.050	11/06	0.050	11/07	0.050	11/08	CONT.	CONT.	
Labor (Research Personnel)													0.000	
SBIR Assessment													0.000	
Subtotal Management			0.923	0.300		0.300		0.300		0.300			CONT.	
Remarks:														
Total Cost			19.125	8.341		2.123		4.149		7.387		CONT.	CONT.	
Remarks:														

CLASSIFICATION:

EXHIBIT R-4, SCHEDULE PROFILE (page 1)	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-4**	PROJECT NUMBER AND NAME **1265/ Submarine Defensive Warfare Systems**



CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7	**0101226N / Sub Acoustic Warfare Development**	Project Unit (PU) No. and Name: Congressional Plus-Ups : 9790N

CONGRESSIONAL PLUS-UPS:

	FY 06	FY 07	FY 08	FY 09
9790N				
Mobile Acoustic Countermeasure	0.958	0	0	0

FY06- Congressional Plus-Up Add to continue the development of the Mobile Acoustic Countermeasures Device (MACD) that will be deployed from a submarine or surface ship in response to an in-bound torpedo threat.

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0101402N, NAVY STRATEGIC COMMUNICATIONS		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	38.093	37.317	36.531	31.725	39.807	15.453	9.047	
0793 E-6 SERVICE LIFE ASSESSMENT PROGRAM	3.556							
3002 NAVY STRATEGIC COMMUNICATIONS BLOCK I	30.600	37.317	36.531	31.725	39.807	15.453	9.047	
9999 CONGRESSIONAL ADD	3.937							

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

(0793) A Service Life Assessment 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 exceed those original values and lessen, by some unknown value, the original 27,000 hours 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 contractor will perform preliminary high level trade studies of potential modifications to increase the service life.

(3002) The E-6B Block I 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 consists of the design, development, integration, and testing of the replacements for the existing Digital Airborne Intercommunications Switching System (DAISS) / Intercommunications System (ICS), Mission Computer System (MCS), and Ultra-High Frequency Command, Control and Communications (UHFC3) system. The Block I project also incorporates a Multi-level Security (MLS) Open Systems Architecture (OSA), and adds improved operator workstations throughout the aircraft to reduce workload and improve system interoperability, and provide a foundation for future 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, address impacts of Internet Protocol Bandwidth Expansion (IPBE) changes to the Block I baseline aircraft, a Very Low Frequency Transmitter (VLF-TX) obsolescence replacement, and High Power Transmit Set (HPTS) subsystem refurbishment.

(9999) CONGRESSIONAL ADD: The E-6B Aircraft Block I Mod program: APU/Environmental Control System (ECS) upgrade. This funding added to the Block I Program performs non-recurring engineering to modify the ECS to accommodate obsolescence, to include Secure Telephone Equipment (STE) and Time Frequency Distribution (TFD)-8000) updates, in the Block I Mod design prior to developmental testing.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	35.067	37.464	38.833	33.467
Current President's Budget:	38.093	37.317	36.531	31.725
Total Adjustments	3.026	-0.147	-2.302	-1.742
Summary of Adjustments				
Congressional Reductions	-0.025			
Congressional Rescissions				
Congressional Undistributed Reductions	-0.840			
Congressional Increases	0.000			
Economic Assumptions	0.000	-0.147	0.161	0.330
Miscellaneous Adjustments	3.891		-2.463	-2.072
Subtotal	3.026	-0.147	-2.302	-1.742

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0101402N, NAVY STRATEGIC COMMUNICATIONS

Schedule:

(0793) Delays in Phase 1 contract award resulted in Phase 2 delays due to contract renegotiations. Phase 2 must be completed before Milestone C can be reached, so MSC has been moved from 4Q FY07 to 1Q FY08.

(3002) Changes in the schedule are a result of additional funding to support the APU/ECS upgrade and IPBE impacts to the pre-Block I baseline aircraft. Design Readiness Review was moved from 1Q to 2Q FY07 to align with System Integration Lab (SIL) Test Readiness Review at which point the design will be ready for testing. SIL integration has been extended to 2Q FY07 due to commercial component availability.

Technical:

(3002) Due to the additional funding the following efforts have been added to the program: Environmental Control System (ECS), Auxiliary Power Unit (APU), High Power Transmit Set (HPTS), Very Low Frequency Transmitter (VLF-TX), and the Internet Protocol Bandwidth Expansion (IPBE) upgrade effort.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0793 E-6 SERVICE LIFE ASSESSMENT PROGRAM	3.556							
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(0793) 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 contractor will perform preliminary high level trade studies of potential modifications to increase the service life.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Completed Contract Phase 1A	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.556			
RDT&E Articles Qty				

Funding supports the E-6B Service Life Assessment Program, which includes the following efforts: assemble and deliver GFI; 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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
056400 E-6 A/B Series	11.068	58.647	126.185	106.224	112.748	126.862	125.201	116.273	451.067	1,234.275

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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.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3002 NAVY STRATEGIC COMMUNICATIONS BLOCK I	30.600	37.317	36.531	31.725	39.807	15.453	9.047	
RDT&E Articles Qty	1	1						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(3002) The E-6B Block I 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 consists of the design, development, integration, and testing of the replacements for the existing Digital Airborne Intercommunications Switching System (DAISS) / Intercommunications System (ICS), Mission Computer System (MCS), and Ultra-High Frequency Command, Control and Communications (UHFC3) system. The Block I project also incorporates a Multi-level Security (MLS) Open Systems Architecture (OSA), and adds improved operator workstations throughout the aircraft to reduce workload and improve system interoperability, and provide a foundation for future 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, address impacts of Internet Protocol Bandwidth Expansion (IPBE) changes to the Block I baseline aircraft, a Very Low Frequency Transmitter (VLF-TX) obsolescence replacement, and High Power Transmit Set (HPTS) subsystem refurbishment. Block I Systems Integration Lab (SIL) RDT&E articles will be procured and installed to support Contractor Testing (CT), Developmental Testing (DT), and Operational Testing (OT). The SIL comprises a fully functional set of E-6B mission avionics in a lab environment. The purpose of the SIL is to reduce risk and verify the design prior to pre-production aircraft modification. During CT, DT, and OT, the SIL will be used where feasible to reduce total flight test hours and costs. Pre-production aircraft RDT&E articles will be procured to support CT, DT, and OT testing.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Conducted Aircraft Critical Design Review (CD	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.443	8.323	9.879	3.342
RDT&E Articles Qty				

Funding supports acquisition planning, acquisition strategy adjustment, requirements analysis and refinement, industry conferences, DoD 5000 series document development and revision,program management, technical review and oversight, Systems Integration Lab modification and test, contract management activities, preliminary and critical design reviews, CDRL reviews, technical interchange and program management meetings; developmental and operational test and evaluation planning, execution, and reporting in support of government review and design approval for the replacement of DAISS, MCS, UHF C3 System, incorporation of MLS OSA with new servers, operator stations, fixes in ground electrical, and cooling capabilities for austere operations. Development of design changes to accommodate Internet Protocol Bandwidth Expansion (IPBE) impacts to the pre-Block I baseline aircraft, will begin in FY07. The Block I Recapture (Block IA), which includes the Auxiliary Power Unit (APU), the High Power Transmit Set (HPTS), and the Very Low Frequency Transmitter (VLF-TX), will begin in FY08.

CDR and Systems Integration Lab (SIL) Support	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.846	2.677	2.873	3.017
RDT&E Articles Qty				

Funding supports engineering, management, trade studies, studies and analysis contract support services for acquisition planning and development of acquisition documents, schedule development and monitoring, industry conferences, DoD 5000 series document development and revision, engineering and C3 architectural studies and analysis, Systems Integration Lab modification and test, logistics planning, training planning and CDRL reviews for the replacement of DAISS, MCS, UHF C3 System, incorporation of MLS OSA with new servers and operator stations, and fixes in ground electrical and cooling capabilities for austere operations. Development of design changes to accommodate Internet Protocol Bandwidth Expansion (IPBE) impacts to the pre-Block I baseline aircraft, will begin in FY07. The Block I Recapture (Block IA), which includes the Auxiliary Power Unit (APU), the High Power Transmit Set (HPTS), and the Very Low Frequency Transmitter (VLF-TX), will begin in FY08.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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

CDR and SIL Install	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	24.311	26.317	21.779	20.456
RDT&E Articles Qty				

Funding supports all prime contract tasks following Block I contract award including program initiation, engineering research, design development, integration and test of MLS OSA, MCS, DAISS, electrical, cooling, and other subsystems related to Block I; prepare and conduct design reviews (engineering, logistics, training, test) including PDR, CDR, and TRRs; Systems Integration Laboratory modification, preparation for and presentation of the Block I design, contractor developmental test and evaluation planning, leading to LRIP approval and award. Development of design changes to accommodate Internet Protocol Bandwidth Expansion (IPBE) impacts to the pre-Block I baseline aircraft, will begin in FY07. The Block I Recapture (Block IA), which includes the Auxiliary Power Unit (APU), the High Power Transmit Set (HPTS), and the Very Low Frequency Transmitter (VLF-TX), will begin in FY08.

DT/OT Testing	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			2.000	4.910
RDT&E Articles Qty				

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

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
056400 E-6 A/B Series	11.068	58.647	126.185	106.224	112.748	126.862	125.201	116.273	451.067	1,234.275

D. ACQUISITION STRATEGY:

Competively 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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
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 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 Fee	C/CPAF	ROCKWELL COLLINS, INC., Cedar Rapi	3.751	1.876	VARIOUS	1.914	VARIOUS	.900	VARIOUS		8.441	8.441
Primary Hdw Development	C/CPAF	ROCKWELL COLLINS, INC., Cedar Rapi	50.482	14.076	Nov 2006	8.088	Nov 2007	2.726	Nov 2008		75.372	75.372
Primary Hdw Development	C/CPAF	TBD		10.365	VARIOUS	10.577	VARIOUS	16.830	VARIOUS	47.215	84.987	84.987
Training Development WST	C/CPAF	TBD				1.200	Nov 2007				1.200	1.200
SUBTOTAL PRODUCT DEVELOPMENT			54.233	26.317		21.779		20.456		47.215	170.000	

Remarks: First award fee (April 2004-Sep 2004) Contractor earned 77.56%. Second award fee (Oct 2004-Mar 2005) Contractor earned 85%. Third award fee (April 2004-Sep 2005) Contractor earned 85.79%. Fourth award fee (Oct 2005-Mar 2006) Contractor earned 31%. Fifth award fee (April 2006-Sept 2006) Contractor earned 45.69%.

SUPPORT												
Studies & Analyses	RX	VARIOUS	3.476	.207	Nov 2006	.217	Nov 2007	.228	Nov 2008	.513	4.641	
SUBTOTAL SUPPORT			3.476	.207		.217		.228		.513	4.641	

Remarks:

TEST & EVALUATION												
Developmental Test & Evaluatior	WX	NAWCAD, PATUXENT RIVER MD				2.000	Nov 2007				2.000	
Operational Test & Evaluation	WX	NAWCAD, PATUXENT RIVER MD						4.910	Nov 2008		4.910	
SUBTOTAL TEST & EVALUATION						2.000		4.910			6.910	

Remarks:

Contractor Engineering Support	RX	VARIOUS	8.021	1.307	Nov 2006	1.496	Nov 2007	1.830	Nov 2008	2.850	15.504	
Government Engineering Support	WX	NAWCAD, PATUXENT RIVER, MD	16.874	4.062	Nov 2006	5.508	Nov 2007			2.690	29.134	
Government Engineering Support	RX	VARIOUS	3.777	3.961	Nov 2006	4.071	Nov 2007	3.042	Nov 2008	7.903	22.754	
Program Management Support	RX	VARIOUS	8.723	1.163	Nov 2006	1.160	Nov 2007	.959	Nov 2008	2.436	14.441	
Travel	TO	NAVAIR HQ, PAXTUXENT RIVER, MD	.668	.300	VARIOUS	.300	VARIOUS	.300	VARIOUS	.700	2.268	
SUBTOTAL MANAGEMENT			38.063	10.793		12.535		6.131		16.579	84.101	

Remarks: RDT&E funding for Government Engineering Support (NAWCAD) ends in FY08 and resumes in FY11 to support remaining R&D efforts.

Total Cost			95.772	37.317		36.531		31.725		64.307	265.652	

Remarks:

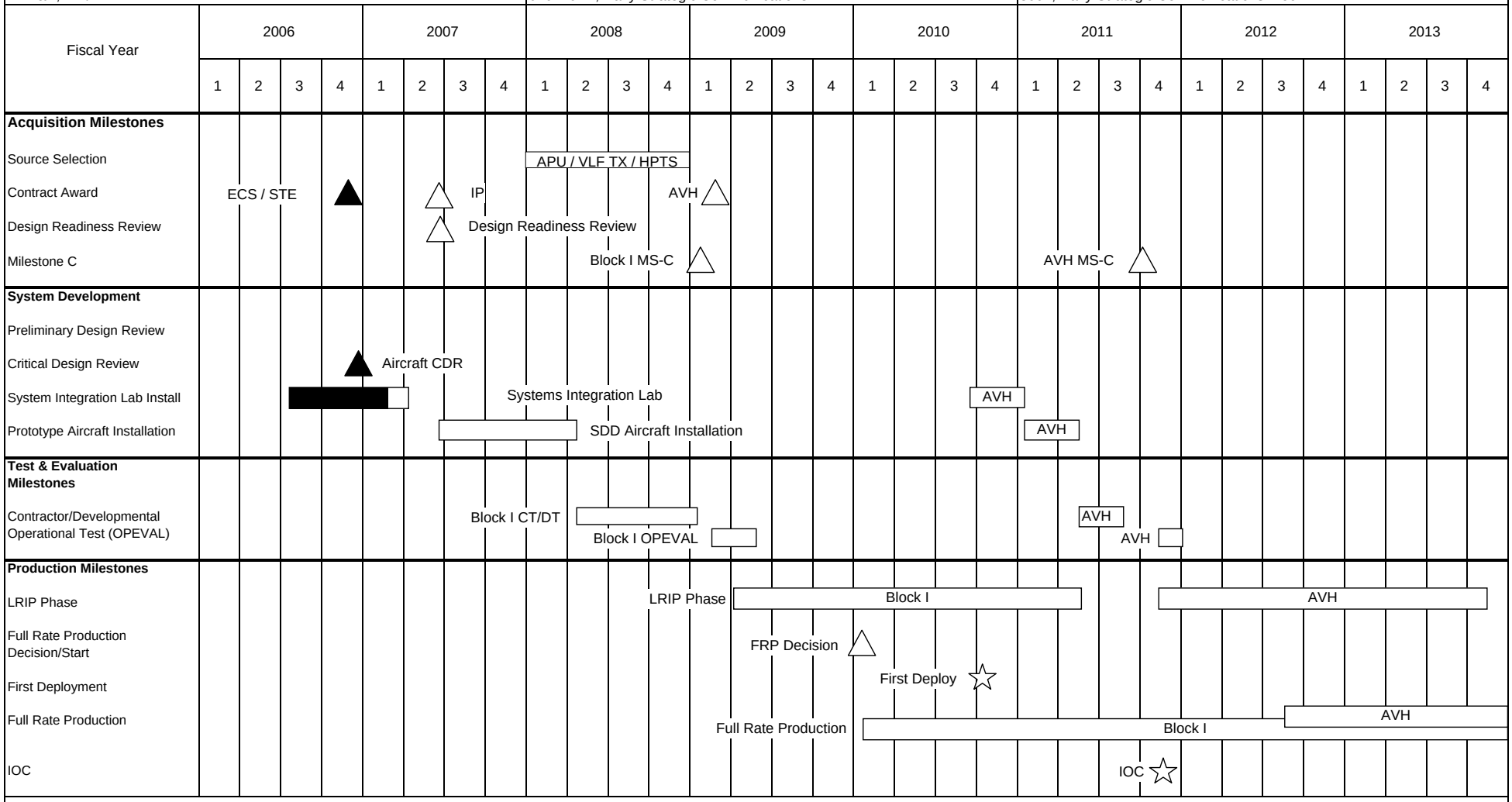
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2007

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 1



[1] APU, VLF-TX, HPTS Refurbishment (AVH)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Systems Integration Lab	3Q-4Q	1Q-2Q						
Critical Design Review (CDR)	4Q							
Contract Award (ECS/STE)	4Q							
Contract Award (IP)		2Q						
Prototype Aircraft Installation		2Q-4Q	1Q-2Q					
Design Readiness Review		2Q						
Source Selection (AVH)*			1Q-4Q					
Contractor/Developmental Testing (CT/DT)			2Q-4Q	1Q				
Contract Award (AVH)				1Q				
Milestone C (MS-C)				1Q				
Operational Testing (OPEVAL)				1Q-2Q				
LRIP Phase				2Q-4Q	1Q-4Q	1Q-2Q		
Full Rate Production (FRP) Decision/Start					1Q			
Full Rate Production (FRP)					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Systems Integration Lab (AVH)					3Q-4Q	1Q		
First Deployment					4Q			
Prototype Aircraft Installation (AVH)						1Q-2Q		
Contractor/Developmental Testing (CT/DT) (AVH)						2Q-3Q		
Milestone C (MS-C) (AVH)						4Q		
Operational Testing (OPEVAL) (AVH)						4Q	1Q	
LRIP Phase (AVH)						4Q	1Q-4Q	1Q-4Q
IOC						4Q		
Full Rate Production (FRP) (AVH)							3Q-4Q	1Q-4Q

* APU, VLF-TX, HPTS Refurbishment (AVH)

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0101402N, NAVY STRATEGIC COMMUNICATIONS	PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADD	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9999, CONGRESIONAL ADD	3.937							
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(9999) CONGRESSIONAL ADD: The E-6B Aircraft Block I Mod program: APU/ECS upgrade. This funding was added to the Block I Program to perform non-recurring engineering to modify the Environmental Control System (ECS) to accommodate obsolescence, to include Secure Telephone Equipment (STE) and TFD-8000) updates, in the Block I Mod design prior to developmental testing.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

9834N	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.937			
RDT&E Articles Qty				

This effort was added to the Block I Program to perform non-recurring engineering to modify the Environmental Control System (ECS) to accommodate obsolescence, to include Secure Telephone Equipment (STE) and Time Frequency Distribution (TFD)-8000) updates, in the Block I Mod design prior to developmental testing.

FY 2008/2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2007
Exhibit R-2

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

COST: (Dollars in Thousands)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE	26,378	39,326	44,756	34,469	45,782	46,262	41,532	47,668
3126 RAPID TECHNOLOGY TRANSITION (RTT)	25,420	24,104	33,284	28,422	33,786	34,078	34,499	34,935
3174 RAPID DEVELOPMENT AND DEPLOYMENT (RDD)	0	11,237	11,472	6,047	11,996	12,184	7,033	12,733
9999 CONGRESSIONAL PLUS-UPS	958	3,985	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the Rapid Technology Transition (RTT) program 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 program 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 program 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.

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. The RTT program is designed to be pro-active in identifying opportunities and to work with resource sponsors,

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, RTT interacts with the venture capital community and industry. The RTT program coordinates 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.

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

B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 President's Budget Submission	25,266	39,285	23,295	23,327
Congressional Action	0	4,000	0	0
Congressional Reduction	0	-3,800	0	0
Congressional Undistributed Reductions/Rescissions	4	-159	0	0
Execution Adjustments	1,750	0	0	0
Non-Pay Inflation Adjustments	0	0	-78	35
Program Adjustments	0	0	21,454	11,040
Rate Adjustments	0	0	85	67
SBIR Assessment	-642	0	0	0
FY 2008/FY 2009 President's Budget Submission	26,378	39,326	44,756	34,469

PROGRAM CHANGE SUMMARY EXPLANATION:
Technical: Not applicable.

Schedule: Not applicable.

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.

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 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
3126 RAPID TECHNOLOGY TRANSITION (RTT)	25,420	24,104	33,284	28,422	33,786	34,078	34,499	34,935

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.

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 POM cycle. The RTT project is designed to be pro-active in identifying opportunities and to work with resource sponsors, fleet and force users, and program managers in constructing viable technology transition deals one at a time.

To ensure the widest possible awareness of emergent commercial technology opportunities, RTT interacts with the venture capital community and industry. The RTT project coordinates closely with 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.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0203761N PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)
PROJECT NUMBER: 3126 PROJECT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2006	FY 2007	FY 2008	FY 2009
RTT	25,420	24,104	33,284	28,422

Technology Insertion for Savings Program (TIPS) is a new start in FY 2007.

FY 2006 Accomplishments:

- Continued High Voltage Gallium Arsenide Monolithic Microwave Integrated Circuit (MMIC) effort.
- Completed: Enhanced Battlespace Awareness; Technical Control and Analysis Center; Aviation Weapons Information Management System; Oil Content Monitor; Thermobaric Hellfire; and Open Architecture Radar Designated Decoy Launch.
- Cancelled the Erosion Blade Coating Project and redirected to Wireless Network Integration; AIM 9X Sidewinder Extended Battlelife; and Software Defined Handheld Radio Testset.
- Initiated Sprayable Dielectric Coatings and Induction Based Coating Removals efforts.
- Initiated: Radiant Sunrise; Tactical Control System Digital Video Enhancements; Expanded Maritime Intercept Operations Wireless Reachback; Ground Laser Target Designator Battery Reduction Effort; User-Centric Automated Information Manager; Family of signals intelligence (SIGINT) Systems Data Exchange Improvements; Automatic Identification System (AIS) Integration; Virtual Simulation Training (ViSiT) Toolkit; Hull Search, Inspection, and Neutralization - WETBOT; AN/ALQ-99 Band 4 Traveling Wave Tube Replacement Module (TRM); Low Cost Expendable Small Robotic Platform - BomBot; and BA-5590 Battery with State of Charge Indicator.

FY 2007 Plans:

- Continue all efforts of FY 2006 less those noted as completed above.
- Complete Sprayable Dielectric Coatings and Induction Based Coating Removals efforts.
- Initiate the following Technology Insertion for Savings (TIPS) projects: No-Skid Coatings; Normal Fuel Oil Tanks; Modified Atmosphere Packaging System for Fresh Fruits and Vegetables; and High Pressure Littoral Electrolytic Chlorine Generator. These projects focus on Operations and Savings costs.
- Initiate the following RTT projects for the September 06 Deal Cycle: Digital RF Memory Jammer; Subnet Relay (SNR) and High Frequency Internet Protocol (HF IP); Communications Time/Frequency Different of Arrive Geo-Location; Submarine Tactical Paging; Deployable Alternative Energy Module; and, Airborne Communications

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0203761N PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)
PROJECT NUMBER: 3126 PROJECT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)

Package ADNS Airborne Network Node.
• Initiate 2-3 new deals in the area of affordability to be presented for approval at the March 07 Executive Review Group.

FY 2008 Plans:

• Continue new efforts initiated in FY 2007.
• Complete all efforts of FY 2006 less those noted as completed FY 2007.
• Initiate 4-6 new thrusts in support of the TIPS program.
• Initiate 6-12 new technology transition deals based on topic areas approved by the Deputy Assistant Secretary of the Navy (RDT&E).

FY 2009 Plans:

• Continue new efforts initiated in FY 2008.
• Complete all efforts of FY 2007 less those noted as completed FY 2008.
• Initiate 4-6 new thrusts in support of the TIPS program.
• Initiate 6-10 new technology transition deals based on topic areas approved by the Deputy Assistant Secretary of the Navy (RDT&E).

C. OTHER PROGRAM FUNDING SUMMARY:
NAVY RELATED RDT&E: All technology investments in DON.

NON-NAVY RELATED RDT&E: All technology investments outside DON.

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

FY 2008/2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2007
Exhibit R-2a

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0203761N PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)
PROJECT NUMBER: 3174 PROJECT TITLE: RAPID DEVELOPMENT AND DEPLOYMENT (RDD)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
3174 RAPID DEVELOPMENT AND DEPLOYMENT (RDD)	0	11,237	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Rapid Development and Deployment (RDD) provides an environment and process for rapid development and fielding of prototype solutions to meet urgent 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 2006	FY 2007	FY 2008	FY 2009
RDD	0	11,237	11,472	6,047

RDD is a new start in FY 2007.

FY 2007 Plans:

Initiate and complete multiple projects within RDD for urgent warfighter requirements that meet the RDD selection and execution criteria. RDD will initiate 3 to 6 projects.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0203761N PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)
PROJECT NUMBER: 3174 PROJECT TITLE: RAPID DEVELOPMENT AND DEPLOYMENT (RDD)

FY 2008 Plans:

- Continue new efforts initiated in FY 2007.
- Initiate and complete multiple projects within RDD for urgent warfighter requirements that meet the RDD selection and execution criteria. RDD will initiate 3 to 6 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: All RDT&E in DON.

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 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.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0203761N PROGRAM ELEMENT TITLE: RAPID TECHNOLOGY TRANSITION (RTT)
PROJECT NUMBER: 9999 PROJECT TITLE: Congressional Plus-Ups

CONGRESSIONAL PLUS-UPS:

	FY 2006	FY 2007
120MM TANK HIGH EXPLOSIVE PLASTIC (HEP) CARTRIDGE	958	3,985

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

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**					R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**83.538**	**39.279**	**44.891**	**66.289**	**66.256**	**60.956**	**52.142**	**35.438**
1662 F/A-18 Improvements	**19.321**	**24.615**	**41.950**	**66.289**	**66.256**	**60.956**	**52.142**	**35.438**
2065 F/A-18 RADAR Upgrade	**55.849**	**6.346**	**2.941**					
9999 Congressional Adds	**8.367**	**8.318**						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 is capable of using external equipment to perform either fighter or attack missions. The capabilities of the F/A-18 weapon system 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: 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. FY08 New Start Programs bringing additional capabilities are: 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 now contains funding for F/A-18A-F Test Wing Maintenance support.

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**	R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS

F/A-18 Radar Upgrade: The F/A-18 Radar Upgrade, Active Electronically Scanned Array (AESA) development program, beginning in FY 1999, is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series radar. The AESA 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 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.

Congressional Adds:
Military Rapid Response Command Information System: The Military Rapid Response-Command and Information System (MRRCIS) is a command, control, and communications mobile ground node that will provide enhanced connectivity between Naval TACAIR (F/A-18) weapon platforms and USMC's Expeditionary Warfare ground 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 a 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.

F/A-18E/F Net Centric Operations Upgrades: Improvements within the Network Centric Operations environment to include development and implementation of Blue Force situational awareness, Combat Identification, and Multi-Moving Track Targeting in F/A-18E/F. This Congressional Add develops concept of operations defining joint interoperability and targeting architecture to support planning, development, execution, and analysis of recurring large-scale Joint Force experimentation. Network Centric Operations efforts funded in the F/A-18 Improvements project (1662) will build upon this work.

F/A-18 A-D Series Tech Manual Conversion: 9A68N

F/A-18 C/D Digital Electronic Warfare System: 9A69N

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**	R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 06	FY 07	FY 08	FY 09
Previous President's Budget:	86.089	31.098	15.298	10.095
Current President's Budget:	83.538	39.279	44.891	66.289
Total Adjustments	-2.551	8.181	29.593	56.194
Summary of Adjustments				
Congressional Reductions				
Congressional Rescissions				
Congressional Undistributed Reductions	-1.221	-0.169		
Congressional Increases	0.096	8.350		
Economic Assumptions			0.150	0.999
Miscellaneous Adjustments	-1.426		29.443	55.195
Subtotal	-2.551	8.181	29.593	56.194

Schedule:

The schedule changes beginning in FY08 are due to additional funding for: IDECM integrated with AESA to provide Narrow Band High Gain Electronic Attack; Infrared Search and Track (IRST); and Test Wing Maintenance.

Technical:

Technical changes beginning in FY08 are due to additional funding for: F/A-18 Weapons Integration, to include Dual Mode Weapons; IDECM integrated with AESA to provide Narrow Band High Gain Electronic Attack; Infrared Search and Track (IRST); and Test Wing Maintenance.

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**19.321**	**24.615**	**41.950**	**66.289**	**66.256**	**60.956**	**52.142**	**35.438**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

F/A-18 Improvements: 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. FY08 New Start Programs bringing additional capabilities are: 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 now contains funding for F/A-18A-F Test Wing Maintenance support.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
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

B. Accomplishments/Planned Program

New Weapons System, Network Centric Ops	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.587	1.062	10.893	9.536
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 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	12.478	20.053	5.729	
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 MIDS and 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.

JHMCS Development	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.250			
RDT&E Articles Quantity				

Continue and complete development and Operational Test of JHMCS Front and Aft Seat.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
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

B. Accomplishments/Planned Program (Cont.)

Link 4A/RT-1379A/ACLS	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.006			
RDT&E Articles Quantity				

Development of the LINK 4A/ RT-1379A replacement and Depot repair stand-up. The RT-1379A is required for the automatic carrier landing system (ACLS) in the F/A-18.

IDECM with AESA/ Weapons Testing and Maintenan	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		3.500	17.128	19.188
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 IDECM integration with AESA to provide Narrow Band High Gain Electronic Attack capability.

IRST	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			8.200	37.565
RDT&E Articles Quantity				

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

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
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

D. OTHER PROGRAM FUNDING SUMMARY:

Related Procurement

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
F/A-18E/F APN-1 (P-1 Line Item #4)	2,686.884	2,497.346	2,057.149	1,717.561	1,930.577	1,660.893	1,604.680	201.241	0.000	39,761.500
F/A-18E/F Adv Procurement (P-1 Line Item #5)	84.827	52.582	46.817	51.088	41.568	46.840	0.000	0.000	0.000	1,592.112
EA-18G APN-1 (P-1 Line Item #2)	325.431	605.579	1,267.710	1,590.587	1,318.217	697.965	242.585	0.000	0.000	6,233.399
EA-18G Adv Procurement (P-1 Line Item #3)	26.131	39.593	51.117	38.316	17.502	4.461	0.000	0.000	0.000	185.325
APN-5										
F-18 Series Modification (P-1 Line Item #32)	439.947	424.661	441.883	460.157	480.431	510.555	521.865	529.624	340.036	6,119.453

Related RDT&E

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
(U) P.E. 0604269N EA-18G (R-1 Line Item #96)	379.744	372.315	272.699	135.226	72.273	45.204	36.721	28.289		1,919.868

E. 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:
- ANAV. ANAV development is provided on a sole source cost plus fixed fee contract on an R&D Basic Ordering Agreement to Boeing. Procurement of production hardware will be made as CFE through the prime contractor.
- MIDS. An acquisition developmental effort supported by SPAWAR (PMW-780).
- JHMCS. JHMCS development is via a sole source cost plus award fee Joint Air Force contract to Boeing.
- 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 GFE through Naval Undersea Warfare Center.
- 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 IOC in FY13.

*There exists potential US Air Force interest in a Phase II capability to be funded in future POM submits.

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT: 0204136N F/A-18 SQUADRONS

PROJECT NUMBER AND NAME: 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
Primary Hardware Development PIDS/DCS	SS/CPFF/FFF	MDA-ST LOUIS,MO	90.000								90.000	90.000
Primary Hardware Development ATFLIR	SS/CPIF/AF	MDA-ST LOUIS,MO	166.147								166.147	166.147
AWARD FEE ATFLIR			1.576								1.576	1.576
Primary Hardware Development ANAV	SS/CPFF	MDA-ST LOUIS,MO	25.486	3.261	01/07	0.175	01/08				28.922	28.922
Primary Hardware Development ACS	SS/CPIF	MDA-ST LOUIS,MO	50.493								50.493	50.493
Primary Hardware Development JHMCS	MIPR	WPAFB DAYTON, OHIO	49.409								49.409	
Primary Hardware Development MISC.	WX	VARIOUS	50.791								50.791	
Primary Hardware Development ACS	SS/CPFF	Triton, MD	2.500								2.500	2.500
Ancillary Hdw Develop ATFLIR	WX	NAWCAD-LAKEHURST NJ	9.201								9.201	
System Engineering	WX	NAWCAD, PAX RIVER, MD	4.884								4.884	
Primary Hardware Development IRST	TBD	TBD				3.000	01/08	26.500	01/09	52.400	81.900	81.900
Aircraft Integration IRST	TBD	MDA-ST LOUIS,MO				1.000	01/08	2.000	01/09	4.000	7.000	7.000
Weapons Integration	TBD	TBD				3.160	01/08	0.460	01/09	1.300	4.920	4.920
Aircraft Integration IDECM	WX	NAWCWD, China Lake				1.365	01/08	3.552	01/09	6.205	11.122	
Primary Hardware Development NCO	TBD	MDA-ST LOUIS,MO				3.594	01/08	3.528	01/09	8.150	15.272	15.272
Subtotal Product Development			450.487	3.261		12.294		36.040		72.055	574.137	

Remarks: "Target Value " of contracts beginning in FY08 reflect estimated values.

Development Support MISC	VARIOUS	VARIOUS	39.306	0.958	12/06	1.000	01/08	0.200	01/09		41.464	
Software Development	WX	NAWCWD-CHINA LAKE	149.029	8.056	11/06	0.765	01/08	0.805	01/09	1.850	160.505	
Software Development (TDL)	SS/CPIF/TDL	MDA-ST LOUIS,MO	135.237	2.777	11/06	5.911	01/08	2.885	01/09	6.540	153.350	153.350
Prior Year Costs	Various	Various	2,567.069								2,567.069	
Development Support IRST	WX	NAWCWD-CHINA LAKE				0.500	01/08	1.000	01/09	3.000	4.500	
Software Development IRST	WX	NAWCWD-CHINA LAKE				1.000	01/08	4.000	01/09	8.500	13.500	
Software Development IDECM	WX	NAWCWD-CHINA LAKE				0.870	01/08	2.265	01/09	3.956	7.091	
Subtotal Support			2,890.641	11.791		10.046		11.155		23.846	2,947.479	

Remarks:
Prior year costs (FY95 & prior) not broken out into separate categories.

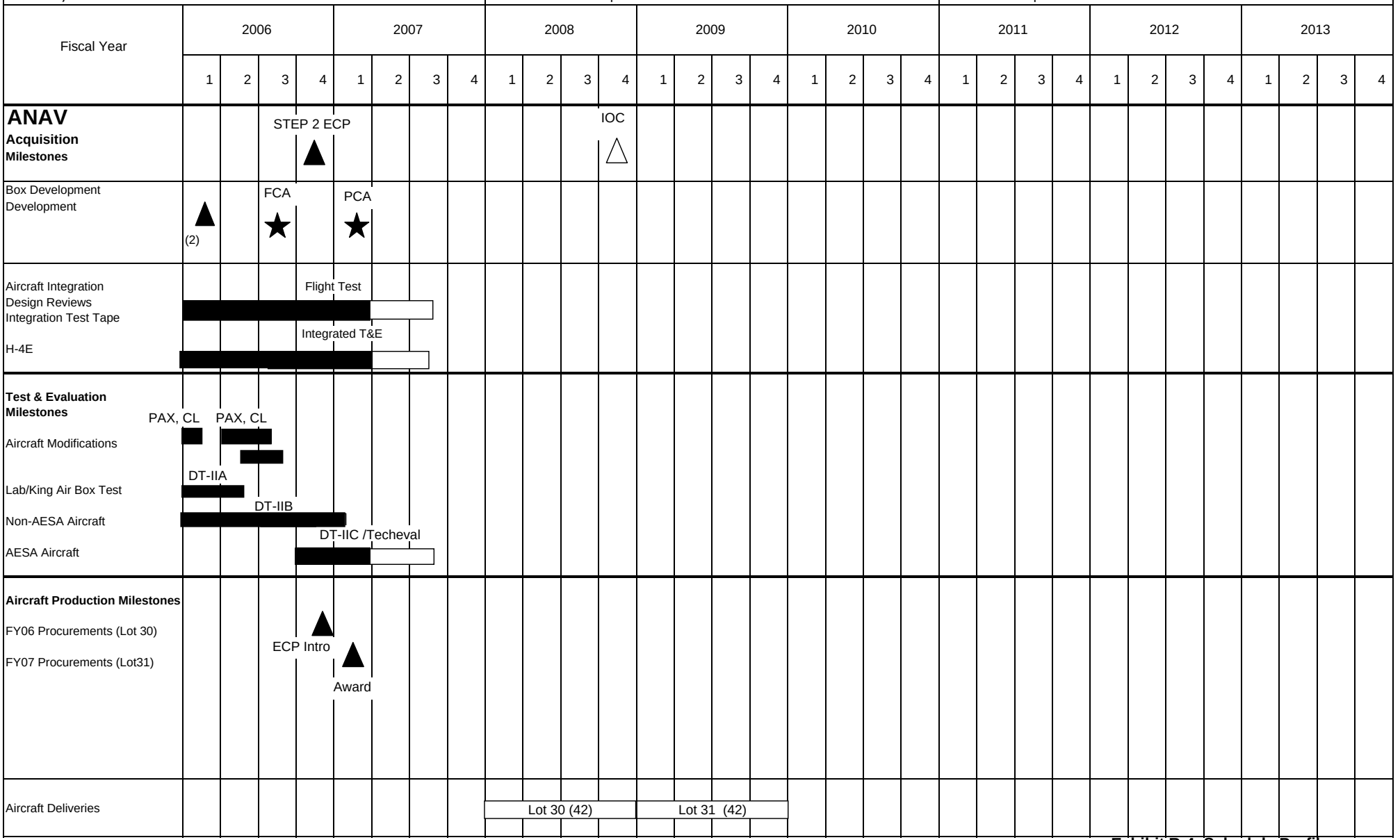
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)					DATE: **February 2007**						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 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	23.200	23.700	
Operational Test & Evaluation IRST	WX	OPTEVFOR / VX-9								6.500	6.500	
Subtotal T&E			69.799	8.286		3.557		1.768		43.277	126.687	
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	0.730	VAR	0.990	01/08	1.000	01/09	0.606	9.522	
Contractor Engineering Support IRST	TBD	TBD				1.200	01/08	2.065	01/09	9.100	12.365	
Government Engineering Support IRST	WX	TBD				1.350	01/08	1.350	01/09	8.296	10.996	
Contractor Engineering Support TWCM	TBD	NAVAIR, PAX RIVER, MD				11.469	01/08	11.735	01/09	49.532	72.736	
Government Engineering Support IDECM	WX	NAWCWD, China Lake				0.239	01/08	0.476	01/09	0.832	1.547	
Subtotal Management			22.111	1.277		16.053		17.326		75.614	132.381	
Remarks:												
Total Cost			3,433.038	24.615		41.950		66.289		214.792	3,780.684	
Remarks:												

R-1 SHOPPING LIST - Item No. 170

EXHIBIT R4, Schedule Profile | DATE: February 2007

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



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for ANAV	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Eng Dev Model (EDM) Delivery - Boeing (Lab/Flight Testin	1Q							
Step 2 ECP	4Q							
Flight Test	1Q-4Q	1Q-3Q						
H-4E SCS Development/Test	1Q-4Q	1Q-3Q						
Aircraft Modification	1Q, 2Q-3Q							
Lab/King Air Flt Test / Developmental Testing (DT-IIA)	1Q-2Q							
DT-IIB	1Q-4Q	1Q						
DT-IIC TECHEVAL	4Q	1Q-3Q						
Functional Configuration Audit (FCA)	3Q							
Physical Configuration Audit (PCA)		1Q						
IOC			4Q					
Lot 30 Deliveries			1Q-4Q					
Lot 31 Deliveries				1Q-4Q				

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: **February 2007**
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	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
ACLS **Acquisition Milestones**		Design/Integration							IOC ☆																							
Development Phase	■	■	■	■	■																											
Test & Evaluation Milestones Development Test					OTRR ▲																											
Operational Test						OPEVAL																										
Production Activities																																
Aircraft Deliveries									LOT 30 (42)				LOT 31 (42)				LOT 32 (42)				LOT 33 (42)											

R-1 SHOPPING LIST - Item No.170

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for ACLS	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Design/Integration	1Q-4Q	1Q						
Operational Test Readiness Review (OTRR)		1Q						
Operational Evaluation (OPEVAL)		2Q-3Q						
IOC			1Q					
Lot-30 Deliveries			1Q-4Q					
Lot-31 Deliveries				1Q-4Q				
Lot-32 Deliveries					1Q-4Q			
Lot-33 Deliveries						1Q-4Q		

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

EXHIBIT R-4a, Schedule Profile

DATE: **February 2007**

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	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
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]	REQUIREMENTS DESIGN		DEVELOPMENT			IT&E																										
H4E SCS (SIAP Block 0) [E/F]	DESIGN	DEVELOPMENT		IT&E																												
SIAP SOW Tasks					SIAP SOW Tasks																											
Production Deliveries									H4E Lot 30 (42)																							
Software Load												21X																				

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for MIDS	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MIDS F/A-18 Production Deliveries								
F/A-18C/D MIDS Integration								
C/D DT&E								
C/D OT&E								
F/A-18E/F MIDS Integration								
E/F DT&E								
E/F OT&E								
F/A-18 MC SW Development								
19C SCS								
21X SCS (SIAP Block 0) [C/D]								
Requirements	1Q-2Q							
Design	1Q-3Q							
Development	3Q-4Q	1Q						
IT&E		1Q-4Q	1Q-2Q					
H4E SCS (SIAP Block 0) [E/F]								
Requirements								
Design	1Q							
Development	1Q-4Q							
IT&E	1Q-4Q	1Q-4Q						
SIAP SOW Tasks	1Q-4Q	1Q-4Q						
Fleet Release Date H4E								
Fleet Release Date 21X								
H4E Production Deliveries			1Q-4Q					
21X Software Load			4Q	1Q				

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2007**

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	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
JHMCS Acquisition Milestones										IOC Aft Seat △																						
Prototype Phase																																
JHMCS Front Seat Development																																
JHMCS Aft Seat Development																																
Software OFP-Assembly Language OFP-High Order Language (HOL)	DT DT		Del HOL OT	HOL Del	Assembly Language OT		Del																									
Test & Evaluation Milestones Development Test Operational Test	D/F AFT Seat DT		F OT		D OT																											
Production Milestones ECP Intro duction (Lot 30)				▲																												
Production Deliveries									Aft Seat Lot 30 (42)																							

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile JHMCS	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Preliminary Design Review (PDR) AFT Seat								
Critical Design Review (CDR) AFT Seat								
Test Readiness Review (TRR) Aft Seat								
Developmental Testing Aft Seat	1Q-4Q							
Operational Testing (OT-IIB) Front Seat								
Development Test (DT) D AFT seat	1Q-4Q							
Development Test (DT) F AFT seat	1Q-2Q							
Software Delivery OFP-Assembly Language	3Q	3Q						
Software Delivery OFP-High Order Language (HOL)	4Q							
Follow On Test Evaluation (D Aft Seat)		1Q-2Q						
Follow On Test Evaluation (F Aft Seat)	3Q-4Q							
LRIPIV								
ECP Introduction Date	4Q							
Deliveries			1Q-4Q					

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: **February 2007**
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	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
ACS Acquisition Milestones				IOC ★																												
Prototype Phase																																
Radar System Development																																
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones																																
Development Test	TECHEVAL ▬																															
Operational Test		▬	FOT&E ▬																													
Production Milestones																																
Production Deliveries																																

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for **ACS**	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
TECHEVAL	1Q-2Q							
FOT&E ACS	2Q-4Q							
IOC	4Q							

R-1 SHOPPING LIST - Item No. 170

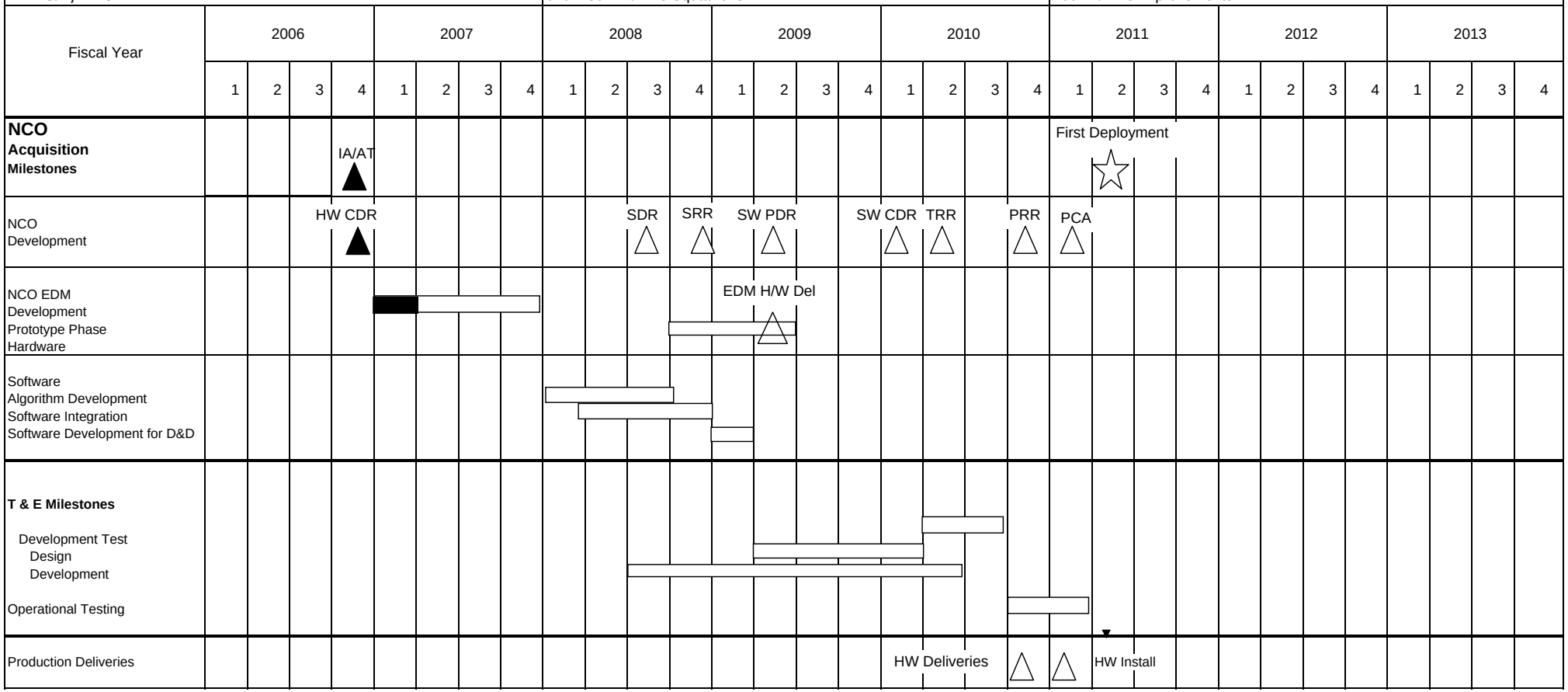
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2007**

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



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

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0204136N F/A-18 Squadrons				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for NCO	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IA/AT Assessment	4Q							
Critical Design Review (CDR) Hardware	4Q							
Engineering Development Model Development		1Q-4Q						
NCO Algorithm development			1Q-3Q					
System Design Review (SDR)			3Q					
Software Integration (DTP & NCO Algorithms)			2Q-4Q					
Software Specification Review (SSR)			4Q					
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						1Q		
First Deployment						2Q		

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

R-1 SHOPPING LIST - Item No. 170

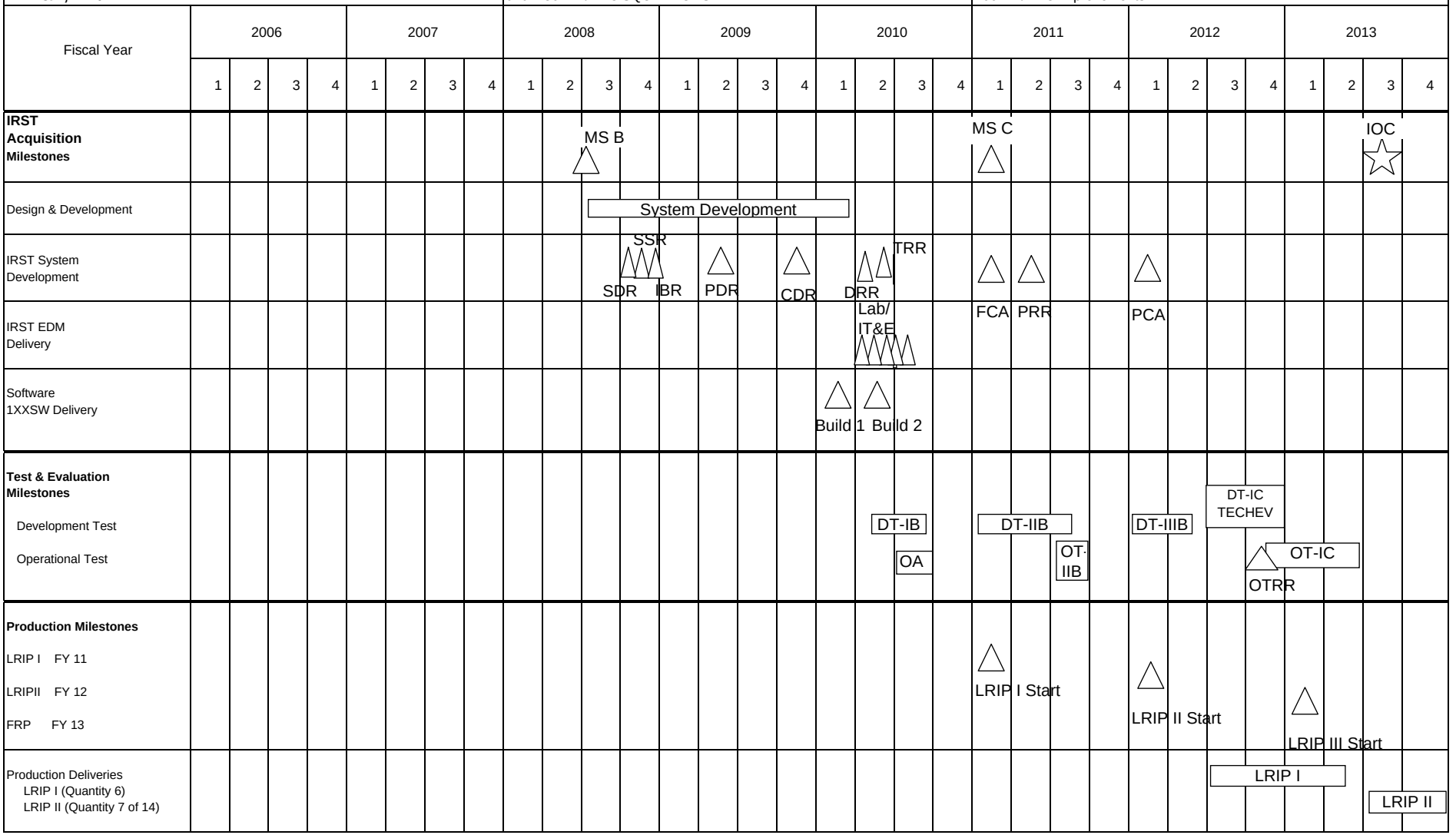
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2007**

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



R-1 SHOPPING LIST - Item No. 170

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for IRST	FY 2006	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

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: **February 2007**
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	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
IDECM **Acquisition Milestones**																			**Fleet Implementation**													
Hardware Integration															**H/W Int**																	
Software Development										**S/W Development**																							
Test & Evaluation Milestones														**DT-C1**			**DT-C2**															
Development Test																																
Operational Test																		**OT-C1**														
Integration Test																		**IT&E**														

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for IDECM	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Software Development			1Q-4Q	1Q-2Q				
Hardware Integration				2Q-4Q				
Developmental Testing (DT-C1)				2Q-4Q				
Developmental Testing (DT-C2)					1Q-2Q			
Milestone C (MS C)								
Start Low-Rate Initial Production I (LRIP II)								
Low-Rate Initial Production I Delivery								
Integrated Test Evaluation (IT&E old TECHEVAL)					1Q-2Q			
Operational Evaluation (OT-IIC) (OPEVAL)					1Q-2Q			
Low-Rate Initial Production II Delivery								
Low Rate Initial Production IV								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start					3Q			
First Deployment								

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2065 RADAR Upgrade	**55.849**	**6.346**	**2.941**					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 Radar Upgrade, Active Electronically Scanned Array (AESA) development program began in FY1999. It is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series radar. The AESA 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, significantly increasing A/A and A/G detection and tracking ranges. The AESA 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 operation 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 part obsolescence redesign costs that will be experienced on the AN/APG-65 and AN/APG-73.

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	2065 F/A-18 RADAR Upgrade

B. Accomplishments/Planned Program

AESA Engineering & Mfg Development	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	28.700	6.236	2.881	
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.

AESA Software Dev., Dev. Test, and Integration	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	20.038	0.110	0.060	
RDT&E Articles Quantity				

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

AESA Operational Test	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	7.111			
RDT&E Articles Quantity				

Complete AESA Operational Test and Evaluation.

R-1 SHOPPING LIST - Item No.170

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	2065 F/A-18 RADAR Upgrade

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
F/A-18E/F HORNET (MYP)APN-1 (P-1 Line Item #4)	160.264	130.137	104.961	90.704	114.675	95.127				1026.147
EA-18G APN-1 (P-1 Line Item #2)	16.870	52.054	78.721	99.775	85.006	40.054				372.480
F-18 SERIES MOD APN-5 (P-1 Line Item #32) (OSIP 002-07)		5.448	73.312	89.409	117.482	123.274	50.472	49.937	2.500	511.834

D. ACQUISITION STRATEGY:

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 BOA order for 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 software and Non-Developmental Item; Cost as an Independent Variable; and Electronic Data Deliverables.

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 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	442.004	6.236	11/06	2.881	11/07				451.121	451.148
GFE	SS/CPFF	MDA - Boeing, St Louis, MO	3.517								3.517	3.517
Subtotal Product Development			445.521	6.236		2.881		0.000		0.000	454.638	
Software Development	WX	NAWCWD, China Lake, CA	24.958								24.958	
Integrated Logistics Support	WX	Various	1.511								1.511	
Subtotal Support			26.469	0.000		0.000		0.000		0.000	26.469	

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS				PROJECT NUMBER AND NAME 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								75.847	
Operational Test & Evaluation	WX	OPTEVFOR, Norfolk, VA	15.385								15.385	
Subtotal T&E			91.232	0.000		0.000		0.000		0.000	91.232	
Remarks:												
Program Management Support	Various	NAVAIR Pax River, MD	2.269	0.050	10/06						2.319	
Travel	TO	NAVAIR Pax River, MD	0.544	0.060	10/06	0.060	10/07				0.664	
Subtotal Management			2.813	0.110		0.060		0.000		0.000	2.983	
Remarks:												
Total Cost			566.035	6.346		2.941		0.000		0.000	575.322	
Remarks:												

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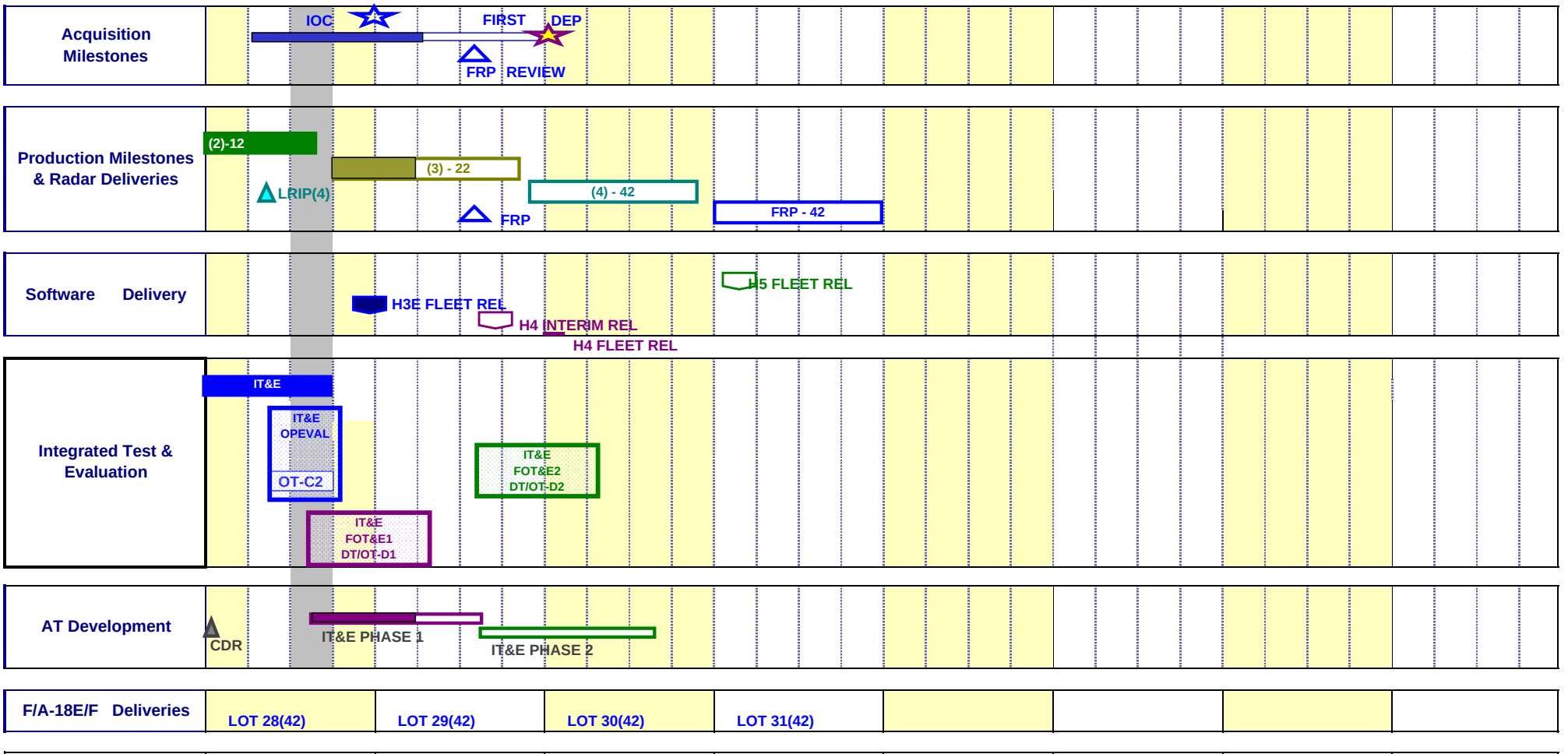
EXHIBIT R4, Schedule Profile | DATE: February 2007

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	2065 F/A-18 RADAR Upgrade



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-7**	PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS				PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Integrated Test Evaluation (IT&E old TECHEVAL)	1Q-3Q							
Operational Evaluation (OT-IIC) (OPEVAL)	2Q-3Q							
Low-Rate Initial Production II Delivery	1Q-3Q							
Low Rate Initial Production IV	2Q							
CDR	1Q							
IT&E FOT&E1 DT/OT-D1	3Q-4Q	1Q-2Q						
AT IT&E Phase I	3Q-4Q	1Q-3Q						
LRIP III Deliveries	4Q	1Q-4Q						
H3E Fleet Release	4Q	1Q						
IOC	4Q	1Q						
Full Rate Production (FRP) Decision		3Q						
Full Rate Production Start		3Q						
H4 Interim Release		3Q-4Q						
LRIP IV Deliveries		4Q	1Q-4Q					
AT IT&E Phase II		3Q-4Q	1Q-3Q					
IT&E FOT&E2 DT/OT-D2		3Q-4Q	1Q-2Q					
H4 Fleet Release			1Q					
First Deployment			1Q					
H5 Fleet Release				1Q				
FRP Deliveries (Lot 31)				1Q-4Q				

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**8.367**	**8.318**						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

R-1 SHOPPING LIST - Item No. 170

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	9999 Congressional Adds

B. Accomplishments/Planned Program

9614: Mil Rapid Response Combat Info Sys	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.635	1.992		
RDT&E Articles Quantity				

The Military Rapid Response-Command and Information System (MRRCIS) is a command, control, and communications mobile ground node that will provide enhanced connectivity between Naval TACAIR (F/A-18) weapon platforms and USMC's Expeditionary Warfare ground 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 a 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 SeaPower 21/ForceNet concepts above.

9839: Network Centric Operations Capability	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	6.732			
RDT&E Articles Quantity				

The Network Centric Operations is a F/A-18 developing interoperability capabilities within the Network Centric operations environment development towards blue force tracker and all weather moving target land attack, and MIDS/JTRS integration.

9A68N: F/A-18 A-D Series Tech Manual Conversion	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.345		
RDT&E Articles Quantity				

F/A-18 A-D Series Tech Manual Conversion

9A69N: F/A-18 C/D Digital Electronic Warfare Syster	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		4.981		
RDT&E Articles Quantity				

F/A-18 C/D Digital Electronic Warfare System

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0204152N, E-2 SQUADRONS		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	20.954	9.803	22.691	54.511	53.789	24.790	7.194	7.300
0463 E-2C IMPROVEMENTS	2.368	1.534	22.691	54.511	53.789	24.790	7.194	7.300
9999 CONGRESSIONAL ADDS	18.586	8.269						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
E-2 Improvements provides for product improvements and 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 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, airborne Advanced Digital Networking System (aADNS), Tactical Information Services (TIS), 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., Battle Space 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. 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 not integrated into the E-2C weapon system with no means of transfer information off board to other platforms/systems.

Funding provides for evaluation and demonstration of technology for new emergent systems and subsystems. This initiative allows for data collection and the evaluation of new technologies in the context of emerging missions and requirements including Theater Air and Missile Defense, Ballistic Missile Defense, littoral warfare, combat identification, multi-source integration, Airborne Battlefield Command and Control (ABC2) and Single Integrated Air Picture (SIAP), as well as parts and system obsolescence. Emphasis will be upon the following areas: participation in exercises to assess capabilities against emerging threats; identification of deficiencies and candidate solutions; and ground/airborne demonstrations of the identified technologies. Funding also provides for the development of an open architected distributed computing environment and IP networking infrastructure required to enable E-2 Global Information Grid (GIG) connectivity in a digital networking environment, to include the use of High Frequency (HF) data paths. Funding provides for the system development and testing to support the incorporation of In Flight Refueling 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. 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 to the warships inflight. 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.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204152N, E-2 SQUADRONS

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	17.022	1.540	1.577	1.592
Current President's Budget:	20.954	9.803	22.691	54.511
Total Adjustments	3.932	8.263	21.114	52.919
Summary of Adjustments				
Congressional Reductions	-0.191			
Congressional Rescissions				
Congressional Undistributed Reductions	-0.552	-0.037		
Congressional Increases	4.500	8.300		
Economic Assumptions			0.111	0.583
Miscellaneous Adjustments	0.175		21.003	52.336
Subtotal	3.932	8.263	21.114	52.919

Schedule:
Project Unit 0463, E-2C Improvements - Schedule changes to AODS, MSI Phase I, and SIAP Block 0 Deployment, which are included in Software Systems Configuration Set 5 (SCS5) functionality, are due to resolution of SCS5 Software Trouble Reports (STRs). Increased STRs have caused additional lab, ground, and flight testing, which resulted from hardware and software deficiencies related to the mission computer and software.

Project Unit 9999, Congressional Adds - Not Applicable.

Technical:
Increased complexity of hardware and software integration has required additional lab, ground, and flight test.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0463 E-2C IMPROVEMENTS	2.368	1.534	22.691	54.511	53.789	24.790	7.194	7.300
RDT&E Articles Qty			*10					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
E-2 Improvements provides for product improvements and 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 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, airborne Advanced Digital Networking System (aADNS), Tactical Information Services (TIS), 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., Battle Space 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. 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 not integrated into the E-2C weapon system with no means of transfer information off board to other platforms/systems.

Funding provides for evaluation and demonstration of technology for new emergent systems and subsystems. This initiative allows for data collection and the evaluation of new technologies in the context of emerging missions and requirements including Theater Air and Missile Defense, Ballistic Missile Defense, littoral warfare, combat identification, multi-source integration, Airborne Battlefield Command and Control (ABC2) and Single Integrated Air Picture (SIAP), as well as parts and system obsolescence. Emphasis will be upon the following areas: participation in exercises to assess capabilities against emerging threats; identification of deficiencies and candidate solutions; and ground/airborne demonstrations of the identified technologies. Funding also provides for the development of an open architected distributed computing environment and IP networking infrastructure required to enable E-2 Global Information Grid (GIG) connectivity in a digital networking environment, to include the use of High Frequency (HF) data paths. Funding provides for the system development and testing to support the incorporation of In Flight Refueling 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. 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 to the warships inflight. 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.

* 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Multi-Source Integration (MSI) Phase II	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.204	.180		
RDT&E Articles Qty				

Developed software applications to facilitate incorporation of new technologies such as Multi-Source Integration (MSI) in existing E-2 Operational Flight Program (OFP). Produced hardware-in-the-loop data sets, performance measures, and data analysis tools in support of MSI Ph II. Fund software architecture analysis and design for incorporation of diverse applications in the E-2 Weapon System, including MSI, Combat ID, and Distributed Weapons Coordination. Fund 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). Fund requirements analysis for development of integrated communication system architecture to support advanced sensor networking. Fund Fleet Battle Group interoperatibility testing and evaluation for the E-2.

Single Integrated Air Picture (SIAP) Block 0	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.235	.400		
RDT&E Articles Qty				

Successfully completed Preliminary Design Review/Critical Design Review and coding of Single Integrated Air Picture (SIAP) Block 0 software for implementation and fielding in Systems Configuration Set (SCS) 5. Outyear funding will support testing and fielding of SIAP Block 0 software.

Airborne Battlefield Command and Control (ABC 2)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.929	.954	4.850	6.842
RDT&E Articles Qty				

Conducted demonstrations of High Frequency Secure Internet Protocol (IP) Router Network (HF SIPRNET) capability, VRC-99 IP networking, and Tactical Targeting Networking Technology (TTNT) communications network and waveforms. Participated in DARPA TTNT, Trident Warrior and Joint Task Force Exercise (JEFX) experimentation events. 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-board and off-board data fusion capabilities, and airborne demonstration of advanced mission computer and communications technologies.

In Flight Refueling (IFR)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost				8.952
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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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

Universal Automatic Information System (UAIS)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost				4.199
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			11.947	25.976
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 airborne 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			5.894	8.542
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.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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	

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN-1/E-2C/D (LI# 16 & 17)	249.439	202.754	57.275	593.565	697.734	792.410	810.098	787.188	9,657.963	13,848.426
APN-5/E-2 (LI# 40)	23.084	9.050	11.047	11.587	21.006	19.401	27.034	31.757	115.397	269.363
APN-6/E-2C/D (LI# 58)	0.500	0.355		48.689	38.363	32.506	30.692	27.236	62.898	241.239

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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
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	TBD	TBD				2.147	12/07	3.776	12/08	4.074	9.997	
Ancillary Hdw Development	TBD	TBD				.200	12/07	.400	12/08	1.799	2.399	
Primary Hdw Development	VARIOUS	VARIOUS	.759								.759	
Primary Hdw Development - ABC2	VARIOUS	VARIOUS	1.616	.355	VARIOUS	.404	VARIOUS	.616	VARIOUS	3.406	6.397	
Primary Hdw Development	VARIOUS	VARIOUS				2.034	01/08	10.765	01/09	14.331	27.130	
Primary Hdw Development - MSI	VARIOUS	VARIOUS	1.497								1.497	
Systems Eng - ABC2	TBD	TBD				.200	VARIOUS	.200	VARIOUS	.800	1.200	
SUBTOTAL PRODUCT DEVELOPMENT			3.872	.355		4.985		15.757		24.410	49.379	

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 (NON-FFRDC)	VARIOUS	VARIOUS	1.191			.110	12/07	.591	12/08	1.151	3.043	
Government Eng Spt	WX	NAWCAD, PATUXENT RIVER MD						.728	11/08	1.568	2.296	
Government Eng Spt	VARIOUS	VARIOUS	7.354	.200	11/06			.707	11/08	.113	8.374	
Government Eng Spt - SIAP	VARIOUS	VARIOUS	.516	.200	01/07						.716	
Integrated Logistics Sup	TBD	TBD				1.432	11/07	1.947	11/08	1.854	5.233	
Software Development	TBD	TBD				9.191	12/07	19.875	12/08	25.224	54.290	
Studies & Analyses	TBD	TBD				.100	12/07	.100	12/08	.900	1.100	
SUBTOTAL SUPPORT			9.466	.400		11.389		24.571		33.605	79.431	

Remarks:
Totals may not add due to rounding.

TEST & EVALUATION												
Dev T&E ETS (NON-FFRDC)	TBD	TBD						.389	12/08	4.221	4.610	
Dev Test & Eval - ABC2	VARIOUS	VARIOUS	1.440			1.100	11/07	2.100	11/08	8.050	12.690	
Dev Test & Eval - ABC2 (Non-FF	VARIOUS	VARIOUS	.647								.647	
Dev Test & Eval	VARIOUS	VARIOUS	4.560	.049	11/06			1.878	11/08	9.715	16.202	
Dev Test & Eval - MSI	WX	NAWCAD, PATUXENT RIVER MD	.169								.169	
Dev Test & Eval - MSI (Non-FFF	VARIOUS	VARIOUS	.561	.180	11/06						.741	
Test Assets	TBD	TBD				1.756	11/07	2.107	11/08	2.589	6.452	
SUBTOTAL TEST & EVALUATION			7.378	.229		2.856		6.474		24.575	41.511	

Remarks:
Totals may not add due to rounding.

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2007			
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
MANAGEMENT												
Gov't Eng Spt - (NoN-FFRDC)	TBD	TBD						.105	11/08	.172	.277	
Government Eng Sup	VARIOUS	VARIOUS	.042			1.932	12/07	4.594	12/08	5.052	11.620	
Program Management Support ABC	VARIOUS	VARIOUS	3.029	.500	11/06	.500	11/07	.601	11/08	2.200	6.830	
Program Mgmt Spt ETS (NoN-FFRD	TBD	TBD						.373	12/08	.804	1.177	
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD				.976	11/07	1.890	11/08	1.879	4.745	
Travel	VARIOUS	VARIOUS	.249	.050	11/06	.053	11/07	.146	11/08	.376	.874	
SUBTOTAL MANAGEMENT			3.320	.550		3.461		7.709		10.483	25.524	

Remarks:
Totals may not add due to rounding.

Total Cost			24.036	1.534		22.691		54.511		93.073	195.845	

Remarks:
Totals may not add due to rounding.

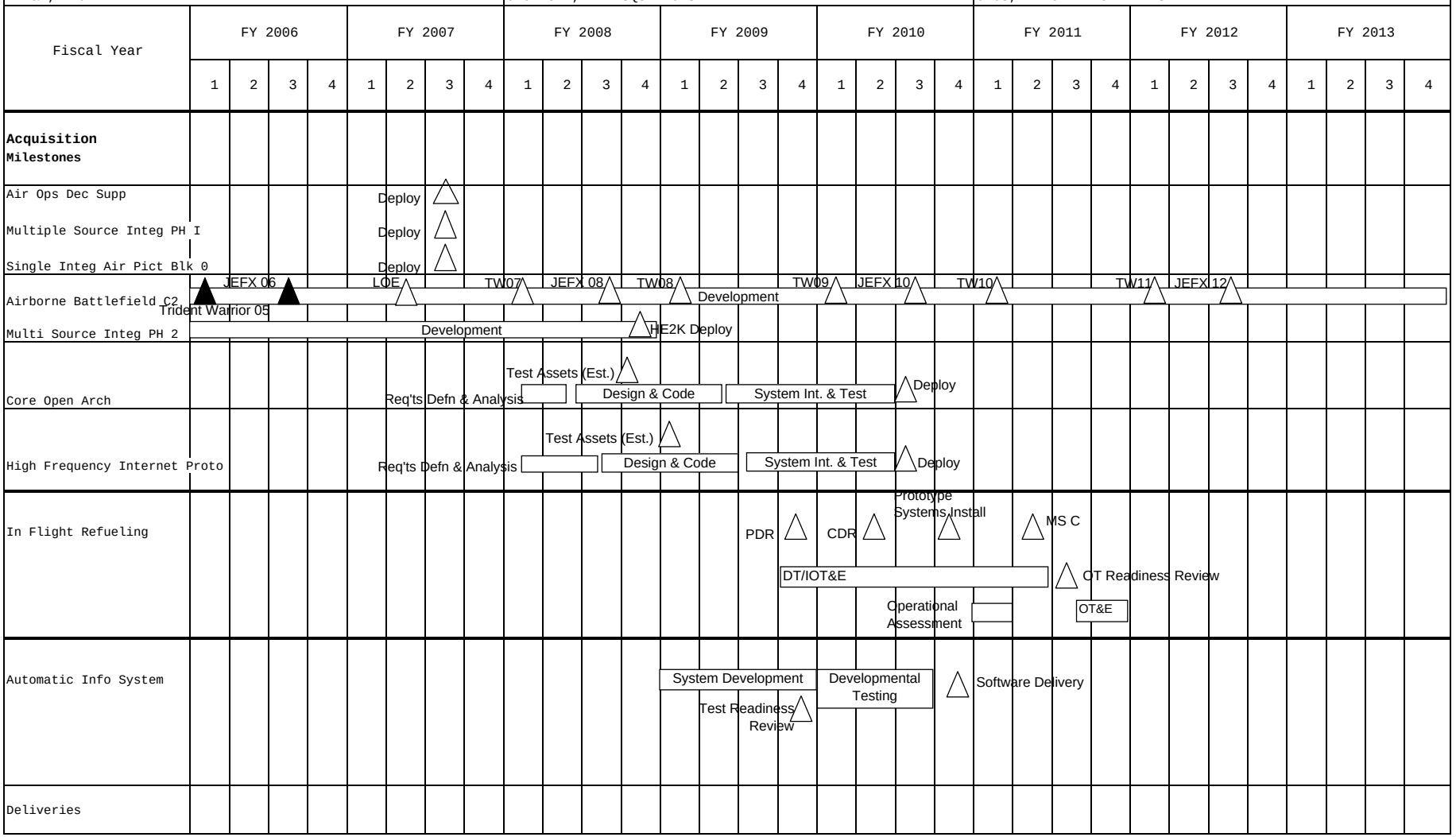
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2007

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



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0204152N, E-2 SQUADRONS				PROJECT NUMBER AND NAME 0463, E-2C IMPROVEMENTS			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MSI PH I Deploy		3Q						
AODS Deploy		3Q						
ABC2 Development	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
ABC2 Trident Warrior	1Q		1Q	1Q	1Q	1Q	1Q	
ABC2 Joint Expeditionary Force Exercise (JEFX)	3Q		3Q		3Q		3Q	
Limited Objective Experiment (LOE)		2Q						
MSI PH II Development	1Q - 4Q	1Q - 4Q	1Q - 4Q					
MSI Ph II Deploy HE2K			4Q					
SIAP Blk 0 Deploy HE2K		3Q						
Core OA - Requirements Definition & Analysis			1Q-2Q					
Core OA - Design & Code			2Q-4Q	1Q-2Q				
Core OA - Test Asset Delivery (Est.)			4Q					
Core OA - System Integration & Test				2Q-4Q	1Q-2Q			
Core OA - Deploy					3Q			
HF IP - Requirements Definition & Analysis			1Q-3Q					
HF IP - Design & Code			3Q-4Q	1Q-2Q				
HF IP - System Integration & Test				3Q-4Q	1Q-2Q			
HF IP - Deploy					3Q			
IFR Acquisition Milestones - Milestone C						2Q		
IFR Preliminary Design Review (PDR)				4Q				
IFR Critical Design Review (CDR)					2Q			
IFR Prototype System Installation					4Q			
IFR Developmental Test (DT)/Integrated Operational Test & Evaluation				4Q	1Q-4Q	1Q-2Q		
IFR Operational Test & Evaluation						3Q-4Q		
IFR Operational Assessment						1Q		
IFR Operational Test Readiness Review						3Q		
AIS System Development				1Q-4Q				
AIS Test Readiness Review				4Q				
AIS Developmental Testing					1Q-3Q			
AIS Software Delivery					4Q			

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	18.586	8.269						
RDT&E Articles Qty-Not Applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

9418 - E-2C Open Architecture Computing Framework	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.017	1.295		
RDT&E Articles Qty				

Supported development and test of a Model Driven Architecture for E-2 Hawkeye mission computer software. This included modeling modular software components using the Unified Modeling Language, and interfacing elements using data distribution middleware. Support development and testing of a Model Driven Architecture for the E-2 Advanced Control Indicator Set software. This will include modeling the applications using the Unified Modeling Language with initial emphasis on associated interfaces.

9419 - Non-Cooperative Combat Identification Capability	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.251			
RDT&E Articles Qty				

Supported concept development, system engineering, and system prototyping for an advanced non-cooperative identification system capability.
Provided for the installation of a prototype Non-Cooperative Combat Identification system for system evaluation and live testing with targets of opportunity in the vicinity.

9420 - Makaha Ridge FORCEnet Lab	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.274	3.188		
RDT&E Articles Qty				

Supported science and technology and advanced technology demonstration initiatives for potential transition to the E-2 program. Conduct research and development efforts at the Makaha Ridge FORCEnet Laboratory, which will serve as a Battle Management Command and Control test center to develop capabilities for FORCEnet oriented technologies and systems. Integrate a Cooperative Engagement Capability (CEC) into the FORCEnet lab and enable participation in a CEC network with live assets.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204152N, E-2 SQUADRONS	PROJECT NUMBER AND NAME 9999, Congressional Adds

9616 - Magneto Rheological Side Lateral Engine Mount	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.966			
RDT&E Articles Qty				

Funded research, development and tested an airworthy Magneto Rheological (MR) shock mount for the E-2C aircraft. Continued development, test and qualification for an airworthy MR Shock mount for E-2C aircraft, to reduce vibration loads into the airframe resulting in higher reliability for E-2C mission systems.

9744 - Airborne Advanced Network	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.503	2.192		
RDT&E Articles Qty				

Developed air-to-air kill chain networking techniques and applications to improve interoperability and level of service.
Developed techniques and applications to improve information sharing in a networked environment between tactical airborne platforms. Demonstrate the Internet Protocol network waveform Tactical Targeting Network Technology (TTNT). Provide insight into the network architecture of TTNT and a realistic software and radio frequency environment that will encable a Single Integrated Air Picture. Provide a means to measure and compare performance against legacy Tactical Digital Information Links and validate the requirements for the Joint Tactical Radio System waveform.

9745 - Global Information Grid Middleware Portal	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.961			
RDT&E Articles Qty				

Developed a services oriented Architecture and provided Network Centric Enterprise Services. Architecture contained services through which applications can be added or developed to exchange information via the Global Information Grid.

9746 - Pacific Missile Range Facility/Pearl Harbor	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.273			
RDT&E Articles Qty				

Funded Cooperative Engagement Capability (CEC) like capability for Makaha Ridge to connect to Pearl Harbor CEC activities. Tested and evaluated a distributed command and control networking environment with assets and facilities that existed in the Pacific Missile Rage Facility/Pearl Harbor areas, including the Makaha Ridge FORCEnet Laboratory.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204152N, E-2 SQUADRONS	PROJECT NUMBER AND NAME 9999, Congressional Adds

9771 - SCRAMscreen Display Technology	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.341			
RDT&E Articles Qty				

Designed, developed, tested, and qualified the E-2C replacement display. Developed a prototype that provided aircraft with reliable tactical displays capable of displaying sufficient data that met the required situational awareness of the E-2 operator.

9A70 - E-2C/Advanced Hawkeye Transmitter Technologies	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		1.594		
RDT&E Articles Qty				

Design, development, laboratory testing of the E-2C replacement APS-145 Radar Transmitter (ATR). Developing a prototype that will provide aircraft with reliable radar transmitter that is capable of detecting airborne and surface targets within the E-2C operational environment to meet the required situational awareness of the E-2 operator.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification				DATE: **February-07**				
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**				R-1 ITEM NOMENCLATURE **PE: 0204163N TITLE: FLEET COMMUNICATIONS**				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**30.482**	**26.997**	**23.108**	**18.903**	**15.533**	**8.143**	**12.918**	**10.787**
0725 Communications Automation	14.746	15.253	9.744	9.189	6.292	3.880	3.952	4.025
1083 Shore to Ship Communications	15.736	11.744	13.364	9.714	9.241	4.263	8.966	6.762

(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 Deployed 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, and 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 NAVMACS/SMSII) developed joint/combined individual and organizational message handling for United States Naval ships and submarines, 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.

Naval Global Directory Service (NGDS): The NGDS will develop 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 include: 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.

The NGDS builds 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 include: 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 delivers 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 must manage and maintain these relationships regardless of the user’s or services location.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: **February-07**
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT	

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 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 Increment 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 Increment III will converge all Navy Tactical Voice, Video, and Data requirements into a converged IP Data stream. In addition, the Increment 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 Increment 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 (HAIPE), Advanced Extremely High Frequency (AEHF), and other Future Department of Defense (DoD) Transformational Command, Control, Communications, Computers , & Intelligence (C4I) Programs.

The Tactical Switching Ashore (TSw) Infrastructure Modernization (SIM) 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 redundant communications paths, provide secure and available communications, provide dynamic bandwidth management, and reduce costly dependencies on legacy systems. This plan will be designed to increase efficiencies, and reduce manpower and the overall footprint of the Navy's shore sites. 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.

The Shore to Ship Communications System develops communications systems elements which provide positive command and control of deployed Ship, Submersible, Ballistic, Nuclear (Submarines (SSBNs), Ship, Submersible, Guided Nuclear (Submarines (SSGNs) and attack Ship, Submersible Nuclear (Submarines (SSNs). Provides the communication elements for continuous assessment of the command and control link between Secretary of Defense and missile platforms. Provides the joint system design for Emergency Action Message (EAM) distribution to all nuclear platforms. Provides the tools for strategic command and control planning to deployed SSBNs including shore infrastructure.

Low Band Universal Communications System (LBUCS) will provide operational capability, through the Very Low Frequency architecture, to insure system life extension and flexibility of Submarine Broadcast traffic to the submarine in stealth posture. The flexibility includes bandwidth efficiency, ensuring more operational products are delivered to a submarine without risking mast exposure.

The shore Submarine Operating Authority (SUBOPAUTH) was downsized from six to four nodes. In order to ensure Continuity of Operations (COOP) and ongoing robustness in a reduced architecture, the Submarine Operating Authority (SUBOPAUTH) architecture provides for increased commonality among SUBOPAUTHs. This ensures robust operation, improved integration between Submarine Operational Control and support communications, and Continuity of Operations in the event of a SUBOPAUTH casualty.

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.

Congressional plus-up to support development of a Floating Area Network (FAN) plan and architecture enabling a direct Line of Sight (LOS), wireless, Transmission Control Protocol/Internet Protocol (TCP/IP) network among intra-battle group ships.

Congressional plus-up to support development of a portable Cole emergency radio system (MRC-105 Emergency Radio).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February-07**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET COMMUNICATIONS	

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY07 President's Budget	32.149	27.189	21.794	15.810
FY08/09 President's Budget:	30.482	26.997	23.108	18.903
Total Adjustments	-1.667	-0.192	1.314	3.093
Summary of Adjustments				
Program Adjustments	-1.161		10.518	10.117
Congressional Action	0.018			
Sec. 8125 Revised Economic Assumptions	0.008			
NWCF Rate Adj. SPAWAR Systems Centers			0.139	0.159
NWCF Rate Adj. NUWC				0.005
Small Business Innovation Research (SBIR) Tax	-0.532			
CIVPERS Adjustments			-9.346	-7.385
Sec 8106: Revised Economic Assumptions			0.121	0.146
Non-Purchase Inflation Adjustment			-0.118	0.051
Sec. 8023 Federally Funded RDT&E		-0.089		
Sec. 8106 Revised Economic Assumptions		-0.103		
Subtotal	-1.667	-0.192	1.314	3.093

(U) Schedule:

(U) Technical:

Not Applicable.

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT				PROJECT NUMBER AND NAME 0725 Communications Automation			
COST ($ in Millions)	FY2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**14.746**	**15.253**	**9.744**	**9.189**	**6.292**	**3.880**	**3.952**	**4.025**
RDT&E Articles Qty								

(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)) is the network centric Internet Protocol (IP) solution for the processing, storage, distribution and forwarding of General Service Defense Message System (DMS) organizational messages to the user's desktop throughout the Integrated Shipboard Networks System (ISNS). 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 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 Increment 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 Increment III will converge all Navy Tactical Voice, Video, and Data requirements into a converged IP Data stream. In addition, the Increment 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 Increment 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 (HAIPE), Advanced Extremely High Frequency (AEHF), and other Future DoD transformational C4I Programs. 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 will develop 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 builds 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 delivers 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 will 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.

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT	0725 Communications Automation

(U) B. Accomplishments/Planned Program

	FY06	FY 07	FY 08	FY 09
Automated Digital Network System (ADNS)	5.835	5.025	3.879	3.665
RDT&E Articles Quantity		4		

FY06: Completed interoperability and operational testing for ADNS Increment (INC) II. Developed advanced traffic management, control and Quality of Service (QoS) capabilities. Demonstrated dynamic routing scheme. Continued support of FORCEnet demonstrations (Trident Warrior series). Awarded contract for system development and demonstration for INC III. INC III will provide converged voice, video, and data; increased bandwidth capacity upgrades to allow transfer at 25 and 50 Mega Bits per Second (Mbps); conversion to a Ciphertext Security Backbone using Internet Protocol version 6 (IPv6) capability, and the ability to converge all Surface Units into a Meshed contiguous Internet Protocol (IP) environment.
FY07: Conduct Increment IIa formal Developmental and Operational Testing (DT/OT). Continue Incrementally funding INC III System Development and Demonstration phase. INC III contractor will conduct system requirements review and deliver an ADNS Increment III system and subsystem specification. Evaluate industry produced INC III Engineering Demonstration Models (EDMs). Conduct system Preliminary and Critical Design Review ((PDR) and (CDR)).
FY08: Continue the system development and demonstration phase of ADNS Increment III with required interfaces. Conduct Increment III formal Developmental Testing (DT). 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, Subsurface, Airborne, and Shore.)
FY09: Complete formal Operational Testing of Increment III. Develop system modification of Increment III for HAIPE integration. Develop and update system and subsystem interface designs for integration with new SATCOM and Radio Frequency (RF) paths, as they emerge.

	FY06	FY 07	FY 08	FY 09
Tactical Messaging (NAVMACS)	1.066	-	1.370	1.315
RDT&E Articles Quantity				

FY06: Continued development and test efforts for emerging technology and product upgrades. Initiated development of way-ahead messaging for unit level platforms to include Defense Messaging System/Integrated Shipboard Network System (DMS/ISNS) to allow shipboard messaging consumers to communicate with shore based Defense Message System (SMS) Infrastructure.
FY07: Planning and testing for DISA developed Proxy product will occur in FY08 and FY09.
FY08: Initiate development of way-ahead messaging for unit level platforms to include DMS Proxy Solution to allow shipboard IP messaging consumers to communicate with shore based Automated Message Handling Systems (AMHS). Develop and test efforts for emerging technology and product upgrades.
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.

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT	0725 Communications Automation

(U) B. Accomplishments/Planned Program

	FY06	FY 07	FY 08	FY 09
Naval Global Directory Services	0.383	0.332	0.340	0.313
RDT&E Articles Quantity				

FY06: Continued 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 establishment of the Naval Network Identity (NNI) Registry Service to be used to register/issue unique identifiers to all Naval users. Supported Navy directory testing efforts.
FY07: Continue the development of the Naval Global Directory Service (NGDS) - enterprise wide, integrated directory service architecture. Assist in the continuing convergence of NMCI, ONE-NET, MCEN and IT-21 environments. Provide developmental engineering support for shore-based identity data sharing/synchronization. Support Navy directed testing efforts.
FY08: Continue the development of the Naval Global Directory Service (NGDS) - enterprise wide, integrated directory service architecture. Assist in the continuing convergence of NMCI, ONE-NET, MCEN and IT-21 environments. Provide developmental engineering support for establishment of the Naval Network Identity (NNI) Registry Service to be used to register/issue unique identifiers to all Naval users. Support Navy directory testing efforts.
FY09: Continue the development of the Naval Global Directory Service (NGDS) - enterprise wide, integrated directory service architecture. Assist in the continuing convergence of NMCI, ONE-NET, MCEN and IT-21 environments. Provide developmental engineering support for ship-to-shore identity data sharing/synchronization, and continue integration of shore authoritative identity sources

	FY06	FY 07	FY 08	FY 09
Tactical Switching (Ashore)	7.462	9.896	4.155	3.896

FY06: Initiated Increment II Spiral A Network Management and Control System (NMS) (Management Capability). Developed a Request for Procurement (RFP) for global integration to develop Commander Critical Information Requirements (CCIRs), Information Exchange Requirements (IERs) and Reporting constructs supporting the NMS deployment. Additionally, selected a system integrator to develop a shore communications architecture that will automate, remote or consolidate communications technical control facilities to the extent possible supporting migration of all services to an all IP infrastructure. Identified and integrated interfaces supporting DoD Teleport and the Defense Information Systems Network (DISN) CORE The requirement for this architecture is to provide a seamless connection between the shore tactical support infrastructure and the deployed user. In addition, the program built upon the current Commercial Off-The-Shelf (COTS) NMS capability (situational awareness / monitoring) to develop management and control capabilities.
FY07: Complete the development of Increment II Spiral A Network Management and Control System (NMS) (Management Capability) that began in FY06. Complete the system integrators task to develop a shore communications architecture that w Automate, Remote or Consolidate communications technical control facilities to the extent possible supporting migration of all services to an all IP infrastructure. Initiate development of Increment II Spiral B NMS (automation capability).
FY08: Complete the Increment II Spiral B development that began in FY07. Develop and design a plan to eliminate bandwidth limitations within the architecture by designing redundant communications paths either physical or virtual, providing real ti integrated security, enabling dynamic bandwidth management, and reducing costly dependencies on legacy systems. In addition, the program will expand the monitoring, management, and control capability developed in FY06/FY07 to fully automate the NMS capability. 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: Initiate Increment III NMS (GIG/Joint/All IP Integration Capability). Complete the design, development and implementation of the upgrades to the tactical switching Enterprise NMS (ENMS) 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 fu 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.

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT	0725 Communications Automation

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Complete	To Cost	Total
3050 – Comm Auto - Tactical Messaging	11.649	4.844	7.222	7.938	8.654	4.079	3.788	3.848	Continuing	Continuing	
3050 – Comm Auto – ADNS	23.966	19.276	47.620	44.861	31.653	43.449	41.714	42.417	Continuing	Continuing	
3050 – Comm Auto – Tactical Switching (Ashore)	23.722	32.101	36.165	31.917	20.653	20.483	25.605	26.035	Continuing	Continuing	

(U) E. ACQUISITION STRATEGY: *

ADNS: Evolutionary acquisition approach with overlapping development and implementation phases for defined Increment I, II, and III system baselines, as well as future increments as necessary to deliver capabilities to Fleet Tactical Units. Increments 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 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. The contractir strategy and initiatives used for Increment III will form the foundation for future follow-on Increments deemed necessary to deliver capabilities to the Fleet.

Tactical Messaging (formerly 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.

NGDS: Evolutionary acquisition approach with overlapping development and implementation phases to mitigate technical and financial risks. Integrate rapidly evolving technologies as deemed feasible and acceptable based on security and operational risks. Leverage COTS products and existing Navy/GSA contracts for small-scale implementation if NGDS hardware and software.

Tactical Switching Ashore Evolutionary acquisition approach uses Spiral Development and implementation. Existing contract vehicles are used during Increment I implementation of procurement upgrades to existing shore lega 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-NOC and STEP sites). Increment I upgrades serve as an enabler to Increment II and III activities. Based upon the future shore communication architecture as defined by the Navy, Increment II transitions the Navy's 3 NCTAMS and tw 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 Spirals. Each spiral will build upon the previous capability and serve as risk mitigation for the succeeding effort. Increment III will introduce new capability that will allow integration with the joint community on the All Internet Protocol (IP) Global Information Grid (GIG). This strategy provides flexibility in a rapidly evolving technology environment and allows earlier implementation of developmental technology as it becomes available.

*** Not required for Budget Activities 1,2,3, and 6**

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)									DATE: **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**			PROGRAM ELEMENT PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT						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	
Primary Hardware Development	PO	SSC	1.025	0.198	Aug-06	0.000		0.000			1.223	5.500	
Primary Hardware Development	TBD	TBD	1.000	0.000		0.806	TBD	1.009	TBD	Continuing	Continuing		
Primary Hardware/Software	CPFF	Air Force	2.078	3.120	Jun-07	1.368	TBD	1.280	TBD				
Systems Engineering	WX	SSC	12.927	3.880	Dec-06	0.812	TBD	0.760	TBD	Continuing	Continuing		
Systems Engineering	VAR	VAR	3.520	0.000		0.342	TBD	0.404	TBD	Continuing	Continuing		
Systems Engineering	TBD	TBD	1.502	0.000		0.555	TBD	0.404	TBD	Continuing	Continuing		
Prime Mission Product	PO	SSC	4.353	0.435	Dec-06	0.388	TBD	0.257	TBD	Continuing	Continuing		
Subtotal Product Development			26.405	7.633		4.271		4.113		0.000	42.422		
Remarks:													
Development Support	WX	SSC	0.160	0.000		0.161	TBD	0.294	TBD		0.615		
Software Development	Var	Various	5.501	0.418	Dec-06	0.552	TBD	0.757	TBD	Continuing	Continuing		
Integrated Logistics Support	TBD	TBD	1.000	0.000		0.703	TBD	0.605	TBD		2.308		
Documentation	TBD	TBD	0.280	0.616		0.000		0.000			0.896		
Technical Data	TBD	TBD	0.500	0.000		0.502	TBD	0.404	TBD		1.406		
Studies and Analysis	WX	SSC	0.960	0.000		0.728	TBD	0.726	TBD		2.414		
Subtotal Support			8.401	1.034		2.646	TBD	2.785	TBD	Continuing	Continuing		
Remarks:													

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2007**

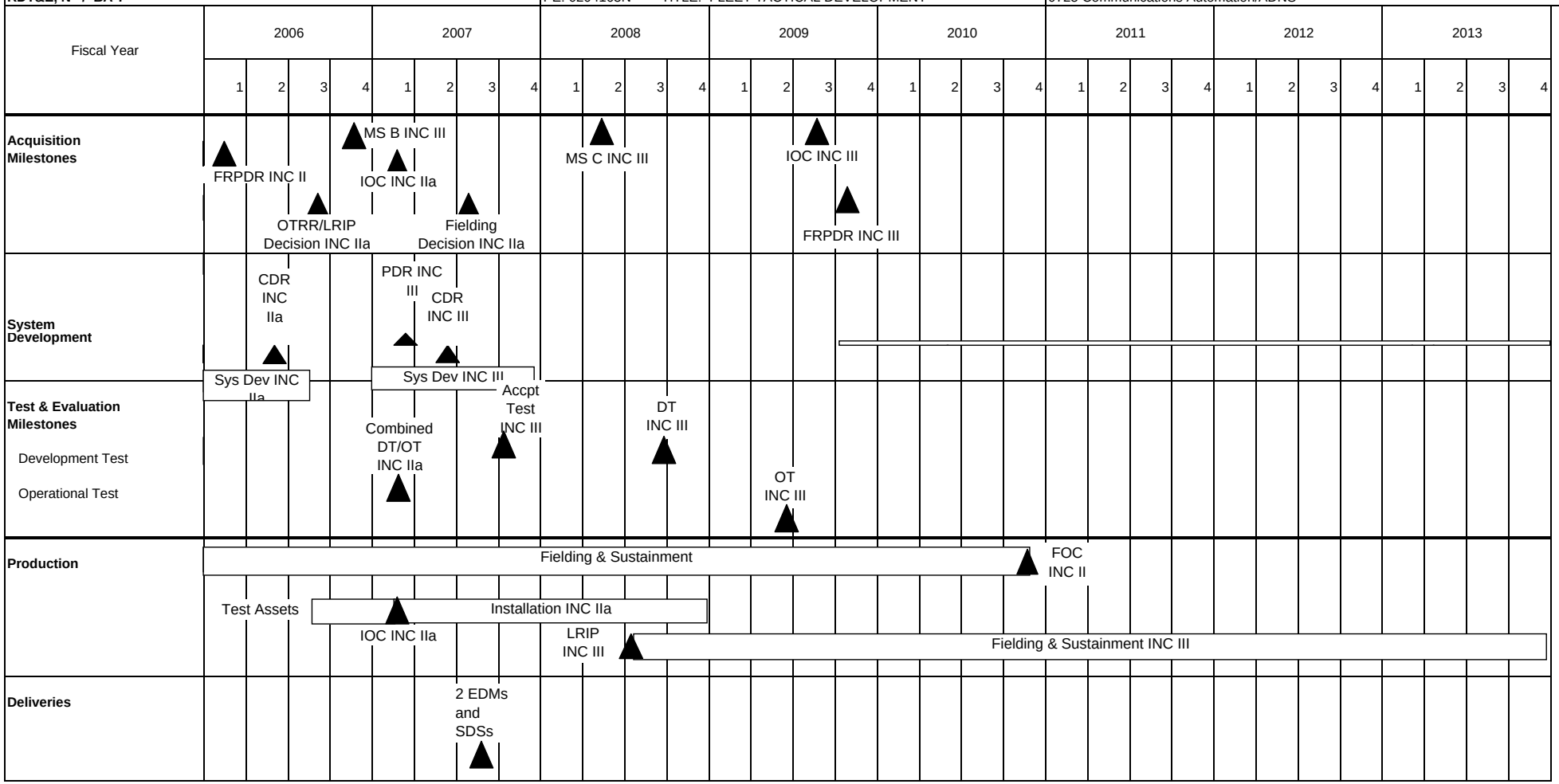
APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7** | PROGRAM ELEMENT: PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT | PROJECT NUMBER AND NAME: 0725 Communications Automation

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	1.096	Dec-06	0.470	TBD	0.440	TBD	Continuing	Continuing	
Operational Test & Evaluation	VAR	VAR	4.280	0.571	Dec-06	0.251	TBD	-		Continuing	Continuing	
Operational Test & Evaluation	MIPR	OPTEVFOR	0.371	0.751	TBD	0.100		-			1.222	
Operational Test & Evaluation	VAR	VAR	0.350	-		-		-			0.350	
Subtotal T&E			5.845	2.418		0.821		0.440		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	VAR	VAR	0.481	0.119	Dec-06	0.161	TBD	0.353	TBD	Continuing	Continuing	
Government Engineering Support	WX	SSC	0.380	0.132	Dec-06	0.201	TBD	0.041	TBD			
Program Management Support	VAR	SSC	1.973	0.130	Dec-04	0.139	VAR	0.040	VAR	Continuing	Continuing	
Program Management Support	CPAF	VAR	3.040	3.787	Nov-06	1.505	TBD	1.416	TBD	Continuing	Continuing	
Subtotal Management			5.874	4.168		2.006		1.851		Continuing	Continuing	
Remarks:												
Total Cost			46.525	15.253		9.744		9.189		Continuing	Continuing	

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R4, Schedule Profile		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT	0725 Communications Automation/ADNS



* Not required for Budget Activities 1, 2, 3, and 6

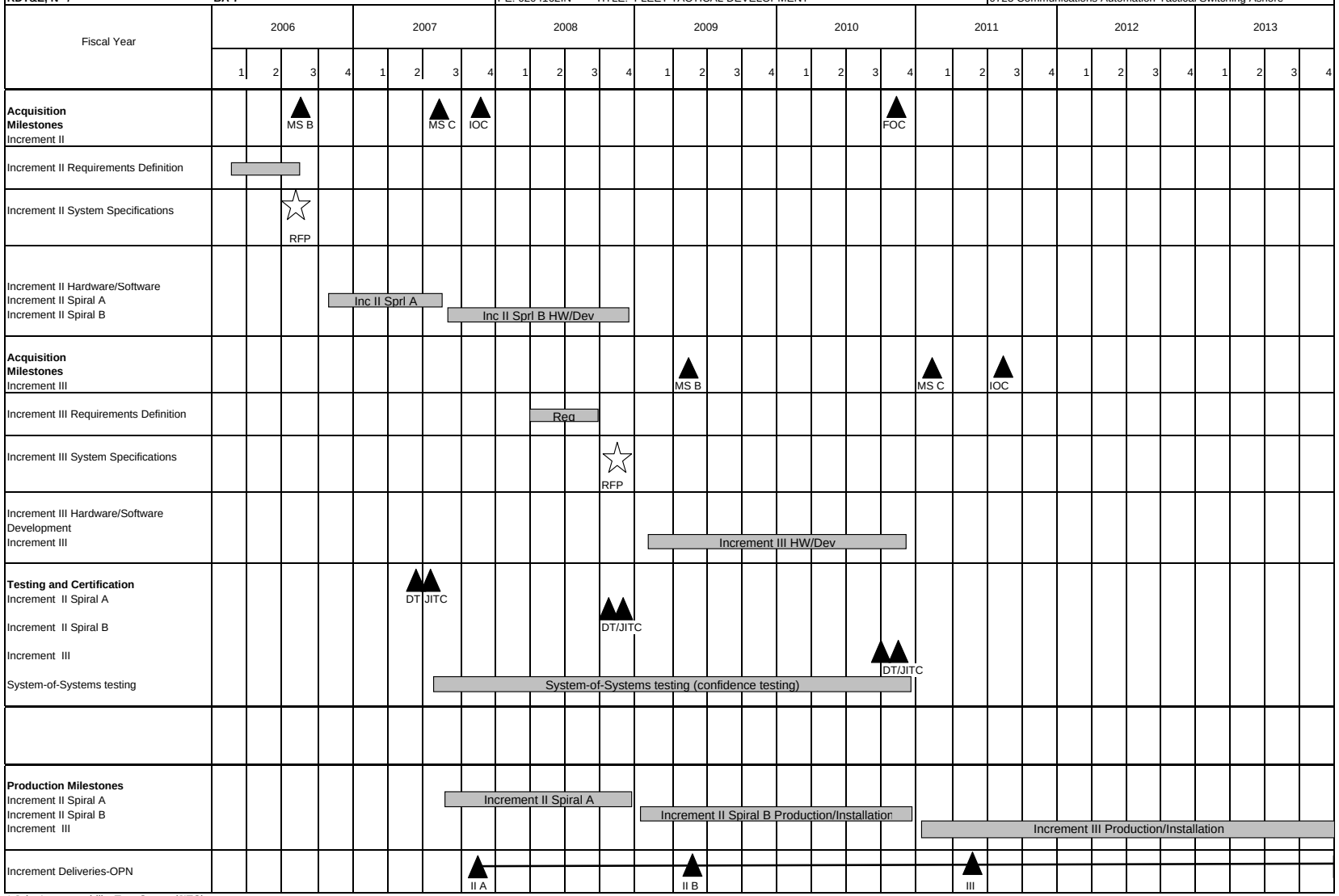
CLASSIFICATION:

UNCLASSIFIED

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT					PROJECT NUMBER AND NAME 0725 Communications Automation/ADNS		
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
INCREMENT I *								
INCREMENT II								
*Initial Traffic Management, Shore **(TMS)***								
Fielding Decision								
Operational Testing (OT)								
JITC Certification								
Full Operational Capability (FOC)					4Q			
INCREMENT IIa								
*Voice Over IP **(VOIP)***								
System Development	1Q-3Q							
Critical Design Review (CDR)	2Q							
OTRR/LRIP Decision	3Q							
Operational Testing (OT)		1Q						
Fielding Decision		3Q						
Initial Operational Capability (IOC)		1Q						
INCREMENT III								
Core Capability - Converged IP, Meshed, IPv6, Black Core, 25/50 Mbps								
Prototype Phase								
System Design Review (SDR)								
Preliminary Design Review (PDR)		1Q-2Q						
System Development		1Q-4Q						
Milestone C (MS C)			2Q					
Critical Design Review (CDR)		2Q-3Q						
Developmental Testing (DT)		3Q-4Q	3Q-4Q					
Operational Testing (OT)				2Q-3Q				
Low Rate Initial Production (LRIP)			2Q-3Q					
Full Rate Production Decision Review (FRPDR)				4Q				
Initial Operational Capability (IOC)				3Q				
Interface Design Development with SATCOM and Radio Frequency (RF) paths				4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

CLASSIFICATION:
UNCLASSIFIED

EXHIBIT R4, Schedule Profile			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	**BA-7**	PE: 0204162IN TITLE: FLEET TACTICAL DEVELOPMENT	0725 Communications Automation-Tactical Switching Ashore



* Joint Interoperability Test Center (JITC)

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT					PROJECT NUMBER AND NAME 0725 Communications Auto-Tactical Switching Ashore		
Schedule Profile - Tactical Switching Ashore	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Increment II Milestone B	3Q							
Increment II Milestone C		3Q						
Increment II IOC		4Q						
Increment II FOC					4Q			
Increment II Spiral A Hardware/Software Development	4Q	1Q-3Q						
Increment II Requirements Definition	1Q-3Q							
Increment II Systems Specifications	3Q							
Increment II Spiral B Hardware/Software Development		3Q-4Q	1Q-4Q					
Increment III Requirements Definition			2Q-3Q					
Increment III Systems Specifications			4Q					
Increment III Milestone B				2Q				
Increment III Milestone C						1Q		
Increment III IOC						3Q		
Increment III Hardware/Software Development				1Q-4Q	1Q-4Q			
Development Testing (DT) Increment II Spiral A		2Q-3Q						
Development Testing (DT) Increment II Spiral B			4Q					
Development Testing (DT) Increment III					4Q			
Systems of Systems Testing		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
Increment II Spiral A Production/Installation		3Q-4Q	1Q-4Q					
Increment II Spiral B Production/Installation				1Q-4Q	1Q-4Q			
Increment III Production/Installation						1Q-4Q	1Q-4Q	
Deliveries - OPN		4Q	3Q	2Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R4, Schedule Profile			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME
RDT&E, N /	PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT		0725 Communications Automation/Tactical Messaging

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
Program Milestones																																
Pilot Phase									DMS Proxy																							
Development									Advanced Organizational Messaging																							
In-Progress Review (Multiple Baselines)	△ IPR		△ IPR						△ IPR		△ IPR		△ IPR		△ IPR		△ IPR		△ IPR		△ IPR		△ IPR									
S/W Delivery		△ JITC							△ LAB		△ JITC				△ LAB		△ JITC															
Software																																
S/W Delivery 2.4																																
S/W Delivery 2.5																																
S/W Delivery DMS 3.1																																
S/W Delivery DMS Proxy		△																														
S/W Delivery Way-Ahead SW																		△														
DISA DMS MR Delivery				△					△					△					△					△								
Test & Evaluation Milestones																																
Development Test									DT						DT																	
Operational Test																			OA/OT													
JITC IV&V Certification																																
Deliveries			2				33				49				56				80				16				17				17	

* Not required for Budget Activities 1, 2, 3, and 6

* Joint Interoperability Test Center (JITC)

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT PE: 0204163N TITLE: FLEET TACTICAL DEVELOPMENT				PROJECT NUMBER AND NAME 0725 Communications Automation/Tactical Messaging			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Win2K/Development	1Q-2Q							
IP Broadcast								
Advanced Organizational Messaging			1Q-4Q	1Q-4Q	1Q-3Q			
ISNS/DMS CO-HOST	1Q-2Q							
IPR	1Q,3Q		1Q,3Q	1Q,3Q	1Q,3Q	1Q,3Q		
EMD - Lab			1Q	3Q				
EMD - JITC	2Q		3Q		1Q			
S/W Delivery 2.3								
S/W Delivery 2.4								
S/W Delivery 2.5								
S/W Delivery DMS 3.1								
S/W Delivery Way-Ahead					2Q			
DISA DMS MR	4Q		1Q	2Q	3Q	4Q		
Development Test			1Q-4Q	2Q-4Q	1Q			
Operational Assessment/Test			1Q		2Q-4Q			
JITC IV&V Certification	1Q-3Q		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Deliveries	2	33	49	56	80	16	17	17

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February-07**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET COMMUNICATIONS		1083 Shore to Ship Communications

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost 1083 Shore to Ship Communications	**15.736**	**11.744**	**13.364**	**9.714**	**9.241**	**4.263**	**8.966**	**6.762**
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 Ship, Submersible, Ballistic, Nuclear (SSBNs) and fleet submarine broadcast connectivity to Ship, Submersible, Nuclear (SSNs), Ship, Submersible, Guided Missile (SSGNs) and SSBNs. 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 (SUBOPAUTH) includes both Submarine Communications and Operational Control (OPCON) at shore sites. A SUBOPAUTH architecture provides for back-up capability among the four Broadcast Control Authority/ Operational Control (BCA/OPCONs) to ensure Continuity of Operations (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 Nuclear Command, Control and Communications Long Term Solution (NC3 LTS) will provide a communications approach in support of the Joint Operational Architecture (JOA) for time-critical Emergency Action Messages (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 that near term enhancements enable the interim hybrid solution to have an infrastructure to allow life sustainment until a replacement system comes on-line. Low Band Universal Communications System (LBUCS) provides operational capability, through the Very Low Frequency architecture, to insure 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) replaces 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February-07**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET COMMUNICATIONS	1083 Shore to Ship Communications

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Low Band Universal Communication System (LBUCS)	4.014	3.639	4.841	5.622
RDT&E Articles Quantity				

FY06: Developed transmit and receive system requrements focusing on portability.
FY07: Complete requirement definition and develop all JCIDs documentation. Complete Milestone B.
FY08: Begin development of prototype transmit terminal for testing. Complete DT/OT of transmit terminal. Complete milestone C for transmit terminal.
FY09: Complete Development Test/Operational Test (DT/OT) of transmit system deliverable and design prototype receivers.

	FY 06	FY 07	FY 08	FY 09
Submarine Enhanced Emergency Alert System (SEEAS)	1.181			
RDT&E Articles Quantity				

FY06: Designed an emergency alert system and supporting elements replacing the AN/BST-1 (which reaches end of service life by 2010) for SSBNs in accordance with operational requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification

February-07

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET COMMUNICATIONS	1083 Shore to Ship Communications

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
High Voltage Improvement Program	0.448	0.427	0.410	0.395
RDT&E Articles Quantity				

FY06: Completed investigation into new materials for sustained long term operation in high electromagnetic fields. Began examination of sealed Helix variometers for antenna tuning.
FY07: Continue examination of sealed Helix variometers for antenna tuning. Examination of lightning protection techniques for light weight insulators from rare extremely high voltage positive lightning strikes.
FY08: Complete examination of sealed Helix variometers for antenna tuning. Begin 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 increasing electrically short antenna efficiency by changing the configuration of the radiating element.

	FY 06	FY 07	FY 08	FY 09
Common Submarine Radio Room (CSRR)	0.936	0.943	0.497	0.547
RDT&E Articles Quantity				

FY06t: Completed integration, system certification and operational assessment of SSBN variant of CSRR. Conducted SEAWOLF OPEVAL.
FY07: Complete OPEVAL of SSBN and SSGN variants. Commence modernization development of DMR 6.4 and SHF capability.
FY08: Complete modernization development and testing of DMR and SHF capabilities.
FY09: Support integration of CSRR Increment 2 modernization for new technologies.

	FY 06	FY 07	FY 08	FY 09
Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP)	4.031	4.336	3.800	
RDT&E Articles Quantity				

FY06: Continued SCAP and conduct CEP and strategic connectivity threats, and perform analysis. Extended analysis covers Very Low Frequency (VLF) shore connectivity paths and MILSTAR monitoring. Additional monitoring and analysis is required for the NOVA/Hybrid EAM delivery system to establish a baseline and verify performance parameters.
FY07: Continuation of efforts Prerequisite for developing requirement set for NC3 Long Term Solution.
FY08: Continuation of efforts. Implement monitoring for NC3 Long Term Solution to facilitate developmental and operational testing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February-07**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET COMMUNICATIONS	1083 Shore to Ship Communications

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Concept Development/Systems Planning	0.912	0.891	1.648	1.561
RDT&E Articles Quantity				

FY06: Investigated codes and modulation schemes necessary to conduct throughput and coverage analysis, performance testing and evaluation. Completed the Joint/Allied Network Enabled Operation (NEO) architecture design.
FY07: Conduct testing, data collection and analysis necessary to optimize bandwidth use. Utilize the data to develop employment CONOPS to maximize operational benefit. Demonstrate Joint/Allied NEO in an operational environment.
FY08: Demonstrate an optimize bandwidth algorithm in a laboratory environment. Begin to integrate Joint/Allied NEO with other FORCEnet applications.
FY09: Demonstrate an optimize bandwidth algorithm in an operational environment. Complete the integration of Joint/Allied NEO with other FORCEnet applications.

	FY 06	FY 07	FY 08	FY 09
Nuclear Command, Control Communications Long Term Solution (NC3 LTS)	4.214	1.508	2.168	1.589
RDT&E Articles Quantity				

FY06: Continued life extension actions identified in the end-to-end assessment and developed Joint Capabilities Integration and Development System (JCIDS) documentation.
FY07: Develop Analysis of Alternatives and begin the capabilities development document and system performance specification.
FY08: Begin development of prototypes and demonstration in support of MS C.
FY09: Complete prototyping and demonstration including developmental test and evaluation

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February-07**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET COMMUNICATIONS	1083 Shore to Ship Communications

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3107 Submarine Broadcast Support	2.132	0.663	4.169	6.74	10.103	15.425	22.567	25.338

(U) D. ACQUISITION STRATEGY: *

The Common Submarine Radio Room (CSRR) will integrate Chief of Naval Operations (CNO) N6 communication programs into the submarine radio rooms. The program has been designated an ACAT II due to the radio room system level Operational Test requirement and the amount of funding required to execute the program. Each class variant (SSBN, SSGN, Ship, Submersible, Nuclear (SSN)) will require design integration and operational testing. The Common Submarine Radio Room (CSRR) program has completed Milestone C The procurement of equipment will be accomplished by the established program offices; the integration of the equipment into the submarine environment will be conducted by the NAVSEA Undersea Warfare Center; and the installation will be accomplished by Space and Naval Warfare (SPAWAR) System Center, Charleston.

Low Band Universal Communication System (LBUCS) 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.

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 4th QTR FY08.

Submarine Enhanced Emergency Alert System (SEEAS) is a project levying off technology developed from other programs and maximizes the use of COTS and NDI.

(U) E. Major Performers:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February-07**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT: PE: 0204163N TITLE: FLE

PROJECT NUMBER AND NAME: 1083 Shore to Ship Communications

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	11/06	1.075	11/07	1.085	11/08	Continuing	Continuing	0.000
Ancillary Hardware Development	Various	Various	0.603	0.288	11/06	0.275	11/07	0.180	11/08	Continuing	Continuing	0.000
Systems Engineering	CPFF	APL/JHU, Baltimore, MD	23.568	0.997	12/06	4.710	11/07	0.270	11/08	Continuing	Continuing	0.000
Systems Engineering	WR	SSC San Diego, CA	39.730	1.857	11/06	1.766	11/07	0.520	11/08	Continuing	Continuing	0.000
Systems Engineering	WR	Misc. Labs, NUWC, RI	10.973	0.800	11/06	0.702	11/07	0.498	11/08	Continuing	Continuing	0.000
Systems Engineering	WR	US Army, Monmouth, NJ	5.582	0.525	11/06	0.465	11/07	0.525	11/08	Continuing	Continuing	0.000
Systems Engineering	Various	Various	16.154									0.000
Subtotal Product Development			**106.868**	**5.556**		**8.993**		**3.078**		**Continuing**	**Continuing**	**0.000**

Remarks:

Development Support			2.671	1.695	11/06	1.160	11/07	1.211	11/08			0.000
Software Development	WR	SSC San Diego, CA	9.064							Continuing	Continuing	0.000
Software Development	TBD	TBD						1.220		Continuing	Continuing	0.000
Training Development												0.000
Integrated Logistics Support			0.545	0.215	11/06	0.200	11/07	0.215	11/08			0.000
Acquisition/Program Development			0.462	0.261	11/06		11/07	0.261	11/08	Continuing	Continuing	0.000
Technical Data			2.822							Continuing	Continuing	0.000
GFE												0.000
Subtotal Support			**15.564**	**2.171**		**1.360**		**2.907**		**Continuing**	**Continuing**	**0.000**

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **February-07**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7** | PROGRAM ELEMENT: PE: 0204163N TITLE: FLEE | PROJECT NUMBER AND NAME: 1083 Shore to Ship Communications

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												0.000
Operational Test & Evaluation												0.000
Strategic OP Systems Perf Evaluation	CPFF	APL/JHU, Baltimore, MD	15.522	2.346	12/06	1.511	12/07	2.612	12/08	Continuing	Continuing	0.000
Systems Testing	Various	Various	6.066	0.993	12/06	0.900	12/07	0.448	12/08	Continuing	Continuing	0.000
Tooling												0.000
GFE												0.000
Subtotal T&E			**21.588**	**3.339**		**2.411**		**3.060**		**Continuing**	**Continuing**	**0.000**

Remarks:

Contractor Engineering Support	WR	US Army, Monmouth, NJ	1.194	0.125	12/06	0.100	12/07	0.125	12/08	Continuing	Continuing	0.000
Government Engineering Support	WR	Various	0.845	0.288	12/06	0.275	12/07	0.342	12/08	Continuing	Continuing	0.000
Program Management Support	Various	Various	4.592	0.215	12/06	0.175	12/07	0.152	12/08	Continuing	Continuing	0.000
Travel			0.050	0.050		0.050		0.050		Continuing	Continuing	0.000
Subtotal Management			**6.681**	**0.678**		**0.600**		**0.669**		**Continuing**	**Continuing**	**0.000**

Remarks:

Total Cost			**150.701**	**11.744**		**13.364**		**9.714**		**Continuing**	**Continuing**	**0.000**

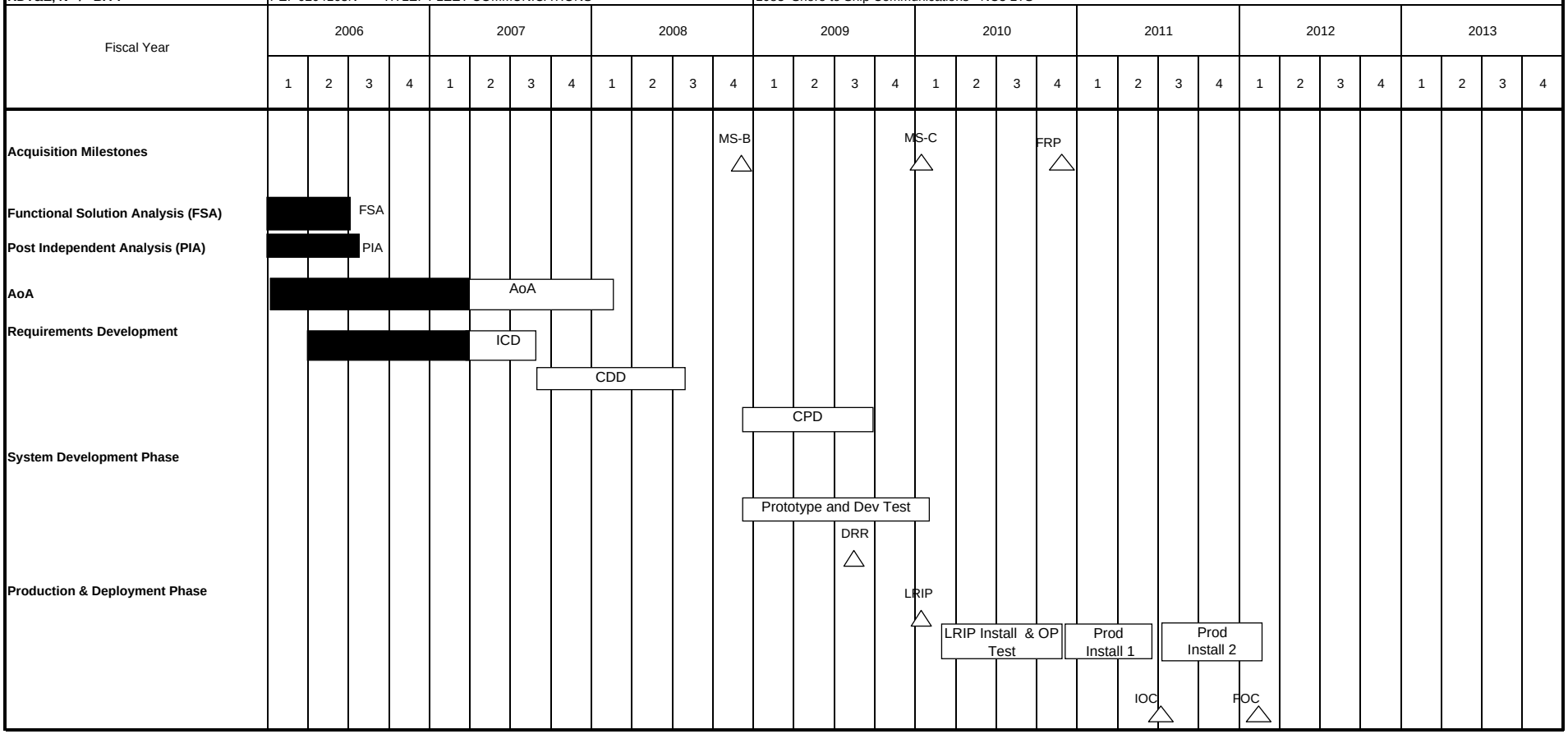
Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile
Nuclear Command, Control, Communications Systems - Long Term Solution

DATE: **February-07**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET COMMUNICATIONS	1083 Shore to Ship Communications - NC3 LTS



Terminology taken from DoDI 5000.2, dtd 12 May 2003.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February-07			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT PE: 0204163N TITLE: FLEET COMMUNICATIONS			PROJECT NUMBER AND NAME 1083 Shore to Ship Communications - NC3 LTS				
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B (MS-B)			4Q					
Milestone C (MS-C)					1Q			
Functional Solution Analysis (FSA)	1Q-3Q							
Post Independent Analysis (PIA)	1Q-3Q							
Initial Capabilities Document (ICD)	2Q-4Q	1Q-3Q						
AoA	1Q-4Q	1Q-4Q	1Q					
Requirements Development								
CDD		3Q-4Q	1Q-3Q					
CPD			4Q	1Q-3Q				
System Development Phase								
Prototype and Dev Test			4Q	1Q-4Q	1Q			
DRR				3Q				
Production & Deployment Phase								
LRIP					1Q (LRIP)			
Installation					1Q-2Q	1Q-2Q		
OT&E					4Q			
IOC						3Q		
FOC							1Q	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February-07**
Submarine Enhanced Emergency Alert System - SEEAS			
APPROPRIATION/BUDGET AC	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET COMMUNICATIONS	1083 Shore to Ship Communications - SEEAS	

Fiscal Year	2006				2007				2008				2009				2010				2011				2012				2013			
	Produ	4Q																														
	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
Milestones																																
Contract Award																																
Prototype Delivery				▲																												
System Development (e.g., Radar System dev.)																																
Firmware Development - Test Set Assembly		▲		▲																												
Test & Evaluation Milestones																																
Operational Test				▲																												
Production Milestones																																
LRIP I																																
FRP (AN/BST-1 Buoy Unit)																																
Equipment Deliveries																																

CLASSIFICATION:

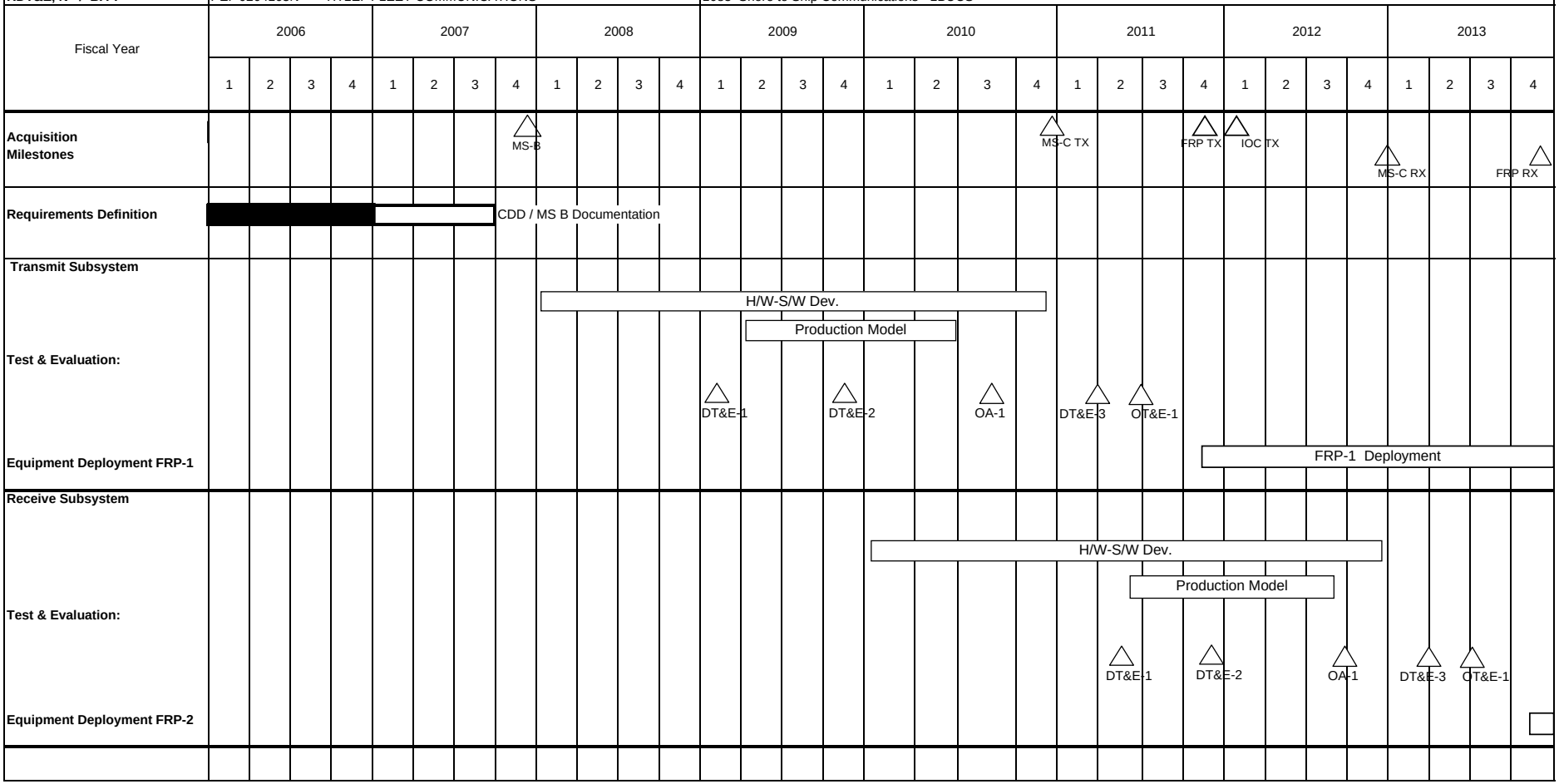
Exhibit R-4a, Schedule Detail						DATE: February-07		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT PE: 0204163N TITLE: FLEET COMMUNICATIONS				PROJECT NUMBER AND NAME 1083 Shore to Ship Communications - SEEAS			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Production - LRIP I (Prototype Delivery)	4Q							
Firmware Development - Test Set Assembly	2Q-4Q							
Operational Testing	4Q							

CLASSIFICATION:

EXHIBIT R4, Schedule Profile
Low Band Universal Communication System

DATE: **February-07**

APPROPRIATION/BUDGET ACTI	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0204163N TITLE: FLEET COMMUNICATIONS	1083 Shore to Ship Communications - LBUCS



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February-07		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA-7**	PROGRAM ELEMENT PE: 0204163N TITLE: FLEET COMMUNICATIONS				PROJECT NUMBER AND NAME 1083 Shore to Ship Communications - LBUCS			
Schedule Profile - Low Band Universal Comm System	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Requirements Definition	1Q-4Q							
Milestone B		4Q						
Transmit Subsystem Development:								
H/W / S/W Development			1Q-4Q	1Q-4Q	1Q-4Q			
Production Model				2Q-4Q	1Q-2Q			
Test & Evaluation (DT&E-1)				1Q				
Test & Evaluation (DT&E-2)				4Q				
Test & Evaluation (OA-1)					3Q			
Test & Evaluation (DT&E-3)						2Q		
Test & Evaluation (OT&E-1)						3Q		
Milestone C - Transmit					4Q			
FRP - Transmit Decision						4Q		
IOC Transmit							1Q	
Receive Subsystem Development:								
H/W / S/W Development					1Q-4Q	1Q-4Q	1Q-4Q	
Production Model						2Q-4Q	1Q-3Q	
Test & Evaluation (DT&E-1)						2Q		
Test & Evaluation (DT&E-2)						4Q		
Test & Evaluation (OA-1)							3Q	
Test & Evaluation (DT&E-3)								2Q
Test & Evaluation (OT&E-1)								3Q
Milestone C - Receive							4Q	
FRP - Receive Decision								4Q

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-07						R-1 ITEM NOMENCLATURE 0204229N, TOMAHAWK & TMPC		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	26.096	24.144	11.405	14.227	13.507	10.904	9.626	9.353
0545 TOMAHAWK	19.196	18.565	11.405	14.227	13.507	10.904	9.626	9.353
9999 CONGRESSIONAL ADD	6.900	5.579						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
The Tomahawk Weapons System (TWS) provides the 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 development 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 significantly 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 Operation Requirements Document (ORD), to include development of the Joint Chiefs of Staff (JCS)-Directed incorporation of Selective Availability Anti-Spoofing Module (SAASM) capability by FY 09.

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 the Tactical Tomahawk Weapons Control System (TTWCS) requirements to meet the Joint Technical Architecture (JTA) version 6 requirements to meet FORCE Net compliance and be Internet Protocol Version 6 (IPV6) ready is essential for continued interoperability 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: February 2007
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-07	R-1 ITEM NOMENCLATURE 0204229N, TOMAHAWK & TMPC

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	27.029	18.635	13.975	14.218
Current President's Budget:	26.096	24.144	11.405	14.227
Total Adjustments	-0.933	5.509	-2.570	0.009
Summary of Adjustments				
Congressional Reductions	-0.059			
Congressional Rescissions				
Congressional Undistributed Reductions	-0.639	-0.091		
Congressional Increases		5.600		
Economic Assumptions			0.066	0.165
Miscellaneous Adjustments	-0.235		-2.636	-0.156
Subtotal	-0.933	5.509	-2.570	0.009

Schedule:

TTL DT/OT - Due to the four TTL flight test failures, the TTL program has experienced a delay and IOC slipped from 2Q FY08 to 3Q FY08. There are significant tasks that are required such as the failure investigation and additional testing that need to occur.

TT SAASM Integration - is extended through FY 09.

SAASM IOC - slipped from 3Q FY09 to 3Q FY10 - as SAASM integration activities shifted one-year, so will the target date of SAASM IOC.

TTWCS V5 OT and OTRR slipped from 3Q-4Q FY 06 to 1Q-2Q, FY07 - unanticipated delays in completion of DT/OT III dry-run testing delayed the start of TTWCS V5 OTRR. Launch platform availability for flight test surface validation of V5 did occur in 1Q FY07.

Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-07	PROGRAM ELEMENT NUMBER AND NAME 0204229N, TOMAHAWK & TMPC	PROJECT NUMBER AND NAME 0545, TOMAHAWK	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0545 TOMAHAWK	19.196	18.565	11.405	14.227	13.507	10.904	9.626	9.353
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
The Tomahawk Weapons System (TWS) provides the 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.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-07	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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	11.427	12.397	6.405	7.918
RDT&E Articles Qty				

Complete development of the Tactical Tomahawk Torpedo-Tube Launch (TT-TTL) capability. Completing TTL software and hardware qualification testing, DT/OT flight tests and IOC. Continue hardware and software trade studies for Phase 2 ORD requirements to include Selective Availability Anti-Spoofing Module (SAASM) capability into the GPS, 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.863	3.483	2.418	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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.906	2.685	2.582	3.614
RDT&E Articles Qty				

Continue development of Tactical Tomahawk Weapons System Integrated Training Architecture, continue development of version 5 software. initiate version 6 development activities to develop JTA version 6 requirements. Complete TTWCS version 5 development, enter TECHEVAL/OPEVAL for TTWCS version 5, continue with TTWCS version 6 development efforts begin the TTWCS version 7 development efforts that complete the implementation of JTA version 6 requirements. Complete the development of TTWCS version 6, enter the TECHEVAL/OPEVAL for TTWCS version 6, continue with TTWCS version 7 development efforts.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-07	PROGRAM ELEMENT NUMBER AND NAME 0204229N, TOMAHAWK & TMPC	PROJECT NUMBER AND NAME 0545, TOMAHAWK

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
WPN - BLI 210100 TOMAHAWK	373.014	353.141	383.075	324.062	322.183	349.617	353.022	359.935	CONT	2,818.049
OPN - BLI 525300 TOMAHAWK SUPPORT EQUIPMEN	74.074	60.939	53.966	60.203	61.520	62.077	62.099	63.119	483.967	981.964
OPN SPARES - BLI 902010 INITIAL SPARES	1.698	0.789	0.871	3.706	2.246	2.959	3.538	3.061	CONT	18.868
OPN SPARES - BLI 902090 VENDOR DIRECT SPAR	0.597	0.605	0.315	0.180	0.046				CONT	1.743

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, Warhead Improvement, Anti Surface Warfare (ASUW)) will be introduced after successful qualification and testing.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0204229N, TOMAHAWK & TMPC				PROJECT NUMBER AND NAME 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			1.004	Nov 2007	1.035	Nov 2008	2.092	5.006	
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	
Primary Hardware Devel - AUR	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ	217.782			1.984	Nov 2007	3.930	Nov 2008	11.563	235.259	235.259
Primary Hardware Devel - PTAN	C/CPFF	HONEYWELL INT'L INC. MINN, MN		2.800	Apr 2007						2.800	2.800
Primary Hardware Devel - PTAN	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ	2.644	.779	Apr 2007						3.423	3.423
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	.830	Nov 2006						12.102	12.102
Prim H/W Devel -TTL AWARD FEE		RAYTHEON COMPANY, TUCSON, AZ	.819								.819	.819
Prim Hardware Develt -TTPC	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ	3.189								3.189	3.189
Primary Hardware Devel - ASUW	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ		1.700	Nov 2006					1.152	2.852	2.852
Primary Hardware Devel - WCS	C/CPFF	RAYTHEON COMPANY, TUCSON, AZ	.828								.828	.828
Ship Integr - Launch Integr	RX	NAVSEASYSCOM, WNY DC	25.422	3.550	Nov 2006	2.475	Nov 2007	.983	Nov 2008		32.430	
Ship Integration - Award Fee			.752								.752	
Systems Engineering	RX	JOHNS HOPKINS UNIV, COLUMBIA, MD	3.735	1.575	Various			.150	Various	.437	5.897	
Systems Engineering - AUR	RX	JOHNS HOPKINS UNIV, COLUMBIA, MD	26.979			.352	Various	.473	Various	1.981	29.785	
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	.240	Various	.140	Various	.250	Various		.964	.964
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								.837	.837
1974 thru TBIP Costs in 1996			2,176.447								2,176.447	
SUBTOTAL PRODUCT DEVELOPMENT			2,637.969	13.517		6.355		7.224		20.325	2,685.390	
SUPPORT												
Dev Sup- Weapons Contrl Sys	WX	NUWC DET, NEWPORT RI	20.632	.686	Nov 2006	.796	Nov 2007	1.272	Nov 2008	1.445	24.831	
Dev Sup- Weapons Contrl Sys	WX	NUWC KEYPORT DIV, KEYPORT WA		.116	Nov 2006	.050	Nov 2007				.166	
Development Support	SS/CPFF	SAIC, SAN DIEGO, CA	9.700	.300	Nov 2006			.040	Dec 2008	.253	10.293	10.293
Development Support	WX	NAWCWD, CHINA LAKE CA		.400	Nov 2006			.090	Nov 2008	.500	.990	
Development Support - AUR	C/CPFF	SAIC, SAN DIEGO, CA	1.112			.300	Nov 2007				1.412	1.412
Development Support - AUR	SS/CPFF	SAIC, SAN DIEGO, CA						.491	Various	1.088	1.579	1.579
Development Support - AUR	WX	VARIOUS				.021	Various	.020	Various	.060	.101	
Development Support - AUR	WX	NAWC-WD CHINA LAKE, CA	63.256			.530	Various	.480	Various	1.652	65.918	
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	.400	Nov 2006						1.006	
Development Support - SAASM	C/CPFF	VARIOUS		.050	Nov 2006	.283	Various				.333	.333
Development Support - SAASM	WX	VARIOUS				.020	Various	.259	Various		.279	
Development Support - TTL	SS/CPFF	SAIC, SAN DIEGO, CA	.391	.100	Nov 2006						.491	.491

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0204229N, TOMAHAWK & TMPC				PROJECT NUMBER AND NAME 0545, TOMAHAWK						
Development Support - TTL	WX	NUWC DET, NEWPORT RI	10.521								10.521	
Development Support - TTL	WX	VARIOUS	4.488								4.488	
Government Eng Sup - SAASM	WX	STRATEGIC SYSTEMS PROGRAMS, WASH, DC		2.900	Nov 2006						2.900	
Government Eng Sup - SAASM	WX	VARIOUS	.035	.025	Various						.060	
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		1.183	Various					1.243	2.426	
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	.250	Various	2.018	Various	2.292	Various	6.223	13.672	
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	.908	Nov 2006	.732	Nov 2007	1.312	Nov 2008	3.423	36.681	
Software Dev - Wpns Contr Sys	C/CPFF	LOCKHEED, Valley Forge, PA	99.246								99.246	99.246
Software Development - SAASM	C/CPFF	TBD		.314	Various			.017	Various		.331	.331
Software Development - PTAN	RX	JOHNS HOPKINS UNIV, COLUMBIA, MD	1.702	1.550							3.252	
SUBTOTAL SUPPORT			297.511	10.332		4.750		6.273		16.559	335.425	
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			.075	Jan 2008			.801	2.478	
Dev Test & Eval	WX	VARIOUS	37.023			.025	Various			.060	37.108	
Dev Test & Eval	WX	VARIOUS	.275			.200	Various	.730	Various	4.822	6.027	
Dev Test & Eval	WX	NUWC DET, NEWPORT RI	.375								.375	
SUBTOTAL TEST & EVALUATION			82.158			.300		.730		5.683	88.871	
MANAGEMENT												
MGT & PROF SUPPT SRVC (NON-FFRDC)	SS/CPFF	SAIC, SAN DIEGO, CA	.227	.295	Dec 2006						.522	.522
SUBTOTAL MANAGEMENT			.227	.295							.522	
Total Cost			3,017.865	24.144		11.405		14.227		42.567	3,110.208	

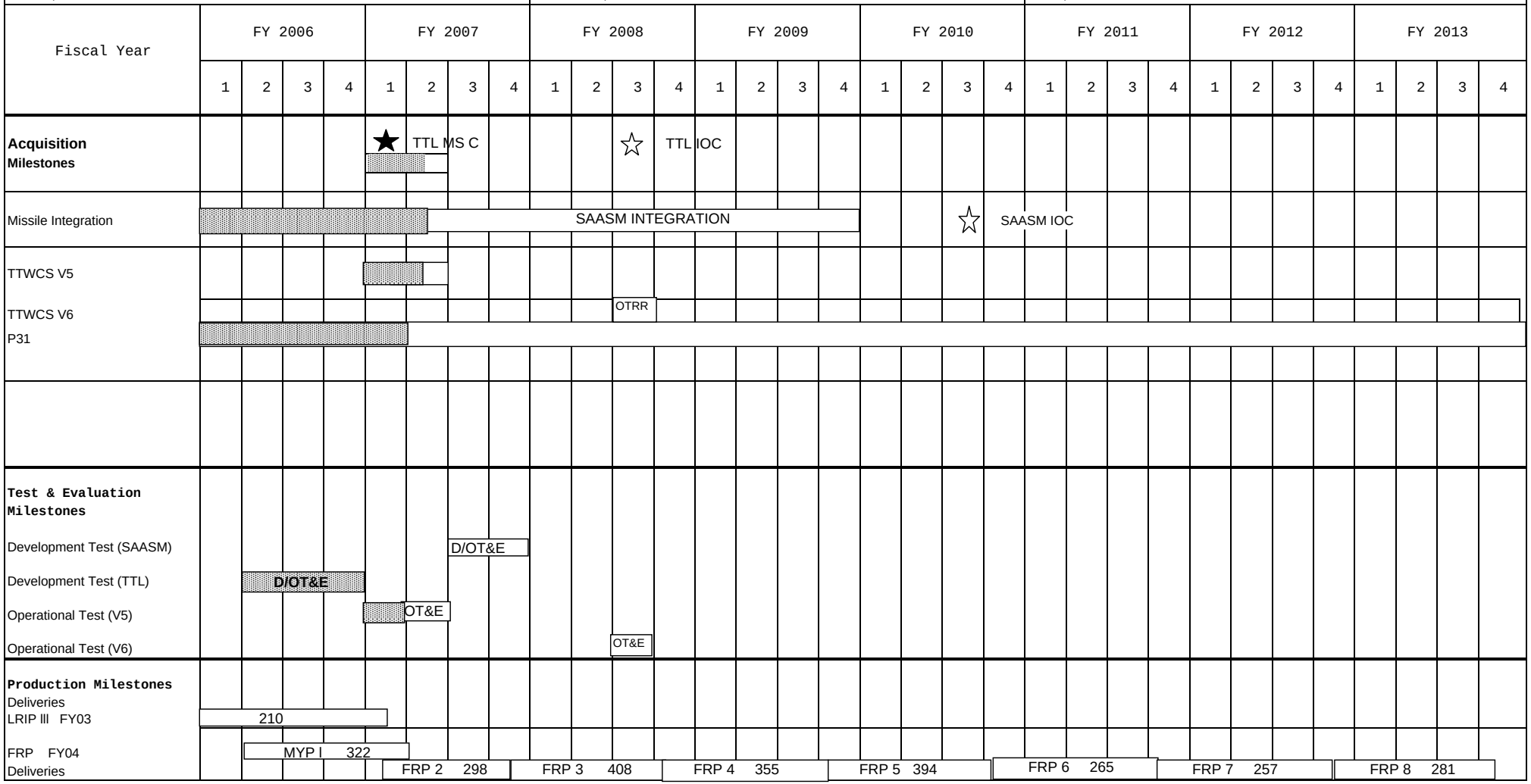
Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: February 2007

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-7	0204229N, TOMAHAWK & TMPC	0545, TOMAHAWK



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0204229N, TOMAHAWK & TMPC				PROJECT NUMBER AND NAME 0545, TOMAHAWK			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
TT LRIP-Three Delivery	1Q-3Q							
TT TTL MS-C		1Q-2Q						
TT Preplanned Product Improvement (P3I)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
TT SAASM Integration	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
TTWCS V5 Operational Test Readiness Review		1Q-2Q						
TTWCS V6 Operational Test Readiness Review			3Q					
V5 Operational Test and Evaluation		1Q-2Q						
V6 Operational Test and Evaluation			3Q					
SAASM IOC					3Q			
SAASM D/OT&E		3Q-4Q						
TTL Development/Operational Test & Eval	2Q-4Q							
TTL IOC			3Q					
LRIP III	1Q-4Q	1Q						
Full Rate Production	2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0204229N, TOMAHAWK & TMPC**	PROJECT NUMBER AND NAME **9999 CONGRESSIONAL ADD**	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9999 CONGRESSIONAL ADD	6.900	5.579						
RDT&E Articles Qty								

Congressional Adds: Precision Terrain-Aided Navigation (PTAN)

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

0545C PTAN	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	6.900	5.579		
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.

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**						**R-1 ITEM NOMENCLATURE** 0204311N-Integrated Surveillance Systems		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**27.010**	**40.429**	**27.740**	**23.628**	**25.339**	**25.431**	**26.035**	**26.476**
0766-IUSS Detection and Classification System	**23.116**	**29.420**	**27.740**	**23.628**	**25.339**	**25.431**	**26.035**	**26.476**
9792 IUSS Common Processor Automation	**2.218**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9793 Ultra-Thin Disposable Fiberoptic Undersea Surveillance	**1.676**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9A71 High Channel Count Interrogator for Sensor Arrays	**0.000**	**1.445**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9A72 Tunable Laser and Laser Array	**0.000**	**1.395**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9A73 Program Increase	**0.000**	**8.169**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Quantity of RDT&E Articles								

Defense Emergency Response Fund (DERF): Not Applicable

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

This Program Element (P.E.) comprises seven projects - 0766, 9792, 9793, 9A71, 9A72, and 9A73. 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. Project 9792 (IUSS Common Processor automation) & Project 9793 (Ultra-thin disposable fiberoptic undersea surveillance) are FY06 Congressional Plus-Ups. Project 9792 supports researching sonar automation for technical insertion into Integrated Common Processor to improve probability of detection performance. Project 9793 supports research and development of a low cost ultra-thin fiber-optic array for potential deployment in the most hazardous environments which may reduce life cycle repair and replacement costs associated with the more expensive TL-29A. Projects 9A71 (High Channel Count Interrogator for Sensor Arrays), 9A72 (Tunable Laser and Laser Array), and 9A73 (Program Increase) are all FY07 Congressional Plus-Ups. Project 9A71 supports development of a universal fiber sensor interrogator required for deploying next generation advanced towed arrays. Project 9A72 supports development of a low cost, non-microphonic, Tunable Laser and Laser Array suitable for driving the interferometric fiber sensor interrogators requred for deploying next gerneration advanced towed arrays. Project 9A73 supports continued exponsion 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.

(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.

(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.

(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.

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY07 President's Budget	30.647	30.740	28.289	24.184
FY08 President's Budget	27.010	40.429	27.740	23.628
Total Adjustments	-3.637	9.689	-0.549	-0.556
Summary of Adjustments				
Undistributed General Reductions	-0.037	-0.161	0.164	0.216
Realignment	-3.600			
Programmatic adjustments		-1.200	-0.713	-0.772
FY 2007 Congressional Adds		11.050		
Subtotal	-3.637	9.689	-0.549	-0.556

(U) Schedule: Not Applicable

(U) Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME **0766: IUSS Detection and Classification System**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost*	**23.116**	**29.420**	**27.740**	**23.628**	**25.339**	**25.431**	**26.035**	**26.476**
RDT&E Articles Qty								

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

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.

(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 derivitive 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.

(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.

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 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.

*A portion of project 0766 (FSS) is classified, with details available at a higher classification level.

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems	**0766: IUSS Detection and Classification System**

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
N74 ASW Study	0.690	0.700	0.700	0.700
RDT&E Articles Quantity				

FY06: 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.
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 06	FY 07	FY 08	FY 09
Compact Low Frequency Active	10.400	10.200	5.385	6.643
RDT&E Articles Quantity				

FY 06: Continue development of Compact Low Frequency Active (CLFA) capability for SWATH-P platforms. Design CLFA Handling System. Develop CLFA EDM components (Sources, Amplifiers, Tow cable, Marine Mammal Mitigation sonar). Complete SWATH-P SOC modification designs
FY 07: Complete development of Compact Low Frequency Active (CLFA) capability for SWATH-P platforms. Convert first SWATH-P platform to support CLFA system. Install EDM and begin at-sea development testing.
FY 08: Continue 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems	**0766: IUSS Detection and Classification System**

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
TB-29A/Twin-Line	1.000	1.000	2.000	2.000
RDT&E Articles Quantity				

FY 06: Support development of Single-Line Tow Capability. Develop mitigation devices for fishing net entanglements. Model tow characteristics and test in tow basin.
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 06	FY 07	FY 08	FY 09
SURTASS Active Improvement Program	1.500	1.500	1.500	1.500
RDT&E Articles Quantity				

FY06: Begin Sea Test Planning and DT/OT preparations for Active Improvement Program (LFA/TL-29A/IUSS Common Processor). Begin development of Off-Board Sensor capabilities.
FY07: Conduct DT for Active Improvement Program (LFA/TL-29A/IUSS Common Processor). Continue development of Off-Board Sensor capabilities.
FY08: Conduct OT for Active Improvement Program (LFA/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: Continue development of Off-Board Sensor capabilities. Continue development of Bi-static processing capabilities and activation of fixed sensors.

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems	**0766: IUSS Detection and Classification System**

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Integrated Common Processor (ICP)	5.615	4.942	6.123	6.200
RDT&E Articles Quantity				

FY 06: Develop ICP for SURTASS arrays. Continue development of SURTASS passive and active processing capabilities for replacement of legacy systems.
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.
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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0204311N-Integrated Surveillance Systems	PROJECT NUMBER AND NAME **0766: IUSS Detection and Classification System**

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Complete	Total Cost
OPN 2237	3.797	7.850	10.484	23.753	24.179	1.487	1.513	1.540	Continuing	Continuing

(U) D. ACQUISITION STRATEGY:

	FY 2006	FY2007	FY 2008	FY2009
Program Milestones				
Engineering Milestones	Integrated Common Processor (ICP) TL-29A Variant 9/06	ICP LFA/CLFA Variant (7/07)		ICP Bi-Static Variant (9/09)
T&E Milestones			CLFA SEA TESTS LFA/TL-29A/ICP DT	CLFA SEA TESTS LFA/TL-29A/ICP OT&E
Contract Milestones	CLFA			CLFA Production

(U) E. MAJOR PERFORMERS:

Performer	Location	Description of Work	Award Date
BAE Systems	Nashua NH	CLFA Engineering Development Model	Jan-06
SPAWAR SYSTEMS CENTER	San Diego CA	Technical Direction Agent for LFA/CLFA	Annually

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT: 0204311N-Integrated Surveillance Systems

PROJECT NUMBER AND NAME: **0766: IUSS Detection and Classification System**

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
IUSS Common Architecture	CPFF	GDAIS/LM/ARL	41.687	4.934	11/05	4.242	11/06	2.323	11/07	3.884	11/08	Continuing	Continuing	
Environmental Research	WR	ONR / VARIOUS	8.500	0.000		0.000		0.000		0.000		0.000	8.500	
Active Improvements/CLFA/LFA	CPFF/AF	BAE /GDAIS/ VARIOUS	96.858	8.366	11/05	7.700	11/06	4.300	11/07	3.900	11/08	Continuing	Continuing	
C4I Integration	CPFF	VARIOUS	31.768	0.000		0.000		0.000		0.000		0.000	31.768	
N74 ASW Study	WX/PD	NUWC / APL	4.564	0.690	11/05	0.700	11/06	0.700	11/07	0.700	11/08	Continuing	Continuing	
Various	WX	VARIOUS	47.169	0.000		0.000		0.000		0.000		0.000	47.169	
Passive Signal Processing/ Sonar	CPFF	APL/GDAIS	2.202	0.000		0.000		0.000		0.000		0.000	2.202	2.202
Array Improvements	CPFF/WR	APL/SSC/VAR	3.054	0.500	11/05	0.500	11/06	1.800	11/07	1.800	11/08	Continuing	Continuing	
Task Force ASW		VARIOUS	7.000	0.000		0.000		0.000		0.000		0.000	7.000	
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Subtotal Product Development			242.802	14.490		13.142		9.123		10.284		Continuing	Continuing	

Remarks:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT: 0204311N-Integrated Surveillance Systems

PROJECT NUMBER AND NAME: **0766: IUSS Detection and Classification System**

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
IUSS Common Architecture	WX	Various	1.300	0.200	11/05	0.200	11/06	0.400	11/07	0.600	11/08	Continuing	Continuing	
Active Improvements/CLFA/LFA	CPFF	NGC/Various	5.505	0.615	11/05	0.600	11/06	0.400	11/07	0.200	11/08	Continuing	Continuing	
C4ISR Integration	CPPF	NGC/Various	1.819	0.000		0.000		0.000		0.000		0.000	1.819	
Passive Signal Processing/ Sonar	Var/WX	Various	0.600	0.000		0.000		0.000		0.000		0.000	0.600	
Array Improvements	Var/WX	Various	0.820	0.000		0.000		0.000		0.000		0.000	0.820	
Various	Var/WX	Various	1.216	0.000		0.000		0.000		0.000		Continuing	Continuing	
													0.000	
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													0.000	
Subtotal Support			11.260	0.815		0.800		0.800		0.800		Continuing	Continuing	

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RD BA-7**

PROGRAM ELEMENT: 0204311N-Integrated Surveillance Systems

PROJECT NUMBER AND NAME: **0766: IUSS Detection and Classification System**

Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
IUSS Common Architecture	Var/ WX	VARIOUS	1.837	0.500	11/05	0.500	11/06	0.500	11/07	0.500	11/08	0.000	3.337	
Active Improvements/CLFA/LFA	Var/ WX	VARIOUS	9.219	2.500	11/05	3.000	11/06	4.685	11/07	4.859	11/08	Continuing	Continuing	
Passive Signal Processing	Var/ WX	VARIOUS	1.300	0.000		0.000		0.000		0.000		0.000	1.300	
Array Improvements	Var/ WX	VARIOUS	1.190	0.500	11/05	0.500	11/06	0.200	11/07	0.200	11/08	0.000	2.390	
													0.000	
													0.000	
													0.000	
Subtotal T&E			13.546	3.500		4.000		5.385		5.559		Continuing	Continuing	

Remarks:

Active Improvements/CLFA/LFA	Var/ WX	VARIOUS	2.417	0.400	11/05	0.400	11/06	0.400	11/07	0.400	11/08	Continuing	Continuing	
Passive Signal Processing	Var/ WX	VARIOUS	0.250	0.000		0.000		0.000		0.000		0.000	0.250	
Array Improvements	Var/ WX	VARIOUS	0.600	0.000		0.000		0.000		0.000		0.000	0.600	
													0.000	
													0.000	
													0.000	
Subtotal Management			3.267	0.400		0.400		0.400		0.400		Continuing	Continuing	

Remarks:

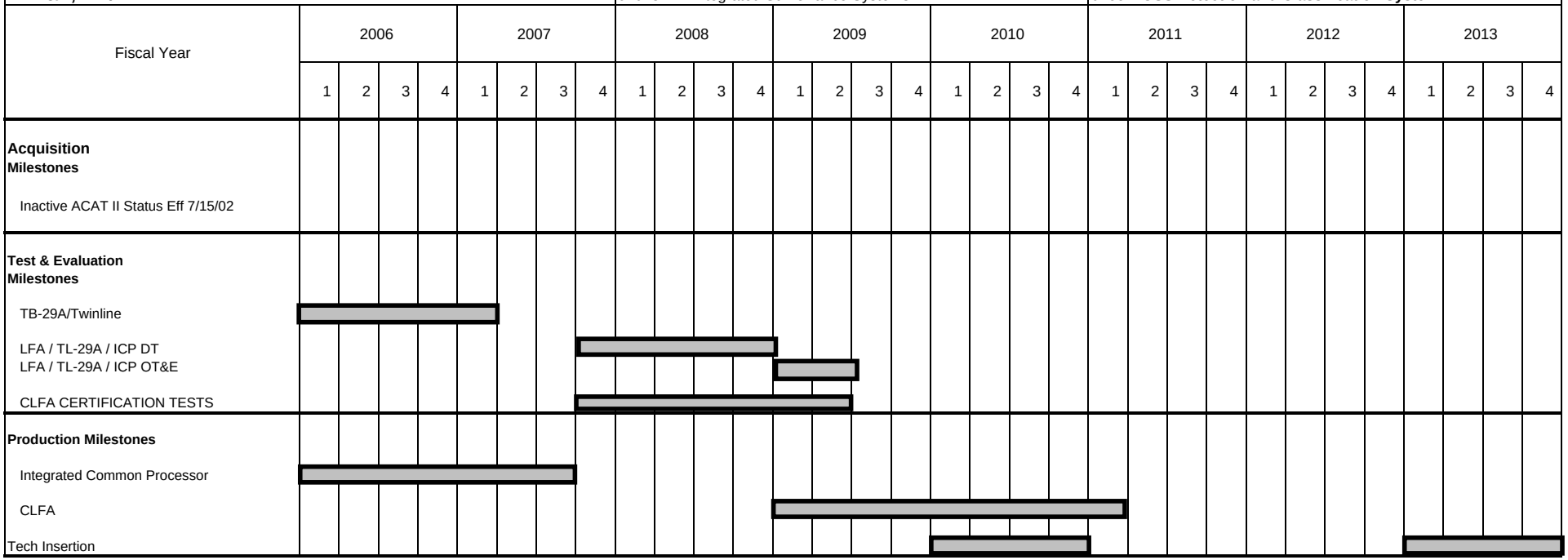
Total Cost			270.875	19.205		18.342		15.708		17.043		Continuing	Continuing	

Remarks:

EXHIBIT R4, Schedule Profile

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204311N-Integrated Surveillance Systems	**0766: IUSS Detection and Classification System**



* Not required for Budget Activities 1, 2, 3, and 6

FOT & E: Follow-on Test and Evaluation

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0204311N-Integrated Surveillance Systems				PROJECT NUMBER AND NAME **0766: IUSS Detection and Classification System**			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
TB29A TL System Installation / Test	1Q - 4Q	1Q						
FOT & E (TB29A TL / ICP / LFA)		4Q	1Q - 4Q	1Q - 2Q				
CLFA Development Test Shakedown		4Q	1Q-3Q					
CLFA Development Evaluation			4Q	1Q - 2Q				
ICP Production Systems	1Q - 4Q	1Q - 3Q						
CLFA Production Systems				1Q - 4Q	1Q - 4Q	1Q		
Tech Insertion					1Q - 4Q			1Q - 4Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204311N-Integrated Surveillance Systems	9999/ Congressional Plus-Ups : VARIOUS

CONGRESSIONAL PLUS-UPS:

	FY 06			
9792N				
IUSS Common Processor Automation, workload reduction	2.218			

Funding to research sonar automation for technical insertion into Integrated Common Processor to improve probability of detection performance.

	FY06			
9793N Ultra-thin Disposable Fiberoptic Undersea Surveillance	1.676			
Arrays				

Funding for research of feasibility of disposable arrays.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204311N-Integrated Surveillance Systems	9999/ Congressional Plus-Ups : VARIOUS

CONGRESSIONAL PLUS-UPS:

		FY 07		
9A71N				
High Channel Count Interrogator for Sensor Arrays		1.445		

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.

		FY07		
9A72N				
Tunable Laser and Laser Array		1.395		

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

		FY07		
9A73N				
Program Increase		8.169		

Funding increase to continue the 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. Emphasis will be placed on the demonstration of these capabilities

EXHIBIT R-2, RDT&E Budget Item Justification							Date: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**					R-1 ITEM NOMENCLATURE **PE 0204413N/Amphibious Tactical Support Units**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**4.655**	**1.805**	**1.845**	**2.331**	**2.364**	**2.408**	**2.465**	**2.501**
1980 AMPHIB OTHER C2	**2.694**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
2231 TECHNOLOGY TRANSFER	**1.961**	**1.805**	**1.845**	**2.331**	**2.364**	**2.408**	**2.465**	**2.501**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element supports multiple amphibious warfare development and technology insertion efforts.

1980 -SACC-A: The FY06 Supporting Arms Coordination Center - Automation (SACC-A) program automates the SACC aboard LHA & LHD class ships. Currently the process is all manual and voice accomplished, unresponsive to the needs of Marine Forces ashore.

1980-AADS: The FY06 Amphibious Assault Direction System (AADS, AN/KSQ-1) program researches Network Centric Warfare requirements for Amphibious Assault Command and Control, identifies the projected technological advances and requirements of Fleet systems, and identifies the Next Generation AADS operational requirements and capabilities. Technology integration with Expeditionary Strike Group ships is also included.

2231- FY06-FY13 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 (Small Business Technology Transfer (STTR) Program), Self Contained Rudder Actuator System (STTR), Advanced structural design for LCAC ramps (SBIR), Personal 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 FT10.

B. Program Change Summary:

	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 President's Budget.	4.696	1.812	1.840	2.293
FY 2008 PB Controls	4.655	1.805	1.845	2.331
Total Adjustments	-0.041	-0.007	0.005	0.038
Summary of Adjustments				
SBIR	-0.039	0.000	0.000	0.010
Rate	0.001	-0.007	0.005	0.025
Congressionsal	0.003	0.000	0.000	0.000
Cancelled Acounts	-0.006	0.000	0.000	0.000
BRAC	0.000	0.000	0.000	0.003
Total	-0.041	-0.007	0.005	0.038

EXHIBIT R-2a, RDT&E Project Justification						Date: February 2007		
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME **0204413N/Amphibious Tactical Support Units**					PROJECT NUMBER AND NAME **1980 AMPHIB OTHER C2**		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1980 AMPHIB OTHER C2	**2.694**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

SACC-A: The FY06 Supporting Arms Coordination Center - Automation (SACC-A) program automates the SACC aboard LHA & LHD class ships. Currently the process is all manual and voice accomplished, unresponsive to the needs of Marine Forces ashore. Specifically, SACC-A is developing a Ship to Objective Maneuver (STOM) Fire's Command & Control cell for the Amphibious Large Deck ships. SACC-A provides an integrated, auto capability to conduct Marine Expeditionary Brigade level fire support planning, coordination, and execution of all supporting arms fires, including Naval Surface Fires, Tactical Air and Artillery & Mortars ashore. SACC-A integrates other Command & Control systems aboard the ship and ashore to provide maximum situational awareness and a common operating picture.

AADS: The FY06 Amphibious Assault Direction System (AADS, AN/KSQ-1) program researches Network Centric Warfare requirements for Amphibious Assault Command and Control, identifies the projected technological advances and requirements of Fleet systems, and identifies the Next Generation AADS operational requirements and capabilities. Technology integration with Expeditionary Strike Group ships is also included.

B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.694	0.000	0.000	0.000
RDT&E Articles Quantity	0.000	0.000	0.000	0.000

SACC-A: System Engineering development for spiral acquisition, including requirements definition and lab-based testing; Acquisition and prototype interface development of AFATDS with other systems and installation and test aboard LHA/LHD; DoD documentation program reviews (e.g. ORD revalidation, APB, TEMP, SEMP, ILSP); Programmatic support (e.g. management, plans, schedule, briefs, travel, studies, etc.); shipboard interface and interoperability testing of spiral development, training, and logistics system development, and system integration and shipboard interface/interoperability testing.

AADS: System Engineering and software development begin in FY06.

EXHIBIT R-2a, RDT&E Project Justification		Date: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	**0204413N/Amphibious Tactical Support Units**	**1980 AMPHIB OTHER C2**

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
SACC-A										
OPN Line 098100 Items Under $5M	0.564	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	1.064
AADS										
OPN Line 5239 SSDS	11.553	10.585	6.763	5.884	1.748	0.000	0.000	0.000	0.000	36.533

SACC-A: The procurement items for SACC-A include Advanced Field Artillery Tactical Data System (AFATDS), Effect Management Tool (EMT), jam boxes, Automated Distribution Network Systems (ADNS), racks, workstations, Large Screen Color Displays (LSCDs), PICT phones, new Theater Tables, communications devices which will be permanent changeouts to the amphibious ships. These need to be in place in order to permit the connection of the automated SACC capabilities. The operations and maintenance efforts are for program, engineering, and technical support, logistics support and technical assists.
AADS: The procurement items for AADS are related to two subsystems: EPLRS and the ship dependent AN/KSQ-1 hardware configurations. Examples of specific items include RT-1720(c) Enhanced PLRS User Unit (EPUU) digital radios, EPLRS Net Control Station (NCS) workstations and other EPLRS equipment.

D. ACQUISITION STRATEGY:

The SACC-A effort is part of a collaboration between N85 and N86 to jointly develop and field a Naval Fire Control System (NFCS) that satisfies the requirements of naval and supported forces. The NFCS is to be an ACAT III program under N86 management. The AADS strategy is to develop a software interface to ensure integrated communications and joint operations for joint forces.

E. MAJOR PERFORMERS:

Field Activities & Locations - Work Performed:
NSWC DD, Dahlgren, VA - Hardware Development, Systems Engineering, Training, ILS, T&E
NSWC CSS, Panama City, FL - Hardware Development, System Engineering
SPAWAR-SD - Hardware Development, System Engineering
ARMY - Hardware Development

Contractors & Locations - Work Performed:
TBD - Software Development

Universities & Locations - Work Performed:
John Hopkins Applied Physics Lab - Technical Engineering

EXHIBIT R-2a, RDT&E Project Justification				Date: February 2007				
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME **0204413N/Amphibious Tactical Support Units**			PROJECT NUMBER AND NAME **2231 TECHNOLOGY TRANSITION**				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**1.961**	**1.805**	**1.845**	**2.331**	**2.364**	**2.408**	**2.465**	**2.501**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: TECHNOLOGY TRANSITION - (2231)

FY06-FY13 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 FT10.

B. ACCOMPLISHMENTS/PLANNED PROGRAM

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.961	1.805	1.845	2.331
RDT&E Articles Quantity				

TECHNOLOGY TRANSFER - Current S&T initiatives include the ONR Expeditionary Logistics (EXLOG), LCAC Cargo Griping 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).

EXHIBIT R-2a, RDT&E Project Justification		Date: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	**0204413N/Amphibious Tactical Support Units**	**2231 / TECHNOLOGY TRANSFER**

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN Line 098100 LCAC HM&E < 5,000K (Material)	5.308	5.914	6.484	6.514	6.768	6.993	7.147	7.303	0.000	52.431
OPN Line 098100 LCAC HM&E < 5,000K (Install)	13.812	9.034	13.654	13.051	13.205	13.398	13.693	13.994	0.000	103.841

D. ACQUISITION STRATEGY:

TECHNOLOGY TRANSFER - RDT&E efforts commence 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.

E. MAJOR PERFORMERS:

Field Activities & Locations - Work Performed:
NSWC (CSS) Panama City, FL - System engineering
NSWC Philadelphia, PA - Systems engineering
SPAWAR - Performace Study
SANDIA NATIONAL LAB - Development

Contractors & Locations - Work Performed:
TBD

Universities & Locations - Work Performed
Not applicable

Exhibit R-3 Cost Analysis (page 1)												Date: February 2007		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROGRAM ELEMENT **0204413N/Amphibious Tactical Support Units**				PROJECT NUMBER AND NAME **2231 / TECHNOLOGY TRANSFER**								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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														
Component Development	WX/FFP	Various		0.159	01/06	0.779	01/07	0.812	01/08	1.039	01/09	4.323	7.112	
Ship Design														
Ship Suitability														
Systems Engineering	FFP	Various	2.841	0.877	01/06	0.150	01/07	0.150	01/08	0.191	01/09	0.796	5.005	
Training Development														
Licenses														
Tooling														
GFE	WX		0.110										0.110	
Award Fees														
Subtotal Product Development			2.951	1.036		0.929		0.962		1.230		5.119	12.227	
Remarks:														
Development Support	WX	Various	2.467	0.318		0.290		0.290		0.367		1.531	5.263	
Software Development														
Training Development														
Integrated Logistics Support														
Configuration Management														
Technical Data														
Studies & Analyses	WX	ONR	0.254										0.254	
GFE														
Award Fees														
Subtotal Support			2.721	0.318		0.290		0.290		0.367		1.531	5.517	
Remarks:														

Exhibit R-3 Cost Analysis (page 2)												Date: February 2007		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROGRAM ELEMENT **0204413N/Amphibious Tactical Support Units**				PROJECT NUMBER AND NAME **2231 / TECHNOLOGY TRANSFER**								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.290	0.099		0.098		0.098		0.115		0.477	1.177	
Operational Test & Evaluation	WX	Various	0.029	0.060		0.050		0.050		0.069		0.286	0.544	
Live Fire Test & Evaluation														
Test Assets	WX	Various		0.100		0.100		0.100		0.115		0.477	0.892	
Tooling														
GFE														
Award Fees														
Subtotal T&E			0.319	0.259		0.248		0.248		0.299		1.240	2.613	
Remarks:														
Contractor Engineering Support	FFP	VARIOUS	1.195	0.219		0.187	10/06	0.194	01/08	0.251	01/09	1.069	3.115	
Government Engineering Support	WX	VARIOUS	0.812										0.812	
Program Management Support	CPFF	VARIOUS	0.457	0.100	10/05	0.096	10/06	0.096	01/08	0.115	01/09	0.483	1.347	
Travel	TO.s	NAVSEA TRAVEL	0.067	0.029		0.055		0.055		0.069		0.296	0.571	
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			2.531	0.348		0.338		0.345		0.435		1.848	5.845	
Remarks:														
Total Cost			8.522	1.961		1.805		1.845		2.331		9.738	26.202	
Remarks:														

EXHIBIT R4, Schedule Profile																	Date: February 2007															
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**									PROGRAM ELEMENT NUMBER AND NAME **0204413N/Amphibious Tactical Support Units**								PROJECT NUMBER AND NAME **2231 / TECHNOLOGY TRANSFER**															
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																																
LCAC S&T Initiatives	△																															△

Exhibit R-4a, Schedule Detail							Date: February 2007	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT **0204413N/Amphibious Tactical Support Units**				PROJECT NUMBER AND NAME **2231 / TECHNOLOGY TRANSFER**			
Schedule Profile	FY 2006	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	1Q-4Q

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0204571N, CONSOLIDATED TRAINING SYSTEMS		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	45.875	19.085	6.987	19.971	22.275	25.471	25.888	26.366
0604 TRNG RANGE & INST DEV (TRID)	2.617	2.959	1.312	3.884	4.313	4.108	4.180	4.256
1427 SURFACE TACTICAL TEAM TRAINER (STTT)	5.682	5.445	.402	5.884	5.900	6.002	6.056	6.154
2124 AIR WARFARE TRAINING DEVEP	1.408	1.681	1.735	1.781	1.821	1.858	1.892	1.928
3087 TOTAL SHIP TRAINING SYSTEM	19.490			5.391	4.810	4.321	4.405	4.494
3093 TACTICAL COMBAT TRAINING SYSTEM (TCTS).	15.711	7.705	3.538	3.031	5.431	9.182	9.355	9.534
9999 CONGRESSIONAL ADDS	0.967	1.295						

(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).

1427/3093/3093C - 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 Congressional Add 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 for aviation training systems, including mission rehearsal simulation technologies and the Aviation Training Technology Integration Facility (ATTIF).

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.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	43.615	17.857	21.874	20.425
Current BES:	45.875	19.085	6.987	19.971
Total Adjustments	2.260	1.228	-14.887	-0.454
Summary of Adjustments				
Congressional Reductions	-1.000			
Congressional Undistributed Reductions	-0.825	-0.072		
Congressional Increases		1.300		
Economic Assumptions	0.012		0.087	0.245
Program Adjustments	4.073		-14.974	-0.699
Subtotal	2.260	1.228	-14.887	-0.454

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204571N, CONSOLIDATED TRAINING SYSTEMS

Schedule:
TRIDS CHANGES:

LATR - LATR/TCTS tech transfer now starts in 4th quarter 2006 (vice 3rd quarter 2009) at a low level as risk mitigation to evolving TCTS interfaces and development. Block upgrades 5.1 through 6.3 slipped 6 months each as upgrade yearly cycle was delayed due to range interface additions, test asset availability and delays in obtaining range Authority To Operate (ATO).

EW Processor – Have limited schedule up to IOC - continued development based on Fleet requirements.

RADS Upgrades – Previously identified as Radar Display Subsystem. IOC completed early in 2005. Semi-annual upgrades will occur 1st and 3rd quarters of every year through 1st quarter 2009. R-4 displays PDR, CDR, DEV, and T&E for each baseline upgrade evolution.

Link 16 TACTS Dev – Previously Link 16 TACTS Integration. Delay start in 2006 then expected as a result of gathering information and identifying Fleet requirements. One quarter slip in IOC date due to schedule delays.

ASOC Upgrades - Semi-annual upgrades will occur 1st and 3rd quarters of every year through 1st quarter 2010. R-4 displays PDR, CDR, DEV, and T&E for each baseline upgrade evolution.

JDS (Joint Display Subsystem) Upgrades - Previously JDS IOC. Semi-annual upgrades will occur 1st and 3rd quarters of every year through 1st quarter 2009. I have shown PDR, CDR, DEV, and T&E for each baseline upgrade evolution.

Test Set Rehost – Complete 2005

TCTS CHANGES:
The following have been made to better reflect program status and MDA APBA Chg 3.

From	To
Acquisition Milestones	
Phase 2 MS C FY06 4Q	Phase 2 MS C FY07 3Q
Phase 2 MSC delays due to IS Environmental Testing.	
Test & Evaluation Milestones	
Phase 1(NDI) DTC1-2/DT Assist FY06 1Q	Phase 1(NDI) DTC1-2/ DT Assist FY06 2Q
Phase 2 DTB2-1, 2-2A, 2B, FY06 3Q-4Q	Phase 2 Internal Subsystem (IS) DTB2-1, 2-2A, 2B FY06 3Q-4Q FY07 1Q-2Q
Rack-Mounted Susbystem (RS) DTB3-2 FY07 2Q	Rack-Mounted Subsystem (RS) 2-5 FY07 4Q, FY08 1Q
CVW-5 DTC 2-4/ OTC 2-1 FY07 3Q	System: CVW-5 DTD 2-4 FY07 4Q
Fixed Range DTB 3-4/OTC 3-1 (OPEVAL) FY07 3Q	Fixed Range DTD 2-6/DTD 2-7 FY08 1Q
Production Milestones	
Deliveries	
CVW-5 FY07 3Q	FY08 1Q
Yuma FY07 4Q	FY08 2Q

AWTD Schedule:

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.

Transition Milestones	
FM:	TO:
FY06 1Q	FY06 4Q
FY07 1Q 4Q	FY07 4Q*

FY07 1Q-4Q	FY07 4Q*
FY08 4Q	FY08 3Q-4Q**
FY09 4Q	FY09 2Q-4Q**

ATTIF Modular Architecture (Redundant – Deleted)

ATTIF Integration & Modifications changed to ATTIF MOD Architecture Products

FY06 4Q	BLANK
FY07 4Q	FY073Q-4Q
FY08 4Q	FY08 3Q-4Q**
FY09 4Q	FY09 2Q-4Q**

Weapons Server software (F/A 18C) changed to Weapons Server software and Network Technologies

FY06 BLANK	FY06 4Q**
FY08 BLANK	FY08 3Q**
FY09 BLANK	FY09 3Q

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)

FY07 2Q	FY07 4Q
FY08 4Q	FY08 3Q-4Q**

Test and Evaluation (Prototypes) replaced with Test and Evaluation (Prototypes, GOTS) -
WEAPS server upgrades Oceana/Lemoore and WEAPS server Upgrades MARITIME(3) changed to WEAPS server (TACAIR & MARITIME) –

FY07 1Q-4Q	FY07 4Q*
FY08 2Q	FY08 3Q-4Q**
FY09 2Q	FY 09 BLANK
FY10 2Q	FY10 BLANK
FY11 2Q	FY11 BLANK ****

CDMTS Spec/Demo changed to CDMTS & AARS Specifications/ Demos –

FY06 1Q	FY06 BLANK****
FY07 BLANK	FY07 3Q
FY08 BLANK	FY08 4Q***
FY09 BLANK	FY09 4Q***
FY10 BLANK	FY10 4Q***
FY11 BLANK	FY11 4Q***

ITST/AAR toolset DEMO was deleted

Sensor Host stimulation (3) was changed to Sensor Stimulation (3)/ Sensor Fusion – more accurate description

FY06 2Q-4Q	FY06 BLANK
FY07 1Q-4Q	FY07 4Q
FY08 3Q-4Q	FY08 4Q
FY09 3Q-4Q	FY09 4Q

Sensor Host specs (2) – deleted
Combat Environ Effects – deleted
Helmet-mounted cueing w/sensor fusion – deleted
Super resolution lgs w/sensors – deleted

AARS with Performance Measurement (PM) is a new product line
VISUALS/ Helmet-mounted Systems is a new product line
Super res image generators w/Sensor capability – new product line

Deployable SIMS (DMT/ Sensor capable) changed to Deployable SIMS – small footprint, DMT, Sensor capable – more accurate description

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204571N, CONSOLIDATED TRAINING SYSTEMS

Deployable SIMS (DMT/ Sensor capable) changed to Deployable SIMS – small footprint, DMT, Sensor-capable – more accurate description

FY07 4Q	FY07 BLANK
FY08 4Q	FY08 BLANK
FY09 4Q	FY09 BLANK
FY10 4Q	FY10 BLANK
FY11 BLANK	FY11 4Q
FY12	FY12 4Q
FY13	FY13 4Q

Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS			PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0604 TRNG RANGE & INST DEV (TRID)	2.617	2.959	1.312	3.884	4.313	4.108	4.180	4.256
RDT&E Articles Qty								

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 System (IWTS), Remote Strafe Scoring System (RSSS), and weapon and countermeasure simulations for use with various range training systems.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.492	1.568	.853	2.991
RDT&E Articles Qty				

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.

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.125	1.391	.459	.893
RDT&E Articles Qty				

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 applicationss. Complete Semi-annual CCS Block upgrades.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS	PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Related OPN (LATR)	3.148	0.237								3.385

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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0204571N, CONSOLIDATED TRAINING SYSTEMS				PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)						
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 Eng/Software/Hardware Deve	VARIOUS	VARIOUS	86.226	1.391	VARIOUS	.459	VARIOUS	.893	VARIOUS		87.969	
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 Corporation, Ridgecrest, CA				.275	TBD	1.345	TBD		1.620	1.620
SUBTOTAL PRODUCT DEVELOPMENT			87.960	2.759		1.112		3.655			94.486	

Remarks:

SUPPORT												
Develop Support Equip		TBD										
Software Development	VARIOUS	VARIOUS	10.451								10.451	
Software Development	VARIOUS	NAWCWD, PT MUGU CA	.100	.025	VARIOUS		VARIOUS	.025	VARIOUS		.150	
SUBTOTAL SUPPORT			10.551	.025				.025			10.601	

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION	VARIOUS	VARIOUS	5.299								5.299	

Remarks:

MANAGEMENT												
Management	VARIOUS	TBD	2.166	.175	VARIOUS	.200	VARIOUS	.204	VARIOUS	16.857	17.525	
SUBTOTAL MANAGEMENT			2.166	.175		.200		.204		16.857	17.525	

Remarks:

Total Cost			105.976	2.959		1.312		3.884		16.857	127.911	

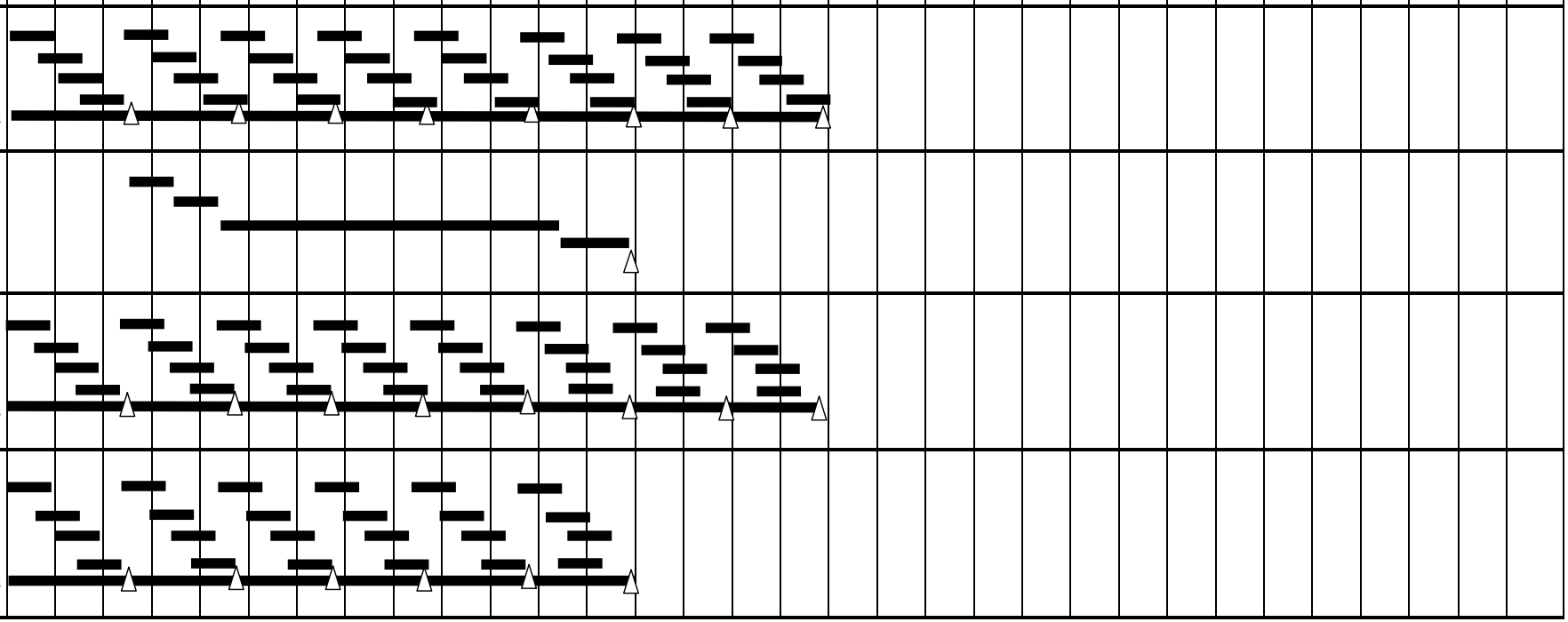
Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7									PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS												PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)											
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 **EW Processor** PDR CDR DEV T&E IOC																																

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS	PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)	



CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7									PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS														PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)											
LATR 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
LATR GPS UPGRADE LATR ADIU UPGRADE LATR LRWS REHOST																																
LATR RECERTIFICATION LATR RW RESIZE LATR R-3 EMULATOR																																
BLOCK 5.1 UPGRADE BLOCK 6.0 BLOCK 6.3																																
LATR/TCTS TECH XFER																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0204571N, CONSOLIDATED TRAINING SYSTEMS				PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
TACTS								
EW Processor								
PDR	2Q	4Q						
CDR	3Q		1Q					
DEV	4Q	1Q-3Q	2Q-3Q					
T&E		3Q	4Q					
IOC		4Q		1Q				

Exhibit R-4a, Schedule Detail					DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E,N / BA-7	0204571N, CONSOLIDATED TRAINING SYSTEMS				0604, TRNG RANGE & INST DEV (TRID)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
TACTS								
RADS Upgrades								
PDR	1Q, 3Q-4Q	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q				
CDR	1Q-2Q, 4Q	2Q, 4Q	2Q, 4Q	2Q, 4Q				
DEV	2Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q			
T&E	2Q-3Q	1Q, 3Q	1Q, 3Q	1Q,3Q	1Q			
Semi-Annual Blk Upgrades	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q			
Link 16 TACTS Dev								
PDR	3Q-4Q							
CDR	4Q	1Q						
DEV		1Q-4Q	1Q-4Q					
T&E			4Q	1Q				
IOC				1Q				
ASOC Upgrades								
PDR	1Q, 3Q-4Q	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q				
CDR	1Q-2Q, 4Q	2Q, 4Q	2Q, 4Q	2Q, 4Q				
DEV	2Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q			
T&E	2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q			
Semi-Annual Blk Upgrades	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q			
JDS Upgrades								
PDR	1Q, 3Q-4Q	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q					
CDR	1Q-2Q, 4Q	2Q, 4Q	2Q, 4Q					
DEV	2Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q				
T&E	2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q				
Semi-Annual Blk Upgrades	1Q-4Q	1Q-4Q	1Q-4Q	1Q				

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIV	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E,N / BA-7	0204571N, CONSOLIDATED TRAINING SYSTEMS				0604, TRNG RANGE & INST DEV (TRID)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
LATR								
LATR GPS UPGRADE	1Q-2Q							
LATR ADIU UPGRADE	1Q-2Q							
LATR LRWS REHOST	1Q-4Q	1Q-2Q						
LATR RECERTIFICATION	1Q-4Q	1Q-4Q	1Q-2Q					
LATR RW RESIZE	3Q-4Q	1Q-4Q						
LATR R-3 EMULATOR	1Q-4Q	1Q-4Q						
BLOCK 5.1 UPGRADE	1Q-4Q							
BLOCK 6.0		1Q-4Q						
BLOCK 6.3				1Q-4Q				
LATR/TCTS TECH XFER	4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development				PROJECT NUMBER AND NAME 1427 Surface Tactical Team Trainer (STTT) (1427/3087)			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	*** 25.172**	*** 5.445**	*** 0.402**	*** 11.275**	*** 10.710**	*** 10.323**	*** 10.461**	*** 10.648**
RDT&E Articles Qty	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

***Includes project units 1427/3087**

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).

The Total Ship Training System (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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	1427 Surface Tactical Team Trainer (STTT) (1427/3087)

B. Accomplishments/Planned Program

BATTLE FORCE TACTICAL TRAINING (BFTT)	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	5.682	5.445	0.402	5.884
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

K1427: Develops conjunctive Battle Force Tactical Training (BFTT) System improvements and interface upgrades in response to evolving combat system capabilities. Responds 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. Efforts include architecture migration, model database improvement, scenario development, system/software engineering, program management, safety assessment, software design, software development, and system integration, test and evaluation, logistics support and life cycle sustainment planning. Reduction in FY08 significantly mimimizes development of system improvements/interface updgrades directly affecting the ability to conduct unit level training for crew and battle group FST events in FY08.

TOTAL SHIP TRAINING SYSTEM (TSTS)	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	19.490			5.391
RDT&E Articles Quantity	NA	NA	N/A	N/A

K3087: Develops 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 reduce the scope of TSTS. Current funds will focus primarily upon completion of the first combat system spiral (TSTS Baseline 1.0) and the initial planning for the second and third spirals (Baseline 1.1 and 2.0).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	1427 Surface Tactical Team Trainer (STTT) (1427/3087)

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
42400 Weapon Range										
OPN 276200	35.124	13.375	13.039	16.394	23.617	17.358	21.024	20.801		160.732
(Surface (N86) BFTT/TSTS portion only)										

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:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	1427 Surface Tactical Team Trainer (STTT) (1427/3087)

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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		NAVSEA 02	12.098	7.599	06/06	1.375	3/07	0.000		4.430	12/08	Continuing	Continuing	Continuing
Ancillary Hardware Development	*	NAVSEA 02	0.999	2.000	06/06	0.060							3.059	
Component Development	*													
Ship Integration				1.725	04/06								1.725	
Ship Suitability														
Systems Engineering	*	PHD / NUWC Newport / CDSA / NSWC Dahlgren / NAVSSES / NAVSEA 02	24.658	2.705	06/06	1.477	3/07	0.190	12/07	2.526	12/08	Continuing	Continuing	
Training Development														
Licenses	*	CDSA	3.805										3.805	
Tooling														
GFE			2.497										2.497	
Award Fees			0.357										0.357	
Subtotal Product Development			44.413	14.029		2.912		0.190		6.956		Continuing	Continuing	

Remarks:

*WX/RX/RCP

Development Support														
Software Development	*	NAWC Orlando / NAVSSES / CDSA / NAVSEA 02	55.438	5.608	01/06	1.497	3/07	0.212	12/07	2.180	12/08	Continuing	Continuing	
Training Development														
Integrated Logistics Support				1.100	03/06	0.234	3/07						1.334	
Configuration Management														
Technical Data	*	NAWC Orlando	12.018										12.018	
GFE														
Award Fees														
Subtotal Support			67.456	6.708		1.731		0.212		2.180		Continuing	Continuing	

Remarks:

*WX/RX/RCP

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	1427 Surface Tactical Team Trainer (STTT) (1427/3087)

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	*	NAWC Orlando / CDSA / NAVSSES / NAVSEA 02	5.895	3.200	06/06	0.352	12/06	0.000		0.824	12/08	Continuing	Continuing	
Operational Test & Evaluation														
Live Fire Test & Evaluation														
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E			5.895	3.200		0.352		0.000		0.824		Continuing	Continuing	

Remarks:

*WX/RX/RCP/IPR

Contractor Engineering Support														
Government Engineering Support	*	CDSA / NAVSSES	4.747	1.235	05/06	0.450	12/06	0.000		1.315	12/08	Continuing	Continuing	
Program Management Support														
Travel														
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			4.747	1.235		0.450		0.000		1.315		Continuing	Continuing	

Remarks:

*WX/RX/RCP

Total Cost			122.511	25.172		5.445		0.402		11.275		Continuing	Continuing	

Remarks:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2124 AIR WARFARE TRAINING DEVEP	1.408	1.681	1.735	1.781	1.821	1.858	1.892	1.928
RDT&E Articles Qty								

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

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.741	.647	.759	.810
RDT&E Articles Qty				

HUMAN SYSTEMS INTEGRATION: 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/MMA common GUI initiatives, threat system (NGTS) compatibility, MCSMP TEN compatibility, and JSAF compatibility, performance measurement, and after-action review (AAR)/debrief, thereby maximizing ROI for mission training station-related technology investments for multi-platform
services.

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.325	.325	.300	.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.

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.317	.495	.338	.407
RDT&E Articles Qty				

SYSTEMS ENGINEERING AND INTEGRATION: and integrate ATTIF modular architecture components for Navy DMT, deployable E-2C/D crew stations, intelligent synthetic 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.

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.025	.214	.338	.314
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 configurations are assessed, and developed to include: next generation helmet mounted displays (HMDs), laser visual systems, and associated database technologies.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN Line 20-BA-7 BLI 0705										
USMC Federation Simulators	17.567	31.616	23.829	39.629	32.993	31.723	32.389	33.069		242.815
APN Line 16-BA-7 BLI 0705										
Fleet Aircrew Simulator Training (FAST)	71.729	50.359	51.375	51.922	54.972	47.039	42.754	43.862		414.012

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 reimburseable and direct cite T&M contracts.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0204571N, CONSOLIDATED TRAINING SYSTEMS				PROJECT NUMBER AND NAME 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	.325	VARIOUS	.300	VARIOUS	.250	VARIOUS		9.315	
Sys Engr (NAWCTSD, ITST)	VARIOUS	VARIOUS	2.094	.647	VARIOUS	.759	VARIOUS	.810	VARIOUS	7.439	11.749	
Sys Engr (NAWCTSD, Visuals)	VARIOUS	NAWCTSD, ORLANDO FL		.164	VARIOUS	.100	VARIOUS	.150	VARIOUS		.414	
Sys Engr (NAWCTSD, Visuals)	VARIOUS	TBD	.396	.050	VARIOUS	.238	VARIOUS	.164	VARIOUS		.848	
SUBTOTAL PRODUCT DEVELOPMENT			10.930	1.186		1.397		1.374		7.499	22.326	

Remarks:

SUPPORT												
Develop Support Equipment	VARIOUS	TBD	.410	.160	VARIOUS	.165	VARIOUS	.167	VARIOUS		.902	
Develop Support Equipment	VARIOUS	TBD	.742								.742	
SUBTOTAL SUPPORT			1.152	.160		.165		.167			1.644	

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	

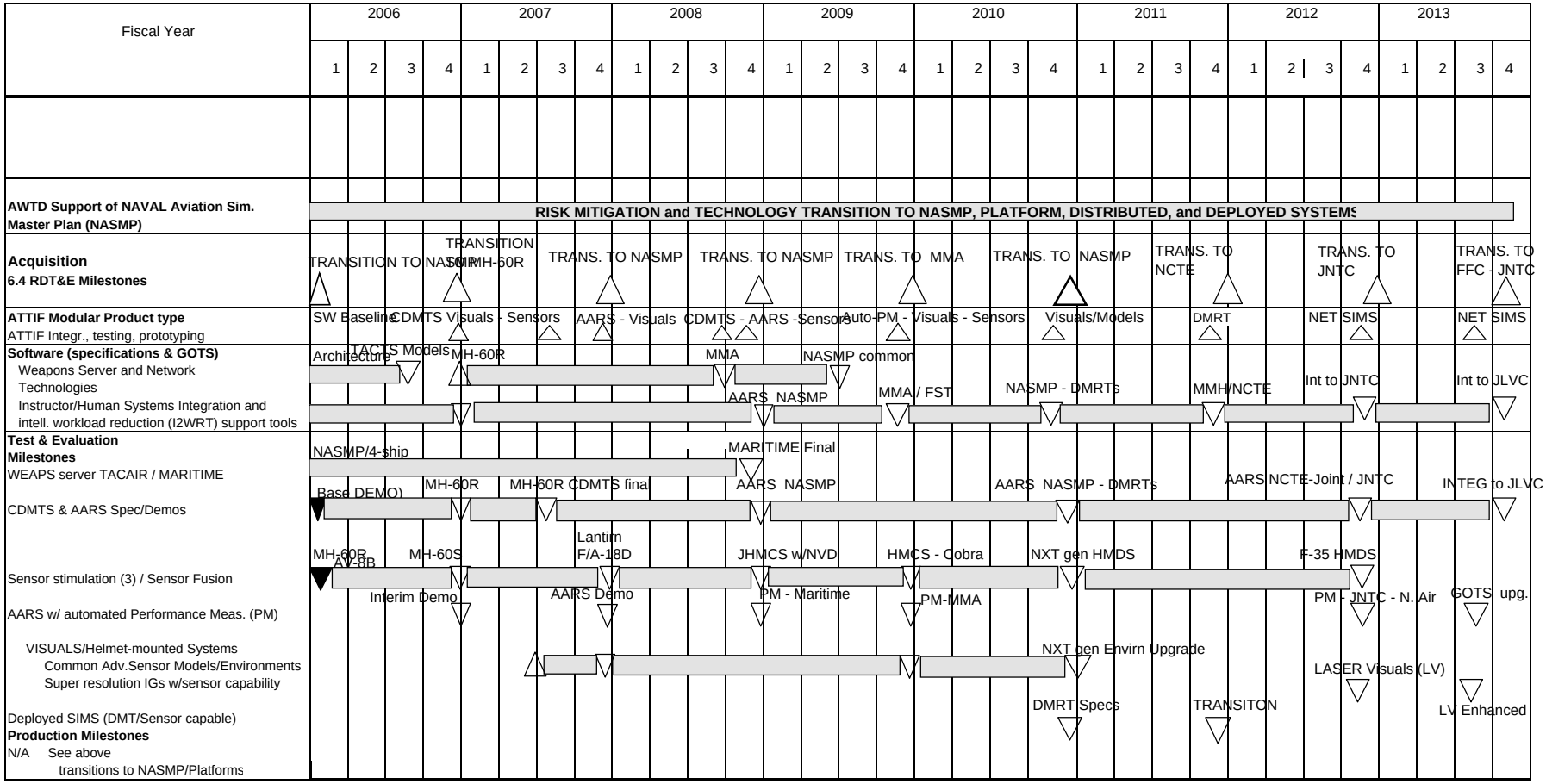
Remarks:

MANAGEMENT												
Travel	VARIOUS	VARIOUS	.024	.015	VARIOUS	.023	VARIOUS	.020	VARIOUS		.082	
Travel	VARIOUS	TBD	.374								.374	
SUBTOTAL MANAGEMENT			.398	.015		.023		.020			.456	

Remarks:

Total Cost			17.553	1.681		1.735		1.781		7.499	30.190	

Remarks:


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 1 2 3 4
AWTD Support of NAVAL Aviation Sim. Master Plan (NASMP)
RISK MITIGATION and TECHNOLOGY TRANSITION TO NASMP, PLATFORM, DISTRIBUTED, and DEPLOYED SYSTEMS
Acquisition
6.4 RDT&E Milestones
TRANSITION TO NASMP
TRANSITION TO MH-60R
TRANS. TO NASMP
TRANS. TO NASMP
TRANS. TO MMA
TRANS. TO NASMP
TRANS. TO NCTE
TRANS. TO JNTC
TRANS. TO FFC - JNTC
ATTIF Modular Product type
ATTIF Integr., testing, prototyping
SW Baseline
CDMTS Visuals - Sensors
AARS - Visuals
CDMTS - AARS -Sensors
Auto-PM - Visuals - Sensors
Visuals/Models
DMRT
NET SIMS
NET SIMS
Software (specifications & GOTS)
Weapons Server and Network
Technologies
Instructor/Human Systems Integration and intell. workload reduction (I2WRT) support tools
Architecture
TACCS Models
MH-60R
MMA
NASMP common
AARS NASMP
MMA / FST
NASMP - DMRTs
MMH/NCTE
Int to JNTC
Int to JLVC
Test & Evaluation
Milestones
WEAPS server TACAIR / MARITIME
CDMTS & AARS Spec/Demos
NASMP/4-ship
MARITIME Final
Base DEMO)
MH-60R
MH-60R CDMTS final
AARS NASMP
AARS NASMP - DMRTs
AARS NCTE-Joint / JNTC
INTEG to JLVC
Sensor stimulation (3) / Sensor Fusion
AARS w/ automated Performance Meas. (PM)
MH-60R
AV-8B
MH-60S
Lantirn F/A-18D
JHMCS w/NVD
HMCS - Cobra
NXT gen HMDS
F-35 HMDS
Interim Demo
AARS Demo
PM - Maritime
PM-MMA
PM - JNTC - N. Air
GOTS upg.
VISUALS/Helmet-mounted Systems
Common Adv.Sensor Models/Environments
Super resolution IGs w/sensor capability
NXT gen Envirn Upgrade
LASER Visuals (LV)
Deployed SIMS (DMT/Sensor capable)
DMRT Specs
TRANSITON
LV Enhanced
Production Milestones
N/A See above
transitions to NASMP/Platforms

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-7**	PROGRAM ELEMENT **0204571N, CONSOLIDATED TRAINING SYSTEMS**				PROJECT NUMBER AND NAME **2124/Air Warfare Training Development**			
Schedule Profile	FY 2006	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	1Q-4Q
Acquisition 6.4 RDT&E Milestones	1Q, 4Q	1Q, 4Q	1Q, 4Q	1Q, 4Q	1Q,4Q	1Q,4Q	1Q,4Q	1Q,4Q
ATTIF Modular Product Type								
ATTIF Integ. Testing, Prototyping	4Q	3Q-4Q	3Q-4Q	4Q	4Q	4Q	4Q	3Q
Software (specifications & GOTS)								
Weapons Server and Network Technologies	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q				
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	1Q-4Q
Test & Evaluation Milestones								
WEAPS server TACAIR/MARITIME	1Q-4Q	1Q-4Q	1Q-4Q					
CDMTS & AARS Spec/Demos	1Q-4Q	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	1Q, 4Q	1Q, 4Q	1Q, 4Q			4Q	3Q
VISUALS/Helmet-mounted Systems								
Common Adv. Sensor Models/Environments Super								
resolution IGs w/sensor capability		2Q-4Q	1Q, 4Q	1Q, 4Q	1Q, 4Q		4Q	3Q
Deployed SIMS (DMT/Sensor capable)								
Production Milestones					4Q	4Q		
N/A see above								

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3093 TACTICAL COMBAT TRAINING SYSTEM (TCTS).	15.711	7.705	3.538	3.031	5.431	9.182	9.355	9.534
RDT&E Articles Qty	39	6						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Tactical Combat Training System will provide the Navy a replacement for major portions of the Tactical Aircrew Combat Training System (TACTS) and Large Area Tracking Range (LATR) system. 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 borad 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 acquisiton streamlining February 2006, which included additional RDT&E test articles to support Operational Test.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	15.711	7.705	3.538	3.031
RDT&E Articles Qty	39	6		

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) 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 an Rack-Mounted Subsystem for use on rotary wing and transport aircraft. Continue to 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.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	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	3.691	7.847	5.685	7.640	5.511	5.348	5.510	5.651		46.883
Related APN:										
Other Production Charges, LI 072500	13.212	19.423	20.630	27.876	28.173	22.895	23.340	23.786		179.335

D. ACQUISITION STRATEGY: TCTS will employ an evolutionary incremental acquisition strategy to procure a base Non-Developmental Item System 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.

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0204571N, CONSOLIDATED TRAINING SYSTEMS				PROJECT NUMBER AND NAME 3093, TACTICAL COMBAT TRAINING SYSTEM (TCTS).						
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	SS CPAF	CUBIC DEFENSE APPS, INC, SAN DIEGO, CA	9.165	1.884	11/06	.200	11/07				11.250	11.250
SUBTOTAL PRODUCT DEVELOPMENT			9.165	1.884		.200					11.250	

Remarks:

SUPPORT												
Contractor Eng Sup	VARIOUS	VARIOUS	.200	.200	11/06	.413	11/07	1.334	11/08		2.147	
Integrated Logistics Sup	VARIOUS	VARIOUS	.243	.435	11/06	.005	11/07	.155	11/08		.838	
Software Dev - ETS (NON-FFRDC	SS CPAF	ROCKWELL COLLINS SERVICES, CEDAR RAPIDS, IA				2.500	11/07	.568	11/08		3.068	3.068
Software Development	SS CPAF	CUBIC DEFENSE APPS, INC, SAN DIEGO, CA	9.455	.990	11/06						10.445	10.445
Software Development	SS CPAF	ROCKWELL COLLINS SERVICES, CEDAR RAPIDS, IA		2.355	11/06						2.355	2.355
SUBTOTAL SUPPORT			9.899	3.980		2.918		2.057			18.853	

Remarks:

TEST & EVALUATION												
Dev T&E - ETS (NON-FFRDC)	VARIOUS	VARIOUS	.244	.175	11/06						.419	
Dev T&E - Reimb Fld Spt	VARIOUS	VARIOUS	2.179	.300	11/06			.395	11/08		2.874	
Oper T&E - Military Travel	WR	OPER T & E FOR CD 30, NORFOLK VA	.023	.010	VARIOUS	.007	VARIOUS				.040	
SUBTOTAL TEST & EVALUATION			2.446	.485		.007		.395			3.333	

Remarks:

MANAGEMENT												
Contractor Eng Sup - ETS (NON-FFRDC)	VARIOUS	VARIOUS	.352	.425	11/06						.777	
Government Eng Sup	VARIOUS	VARIOUS	2.786	.929	11/06	.413	11/07	.579	11/08	33.502	38.209	
Travel	VARIOUS	TBD	.012	.002	VARIOUS						.014	
SUBTOTAL MANAGEMENT			3.149	1.356		.413		.579		33.502	38.999	

Remarks:

Total Cost			24.659	7.705		3.538		3.031		33.502	72.435	

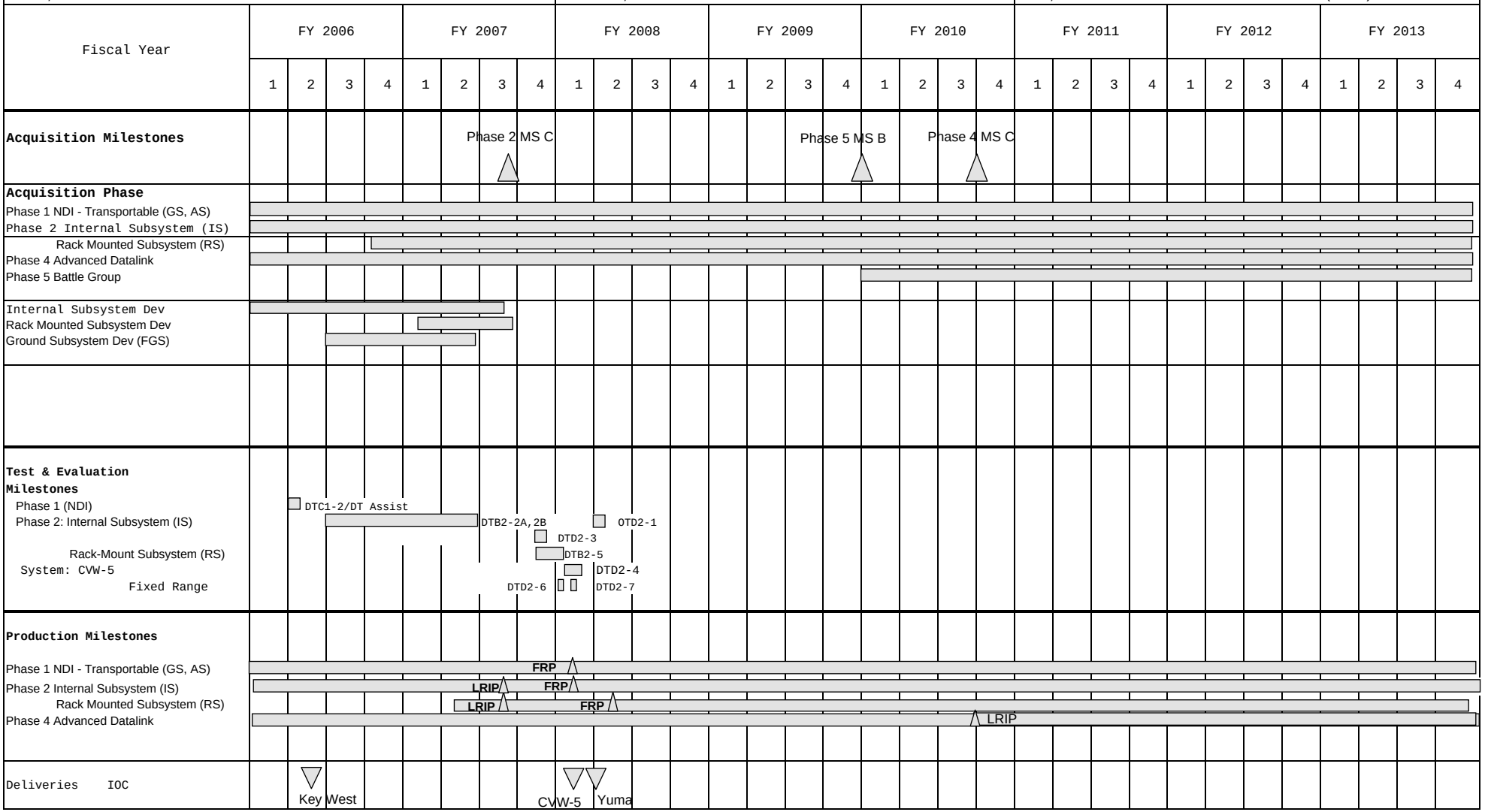
Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: February 2007

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).



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0204571N, CONSOLIDATED TRAINING SYSTEMS				PROJECT NUMBER AND NAME 3093, TACTICAL COMBAT TRAINING SYSTEM (TCTS).			
Schedule Profile	FY 2006	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-4Q			
Acquisition Phase								
Phase 1 NDI - Transportable (GS, AS)	1Q-4Q	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	1Q-4Q
Rack Mounted Subsystem (RS)	4Q	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	1Q-4Q
Phase 5 Battle Group					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Internal Subsystem Dev	1Q-4Q	1Q-3Q						
Rack Mounted Subsystem Dev		1Q-3Q						
Ground Subsystem Dev	3Q-4Q	1Q-2Q						
Test & Evaluation Milestones								
Phase 1 (NDI)	2Q							
Phase 2 Internal Subsystgem (IS)	3Q-4Q	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	1Q-4Q
Phase 2 Internal Subsystem (IS)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Rack Mounted Subsystem (RS)		2Q-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	1Q-4Q
Deliveries IOC	2Q		1Q-2Q					

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS			PROJECT NUMBER AND NAME 9999 CONGRESSIONAL ADDS				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9999 CONGRESSIONAL ADDS	.967	1.295						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Total Ship Training System	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.967	1.295		
RDT&E Articles Qty				

3087C: FY06 and FY07 Congressional Plus Ups provided for Total Ship Training System (TSTS) to analyze requirements, design, develop, test, and deliver a functional Training Management System (TMS) prototype with related documentation for elements of TSTS. Prototypes of the various TMS hardware and software subsystems will be designed and documented in a design specification including: Personnel Management subsystem, Communication Audio Capture subsystem, and the Video Capture subsystem.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 7**				R-1 ITEM NOMENCLATURE PE 0204574N Cryptologic Direct Support				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**1.402**	**1.420**	**1.443**	**1.435**	**1.639**	**1.652**	**1.705**	**2.066**
3091 / Advanced Cryptologic Systems Engineering	**1.402**	**1.420**	**1.443**	**1.435**	**1.639**	**1.652**	**1.705**	**2.066**
Quantity of RDT&E Articles								

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

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.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under BA-7, OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing operational systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	PE 0204574N Cryptologic Direct Support	3091 / Advanced Cryptologic Systems Engineering

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY07 President's Budget Submit	1.401	1.425	1.443	1.431
FY08 President's Budget Submit	1.402	1.420	1.443	1.435
Total Adjustments	0.001	-0.005	0.000	0.004

Summary of Adjustments

Congressional Action 1% Reduction	0.001			
Sec. 8106: Revised Economic Assumptions		-0.005		
FY08/09 NWCF Rate Adjustments - SPAWAR Systems Centers				0.003
PBD 426 Non-Purchase Inflation Adj.				0.001
Subtotal	0.001	-0.005	0.000	0.004

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2007	
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			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**1.402**	**1.420**	**1.443**	**1.435**	**1.639**	**1.652**	**1.705**	**2.066**
RDT&E Articles Qty								

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

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. Additionally, the future Maritime Cryptologic Architecture (MCA) realized under Ships Signals Exploitation Equipment (SSEE) Increment E and subsequent increments will be procured under Cryptologic Carry-On Equipment. 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	PE 0204574N Cryptologic Direct Support	3091 / Advanced Cryptologic Systems Engineering

(U) B. Accomplishments/Planned Program

Cryptologic Carry-On Equipment	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	**1.402**	**1.420**	**1.443**	**1.435**
RDT&E Articles Quantity				

FY06 - Continued to integrate, test, and document identified Commercial and Government off-the-shelf technologies and subsystems that meet emergent and on-going Fleet requirements. Developed and integrated software and/or hardware improvements to Carry-on Cryptologic Systems. Efforts supported various servers and Hostile Forces Integrated Targeting Subsystem (HITS). Completed studies necessary to modify topside antenna configuration.
FY07 - Continue to integrate, test, and document identified Commercial and Government off-the-shelf technologies and subsystems that meet emergent and on-going Fleet requirements. Continue with developing upgrades to existing systems and subsystems according to Fleet requirements.
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. Continue with developing upgrades to existing systems and subsystems according to Fleet requirements.
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. Continue with developing upgrades to existing systems and subsystems according to Fleet requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE 0204574N Cryptologic Direct Support	3091 / Advanced Cryptologic Systems Engineering

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPN Line 3501, Cryptologic Equipment	15.937	17.545	12.355	11.305	12.748	13.444	14.022	14.577

(U) D. ACQUISITION STRATEGY:

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to 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 2007

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
Primary Hardware Development											0.000	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering	Various	Various	1.380	0.164	12/06	0.167	12/07	0.172	12/08	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			1.380	0.164		0.167		0.172		0.000	0.000	0.000

Remarks:

Development Support											0.000	0.000
Software Development	Various	Various	2.986	1.002	12/06	1.015	12/07	1.003	12/08	Continuing	Continuing	Continuing
Training Development											0.000	0.000
Integrated Logistics Support											0.000	Continuing
Configuration Management											0.000	Continuing
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			2.986	1.002		1.015		1.003		Continuing	Continuing	Continuing

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: February 2007

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
Developmental Test & Evaluation			0.156	0.055	12/06	0.056	12/07	0.056	12/08	Continuing	Continuing	Continuing
Operational Test & Evaluation											0.000	0.000
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			0.156	0.055		0.056		0.056		0.000	0.323	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support			0.457	0.155		0.161		0.160		Continuing	Continuing	0.000
Travel			0.129	0.044		0.044		0.044		Continuing	Continuing	0.000
Subtotal Management			0.586	0.199		0.205		0.204		Continuing	Continuing	0.000
Remarks:												
Total Cost			5.108	1.420		1.443	Various	1.435	Various	Continuing	Continuing	Continuing
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: February 2007
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.)		SDR				SDR				SDR				SDR				SDR				SDR				SDR				SDR		
Equipment Delivery (e.g., EDM Radar Delivery)			▲				△				△				△				△				△				△				△	
Test & Evaluation Milestones																																
Operational Assessment			OA ▲				OA △				OA △				OA △				OA △				OA △				OA △				OA △	
Production Milestones																																
LRIP I																																
LRIPII																																
FRP																																
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY **RDT&E 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

Exhibit R-2, RDT&E Budget Item Justification									Date: January 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N /7/0204575N					R-1 ITEM NOMENCLATURE Electronic Warfare (EW) Readiness Support					
COST ($ in Millions)	FY 06	FY 07	FY 08	FY09	FY10	FY11	FY12	FY13	TO COMPLETE	TOTAL
Total / 0204575N	13.671	20.595	34.340	29.576	29.552	30.861	32.196	33.146	Cont	Cont
Information Warfare Sys/Z2263	10.242	15.612	34.340	29.576	29.552	30.861	32.196	33.146	Cont	Cont
Retract Barley/Z2462	3.429	4.983	0.000	0.000	0.000	0.000	0.000	0.000	N/A	8.431
Quantity of RDT&E Articles	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification

Information Warfare Systems/Z2263

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.

(U) IO Mission Management: Develops software to account for antenna modeling, weather calculations, 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.

(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.)

(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.

(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 re-appropriation of funds to all RTD&E. Specific variances in FY08 funding will be discussed at the project level.

(U) In FY08 this program transfers from BSO 41 to BSO 39.

(U) This program received a POM06 CNO plus-up which added approximately $7M in FY07 and $13M in FY08.

Retract Barley/Z2462

Details held at a higher classification level

Exhibit R-2a, RDT&E Project Justification									Date: January 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N /7			PROGRAM ELEMENT 0204575N		PROJECT NAME AND NUMBER Information Warfare/Z2263					
Cost ($ in Millions)	FY 06	FY 07	FY 08	FY 09	FY10	FY11	FY12	FY13	Cost to Complete	Total Cost
Project Cost-IO Mission Mgmt	3.622	2.598	4.830	4.878	4.930	5.030	5.231	5.440	Continuing	Continuing
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

FY2006 Plans
(1.2) –RF modeling development
(0.4) – IO Mission Management Remote Control
(2.0) – Modeling & Simulation Lab

FY2007 Plans
(0.9) – RF modeling development
(0.2) – IO Mission Management Remote Control
(0.1) – Antenna Modeling
(0.1) – Terrain Modeling
(1.3) – Modeling & Simulation Lab

FY2008 Plans
(2.5) – RF modeling architecture integration
(0.9) – IO Mission Management Remote Control
(0.1) – Antenna Modeling
(0.2) – Terrain Modeling
(1.1) – Modeling & Simulation Lab

FY2009 Plans
(2.5) – RF modeling architecture integration
(0.9) – IO Mission Management Remote Control
(0.1) – Antenna Modeling
(0.2) – Terrain Modeling
(1.1) – Modeling & Simulation Lab

In FY08 IO Mission management will fund integration onto a new, web-based architecture, reflecting an increase in funding.

The modeling and simulation laboratory was started in FY06. Higher costs in FY06 reflect initial lab development costs.

Exhibit R-2a, RDT&E Project Justification									Date: January 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N /7			PROGRAM ELEMENT 0204575N		PROJECT NAME AND NUMBER Information Warfare/Z2263					
Cost ($ in Millions)	FY 06	FY 07	FY 08	FY 09	FY10	FY11	FY12	FY13	Cost to Complete	Total Cost
Project Cost-Electronic Attack	1.064	3.370	11.940	13.073	12.771	12.674	13.196	13.299	Continuing	Continuing
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

FY2006 Plans
(0.3) – EA Systems Development
(0.1) – EA Antenna Development
(0.5) – IW/IO EA capability development
(0.1) – Testing

FY2007 Plans
(0.1) – EA antenna development
(3.1) – IW/IO EA capability development
(0.2) – Testing

FY2008 Plans
(8.5) – EA Systems Development
(0.4) – EA Antenna development
(2.8) – IW/IO EA capability development
(0.2) – Testing

FY2009 Plans
(9.2) – EA Systems Development
(0.6) – EA antenna development
(2.9) – IW/IO EA capability development
(0.3) – Testing

An existing RTD&E EA systems program was realigned in FY08 from another sponsor to N6, reflecting an increase in this project line.

Exhibit R-2a, RDT&E Project Justification									Date: January 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N /7			PROGRAM ELEMENT 0204575N		PROJECT NAME AND NUMBER Information Warfare/Z2263					
Cost ($ in Millions)	FY 06	FY 07	FY 08	FY 09	FY10	FY11	FY12	FY13	Cost to Complete	Total Cost
Project Cost-CNO	2.516	5.932	13.865	7.911	7.907	8.971	9.330	9.703	Continuing	Continuing
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

FY2006 Plans
(0.2) – Computer Network Defense
(0.5) – Navy IO Architecture
(0.6) – Electronic Target Folder Development
(0.6) – Computer Network Attack Capabilities Development
(0.6) – Navy Computer Assessment Team (NCAT)

FY2007 Plans
(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
(1.9) – Computer Network Attack Capabilities Development

FY2008 Plans
(0.6) – Navy IO Architecture
(4.0) – Counter Anti-Ship Missile
(1.0) – Tactical IO Initiatives
(0.6) – Electronic Target Folder Development
(0.4) – CNO for boarding teams
(7.0) – Computer Network Attack Capabilities Development
(0.3) – CNO for Maritime Domain Awareness

FY2009 Plans
(0.6) – Navy IO Architecture
(0.4) – Electronic Target Folder Development
(6.6) – Computer Network Attack Capabilities Development
(0.3) – CNO for Maritime Domain Awareness

A POM06 CNO plus-up increased funding for FY06, FY07 and FY08 to build CNO capabilities. A POM08 issue continued CNO funding support for the capabilities developed with the POM06 add.

Exhibit R-2a, RDT&E Project Justification									Date: January 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N /7			PROGRAM ELEMENT 0204575N		PROJECT NAME AND NUMBER Information Warfare/Z2263					
Cost ($ in Millions)	FY 06	FY 07	FY 08	FY 09	FY10	FY11	FY12	FY13	Cost to Complete	Total Cost
Project Cost-NVACM	2.524	2.812	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	N/A		

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

FY2006 Plans
(2.5) – NVACM

FY2007 Plans
(2.8) – NVACM

The Navy Vulnerability Assessment Counter-Measures Program is being terminated beginning in FY08.

Exhibit R-2a, RDT&E Project Justification									Date: January 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N /7			PROGRAM ELEMENT 0204575N		PROJECT NAME AND NUMBER Information Warfare/Z2263					
Cost ($ in Millions)	FY 06	FY 07	FY 08	FY 09	FY10	FY11	FY12	FY13	Cost to Complete	Total Cost
Project Cost-Program Mgmt	0.516	0.900	3.705	3.714	3.944	4.186	4.439	4.704	Continuing	Continuing
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

FY2006 Plans
(0.5) – Government Engineering Support

FY2007 Plans
(0.5) – Government Engineering Support
(0.4) –Program Management Personnel

FY2008 Plans
(0.7) – Contractor Engineering Support
(3.0) – Research Personnel

FY2009 Plans
(0.7) – Contractor Engineering Support
(3.0) – Research Personnel

B. Other Program Funding Summary

	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
OMN Line 4B7N	2.6	4.2	0.0	0.0	0.0	0.0	0.0	0.0
OPN 234000/6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPN 234000/6	3.4	5.0	0.0	0.0	0.0	0.0	0.0	0.0
0604270N/Z1742	0.9	0.7	7.9	5..0	5.1	5.2	5.3	5.4

C. Acquisition Strategy: N/A.

D. Schedule Profile: N/A

E. Program Change Summary:

	FY06	**FY07**	**FY08**	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**
Previous President's Budget	10.299	15.671	19.936	11.481	11.200	11.241	0.000	0.000
Current President's Budget	10.242	15.612	34.340	29.576	29.552	30.861	32.196	33.146
Total Adjustments	-0.057	-0.059	+14.404	+18.095	+18.352	+19.620	+32.196	+33.146
Summary of Adjustments:								
SBIR Tax	-0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Congressional Adjustments	+0.005	-0.059	0.000	0.000	0.000	0.000	0.000	0.000
Program Adjustments	+0.003	0.000	+14.404	+18.095	+18.352	+19.620	+32.196	+33.146
Total Adjustments	-0.057	-0.059	+14.404	+18.095	+18.352	+19.620	+32.196	+33.146

Exhibit R-3 Cost Analysis									Date: January 2007			
RDT&E,N/7			Program Element: 0204575N						Information Warfare/Z2263			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY07 Cost	FY07 Award Date	FY08 Cost	FY08 Award Date	FY09 Cost	FY09 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Var	Var	10.353	0.000	Var	2.420	Var	1.915	Var	Cont.	Cont.	
Ancillary Hardware Development			3.500	1.500		3.750		3.267				
Systems Engineering			0.000	0.000		0.215		0.228				
Subtotal Product Development			13.853	1.500	Var	6.385	Var	5.410	Var	Cont.	Cont.	
Development Support	Var	Var	6.237	0.000	Var	1.511	Var	3.050	Var	Cont.	Cont.	
Software Development	Var	Var	14.954	13.045	Var	21.956	Var	17.221	Var	Cont.	Cont.	
Integrated Logistics Support												
Technical Data												
Subtotal Support			21.191	13.045		23.467	Var	20.271	Var	Cont.	Cont.	

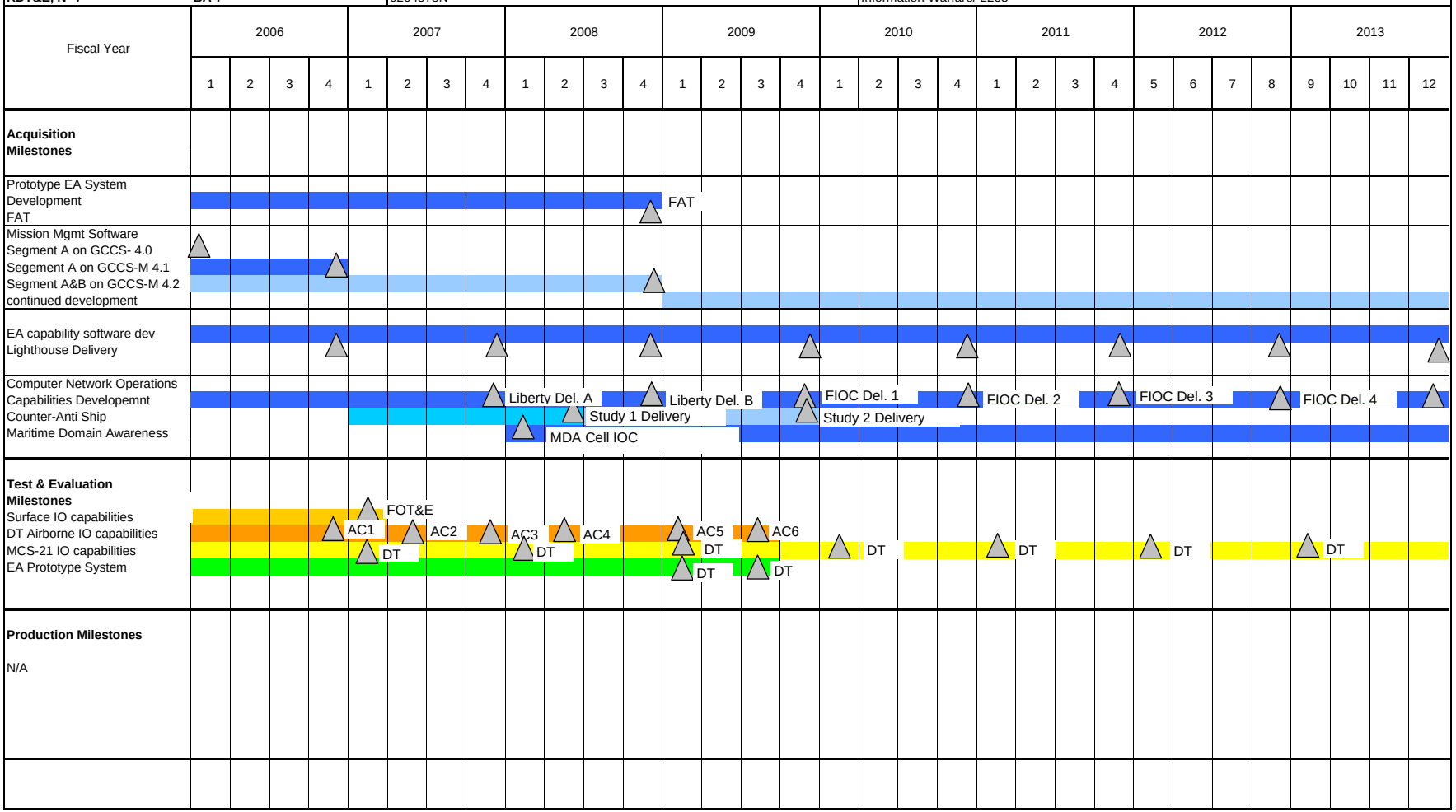
Remarks

1/ Development support for Mission Management starts in FY07 since the first prototype software model was deployed.
2/ Software development increased from FY07 to FY08 due to a realignment of funds from another sponsor and increased CNO capability development.

Exhibit R-3 Cost Analysis												
RDT&E,N/7		Program Element: 0204575N										
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY07 Cost	FY07 Award Date	FY08 Cost	FY08 Award Date	FY09 Cost	FY09 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Var	Var	3.100	0.167	Var	0.783	Var	0.181	Var	Cont.	Cont.	
Subtotal T&E			3.100	0.167	Var	0.783	Var	0.181	Var	Cont.	Cont.	
Remarks Testing support decreased increased in FY08 due to DT/ OT and OPEVAL being conducted on a prototype Electronic Attack system previously funded from another sponsor. Testing support returns to expected levels in FY09.												
Contractor Engineering Support	Var	Var	0.350	0.000	N/A	0.705	10/07	0.714	Var	Cont.	Cont.	
Government Engineering Support	Var	Var	2.436	0.478	10/06	0.000	N/A	0.000	N/A	Cont.	Cont.	
Program Management Support	Var	Var	2.285	0.000	Var	0.000	N/A	0.000	N/A	Cont.	2.285	
Program Management Personnel	Var	NNWC/Ft. Meade MD	0.000	0.422	10/06	0.000	N/A	0.000	N/A	Cont.	0.422	
Labor(Research Personnel)Studies & Vulnerability Analysis	Var	Var	0.000	0.000	11/06	3.000	11/07	3.000	10/08	Cont.	Cont.	
Subtotal Management			5.071	0.900	Var	3.705	Var	3.714	Var	Cont.	Cont.	
Remarks Research Personnel increased from FY 06 to FY07 due to a realignment of the existing effort from another sponsor. (Details held at a higher classification.)												
Total Cost			43.215	15.612	Var	34.340	Var	29.576	Var	Cont.	Cont.	
Remarks												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **January 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / **BA-7**	0204575N	Information Warfare/ 2263	



Note: EA Software deliveries will be integrated into existing programs of record on surface, subsurface and airborne platforms to include SSEE-Inc E/F, Classic Troll and Banshee.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **August 2006**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0204575N				PROJECT NUMBER AND NAME Information Warfare/ 2263			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Prototype EA System Delivery			4Q					
Mission Management software on GCCS- 4.0	1Q							
Mission Management software on GCCS- 4.1	4Q							
Mission Management software on GCCS- 4.2			4Q					
EA software development version LH 1.X	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
EA software Delivery Version LH1.4	4Q							
EA software Delivery Version LH1.6		4Q	4Q	4Q	4Q	4Q	4Q	4Q
Liberty CNO Software Delivery		4Q	4Q					
FIOC CNO Software Delivery				4Q	4Q	4Q	4Q	4Q
CASM Study Delivery			2Q	4Q				
Maritime Domain Awareness Cell IOC			1Q					
FOT&E Surface IO capability		1Q						
DT Airborne IO capability	4Q	2Q,4Q	2Q	1Q,3Q				
DT MCS-21 EA capability		1Q	1Q	1Q	1Q	1Q	1Q	1Q
DT prototype EA system				1Q, 3Q				

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0205601N, HARM IMPROVEMENT		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	87.212	99.829	34.762	7.993	5.422	5.154	5.236	5.318
1780 HARM IMPROVEMENT	3.647	1.876	1.989	1.992	1.944	1.878	1.904	1.932
2185 AARGM	76.442	91.976	32.773	6.001	3.478	3.276	3.332	3.386
3056 ADVANCED PRECISION KILL WEAPON SYSTEM	2.096							
9999 CONGRESSIONAL ADDS	5.027	5.977						

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 FY1983. 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 (FY1996 through FY1999) 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 FY2000. HARM Improvement includes efforts to conduct Foreign Military Exploitation (FME) 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 acquistion 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 ACTD). An AARGM System Development and Demonstration (SD&D) commenced in FY2003. The AARGM program plans production of 1,879 missiles; 83 Low Rate Initial Production (LRIP) and 1,796 Full Rate Production modification kits.

(U) DIRECT ATTACK GUIDED ROCKET/APKWS: Formerly known as the Advanced Precision Kill Weapons System (APKWS), APKWS II was 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.

(U) The Army did not include APKWS in POM08 submission, therefore the APKWS program is being curtailed. Efforts will be made to close out the contract through FY07.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	84.569	99.208	30.994	5.766
Current President's Budget :	87.212	99.829	34.762	7.993
Total Adjustments	2.643	0.621	3.768	2.227
Summary of Adjustments				
Congressional Reductions	-1.800	-0.379		
Congressional Rescissions				
Congressional Decreases		-5.000		
Congressional Increases		6.000		
Economic Assumptions			0.083	0.114
Miscellaneous Adjustments	4.443		3.685	2.113
Subtotal	2.643	0.621	3.768	2.227

Schedule:
AARGM: FCA, PRR, and PCA moved from 1Q FY08 in PB07 to 2Q FY08. LRIP 1 moved from 2Q FY08 in PB07 to 3Q FY08.
APKWS: The Army did not include APKWS in POM08 submission, therefore the APKWS program is being curtailed. Efforts will be made to close out the contract through FY07.

Technical:
Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1780 HARM IMPROVEMENT	3.647	1.876	1.989	1.992	1.944	1.878	1.904	1.932
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 FY1983. 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 (FY1996 through FY1999) 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 FY2000.

HARM Improvement includes efforts to conduct Foreign Military Exploitation (FME) 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.647	1.876	1.989	1.992
RDT&E Articles Qty				

Conduct Foreign Military Exploitation (FME) 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:	FY 2006	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

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2007		
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 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													
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	10.020	1.840	Oct 2006	1.953	Oct 2007	1.954	Oct 2008	Continuing	Continuing		
SUBTOTAL TEST & EVALUATION			10.020	1.840		1.953		1.954		Continuing	Continuing		

Remarks:

MANAGEMENT													
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD	.361	.010	Oct 2006	.010	Oct 2007	.011	Oct 2008	Continuing	Continuing		
Travel	TO	NAVAIR, PAXTUXENT RIVER MD	.382	.026	Oct 2006	.026	Oct 2007	.027	Oct 2008	Continuing	Continuing		
SUBTOTAL MANAGEMENT			.743	.036		.036		.038		Continuing	Continuing		

Remarks:

Total Cost			11.443	1.876		1.989		1.992		Continuing	Continuing		

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7									PROGRAM ELEMENT NUMBER AND NAME 0205601N, HARM IMPROVEMENT														PROJECT NUMBER AND NAME 1780, HARM IMPROVEMENT											
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																																
Test & Evaluation Milestones																																
Operational Test Foreign Military Exploitation (FME) - continuing																																
Production Milestones																																
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0205601N, HARM IMPROVEMENT				PROJECT NUMBER AND NAME 1780, HARM IMPROVEMENT			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Foreign Military Exploitation (FME) Analysis and Testing	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2185 AARGM	76.442	91.976	32.773	6.001	3.478	3.276	3.332	3.386
RDT&E Articles Qty	6	8	17					

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 prescribed 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-Reciever, enabling the warfighter to directly receive National intelligence data, providing additional AARGM targeting data to increase overall pilot situational awareness. The AARGM program plans to produce 31 test articles and 1,879 missiles (83 Low Rate Initial Production (LRIP) missiles and 1,796 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	76.442	91.976	32.773	6.001
RDT&E Articles Qty	6	8	17	

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. Conducted successful System Preliminary Design Review on 05 April 2005 and Critical Design Review on 28 February 2006. In FY2007, DT-B1 will be completed with integration and captive carry of AARGM on F/A-18C/D. Live fire testing will begin in FY2007 and continue through FY2008. OPEVAL will begin in FY2008 and complete in FY2009. Development of capability to attach non-traditional SEAD and GWOT targets will continue in FY2009.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205601N, HARM IMPROVEMENT	PROJECT NUMBER AND NAME 2185, AARGM

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Budget Line Item No. 232700, HARM MODS	0.000	0.000	41.302	53.966	55.635	65.169	96.489	140.177		452.738

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 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0205601N, HARM IMPROVEMENT				PROJECT NUMBER AND NAME 2185, AARGM						
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	5.329	1.868	Oct 2006	.190	Oct 2007				7.387	
Aircraft Integration	WX	NAWCAD, PATUXENT RIVER MD		.050	Oct 2006						.050	
Primary Hdw Development - SD&I	C-CPIF	ALLIANT TECHSYSTEMS INC, WOODLAND I	160.389	60.225	Oct 2006	14.672	Oct 2007	3.033	Oct 2008	11.803	250.122	250.122
Systems Eng	WX	NAWCWD, CHINA LAKE CA	30.611	13.255	Oct 2006	7.845	Oct 2007	1.346	Oct 2008	.550	53.607	
Systems Eng	VARIOUS	VARIOUS		.225							.225	
Prior Years Product Developmer	VARIOUS	VARIOUS	189.816								189.816	
SUBTOTAL PRODUCT DEVELOPMENT			386.144	75.623		22.707		4.379		12.353	501.206	

Remarks:

SUPPORT												
Integrated Logistics Sup	WX	NAWCWD, CHINA LAKE CA	2.123	1.218							3.341	
Integrated Logistics Sup	VARIOUS	VARIOUS	.012	.343							.355	
Studies & Analyses	VARIOUS	VARIOUS	.711	.100	Oct 2006	.100	Oct 2007				.911	
Prior Years Support	VARIOUS	VARIOUS	.012								.012	
SUBTOTAL SUPPORT			2.858	1.661		.100					4.619	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCWD, CHINA LAKE CA	6.067	3.047	Oct 2006	2.576	Oct 2007	.448	Oct 2008		12.138	
Oper Test & Eval	WX	OPER T & E FOR CD 30, NORFOLK VA	.090	.400	Oct 2006	5.176	Oct 2007	.948	Oct 2008		6.614	
Oper Test & Eval	WX	NAWCWD, CHINA LAKE CA								.367	.367	
Test Assets		NAWCWD, CHINA LAKE CA	1.960	3.125							5.085	
SUBTOTAL TEST & EVALUATION			8.117	6.572		7.752		1.396		.367	24.204	

Remarks:

MANAGEMENT												
Contractor Eng Supt - Other	VARIOUS	VARIOUS	6.759					.020	Oct 2008	.080	6.859	
ENGINEERING & TECH SRVC (NON-F	VARIOUS	VARIOUS		1.568	Oct 2006	.375	Oct 2007				1.943	
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD	2.316	6.352	Oct 2006	1.739	Oct 2007	.196	Oct 2008	.632	11.235	
Travel	TO	NAVAIR, PAXTUXENT RIVER MD	1.068	.200	Oct 2006	.100	Oct 2007	.010	Oct 2008	.040	1.418	
SUBTOTAL MANAGEMENT			10.143	8.120		2.214		.226		.752	21.455	

Remarks:

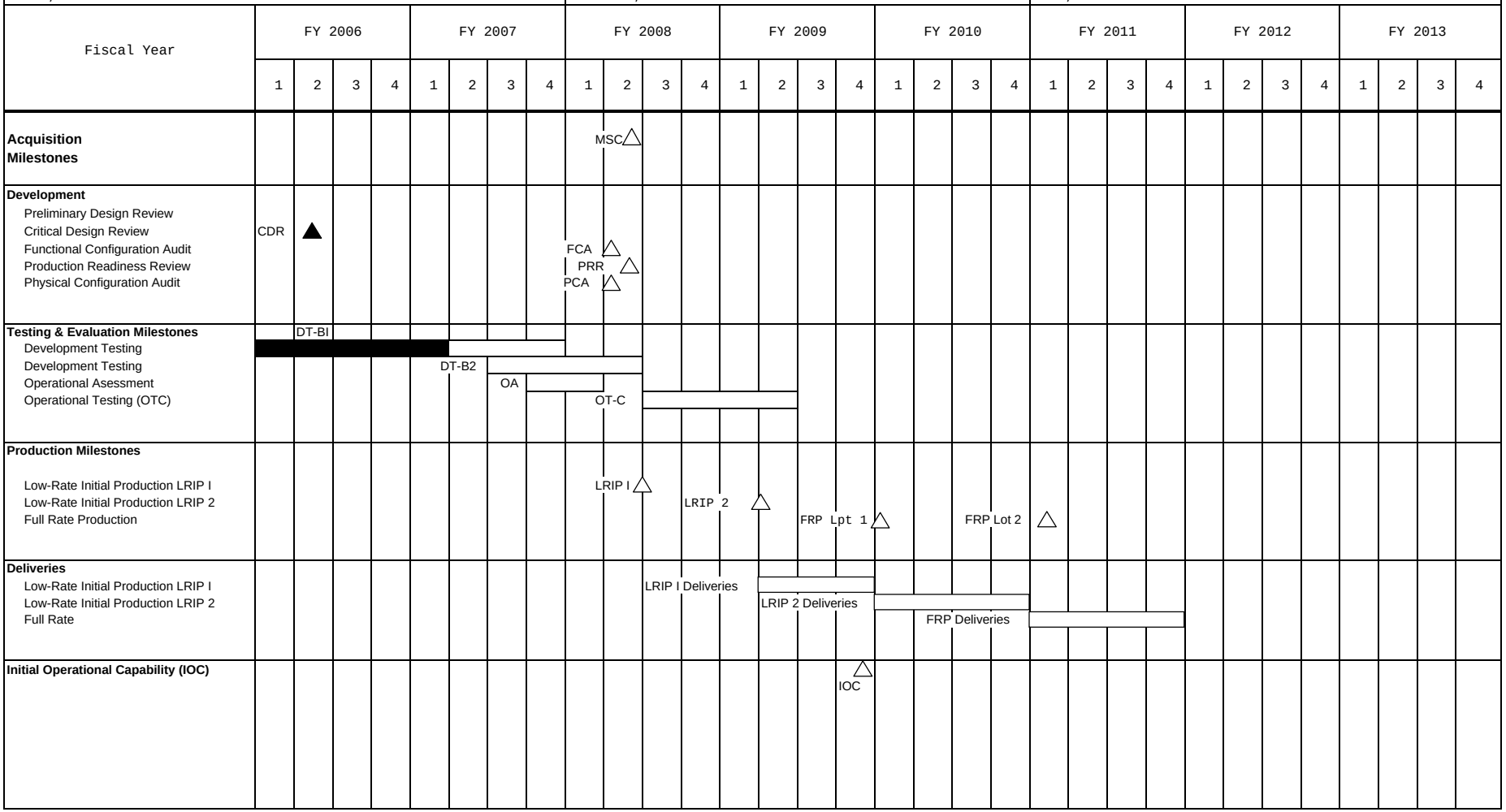
Total Cost			407.263	91.976		32.773		6.001		13.472	551.485	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: February 2007

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-7	0205601N, HARM IMPROVEMENT	2185, AARGM



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0205601N, HARM IMPROVEMENT				PROJECT NUMBER AND NAME 2185, AARGM			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Preliminary Design Review (PDR)								
Developmental Testing (DT-B1)	1Q-4Q	1Q-4Q						
Critical Design Review (CDR)	2Q							
Developmental Testing (DT-B2)		3Q-4Q	1Q-2Q					
Operational Assessment (OA)		4Q	1Q					
Functional Configuration Audit (FCA)			2Q					
Preproduction Readiness Review (PRR)			2Q					
Physical Configuration Audit (PCA)			2Q					
Milestone C (MS C)			2Q					
Low-Rate Initial Production I - LRIP I			3Q					
Operational Testing (OT-C)			3Q-4Q	1Q-2Q				
Low Rate Initial Production - LRIP II				2Q				
Low-Rate Initial Production I - LRIP I Delivery				2Q-4Q				
Low-Rate Initial Production II - LRIP II Delivery					1Q-4Q			
Initial Operational Capability				4Q				
Full Rate Production Lot 1					1Q			
Full Rate Production Lot 2						1Q		
Full Rate Production Deliveries						1Q-4Q		

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3056 ADVANCED PRECISION KILL WEAPON SYSTEM	2.096							
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
Formerly known as the Advanced Precision Kill Weapons System (APKWS), APKWS II 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 II will provide an inexpensive, small, lightweight; precision-kill weapon that is effective against soft and lightly armored targets and which enhances crew survivability with increase standoff range. APKWS II offers precision, maximum stored kills per aircraft sortie, minimum collateral damage potential, and increased effectiveness over legacy unguided rockets. The guidance package can be assembled with existing unguided rockets components (warhead and rockets motor) and can be fired from existing rocket launchers. The Navy's effort on the Smart Rocket Launcher has been delayed pending further funding.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.096			
RDT&E Articles Qty				

APKWS II-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.

The Army did not include APKWS in POM08 submission, therefore the APKWS program is being curtailed. Efforts will be made to close out the contract through FY07.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2006	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

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**5.027**	**5.977**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	**0205601N, HARM IMPROVEMENT**	9999, Congressional Adds

B. Accomplishments/Planned Program

2185C/N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.084			
RDT&E Articles Quantity				

Advanced Anti-Radiation Guided Missile (AARGM)
Fund development of classified AARGM Derivative Program.

9855C	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		4.981		
RDT&E Articles Quantity				

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).

9855N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.943			
RDT&E Articles Quantity				

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).

9A74N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.996		
RDT&E Articles Quantity				

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 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.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						**DATE:**	**February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**				R-1 ITEM NOMENCLATURE **0205604N Tactical Data Links**				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**84.917**	**41.798**	**5.534**	**6.165**	**4.878**	**15.293**	**23.782**	**22.769**
1743 Link-16 Improvements	2.727	0.496						
2126 ATDLS Integration	80.450	41.302	5.534	6.165	4.878	15.293	23.782	22.769
9999 Congressional Increases	1.740							
Quantity of RDT&E Articles	**3**							

(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 extends Link-16 technological improvements to existing and new United States (US) Navy TDL systems, including Link-16 and Link-22. 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. Link-22 will pass Link-16 data elements beyond the line-of-sight using a Time Division Multiple Access (TDMA) protocol and improved waveform with existing high-frequency (HF) and ultra-high-frequency (UHF) radios. This project allows more effective employment of fleet units by increasing timeliness, accuracy, and content of tactical data transfer and eliminate line-of-sight transmission limitations 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.

(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 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 NetworkControl 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 integrated into the JSS host system and also Joint Tactical Information Distribution System (JTIDS), Multifunctional Information Distribution System (MIDS) and Joint Tactical Radio System (JTRS) terminals.

(U) FY06 includes Congressional Increase for the Airborne Tactical Server (ATS). ATS is a digital audio/video recorder with removable mass memory and a CPU. The ATS will function as an adjunct processor within the F/A-18 to demonstrate Level 2 Airborne Network Integration. The ATS will use an existing contract for demonstration only as risk reduction for future Battlespace Networking efforts.

(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.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justifica		**DATE:**	**February 2007**
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 2006	FY 2007	FY 2008	FY 2009
FY07 President's Budget	86.864	41.967	25.611	17.507
FY08 President's Budget	84.917	41.798	5.534	6.165
Total Adjustments	-1.947	-0.169	-20.077	-11.342
Summary of Adjustments				
Small Business Innovation Research (SBIR) Tax	-1.978			
Personnel Security Investigations (DSS)	-0.007			
FY 08 / FY 09 NWCF Rate Adjustments - SPAWAR Systems Centers			0.163	0.091
Program Adjustments	0.038	-0.159	-20.24	-11.433
Federal Fund R &D Center		-0.010		
Subtotal	-1.947	-0.169	-20.077	-11.342

(U) Schedule:

Link 16 (project 1743) - Next Generation Command and Control Processor (NGC2P) milestone C (MS C) properly renamed as Low Rate Initial Production - 2 (LRIP-2) Program Review for interim LRIP decision. TECHEVAL and OPEVAL will occur together in 4th Qtr FY07. FRP for NGC2P has now planned for in 2nd Qtr FY08.

ATDLS (project 2126) - Common Link Integration Processing (CLIP) CDR modified from 2nd Qtr FY 06 to 3rd Qtr FY 06 and, DT shifted 3rd Qtr FY 06 to 4th Qtr FY 06 in order to facilitate incorporation of additional technical requirements to support platform integration and CLIP key performance parameters. Following Increment 1 MS C (2nd Qtr FY08), CLIP development continues as a U.S. Air Force program.

Dynamic Network Management (DNM) Stochastic Unified Multiple Access (SHUMA)/time slot reallocation (TSR) initial operating capabilities (IOC) shifted from 3rd Qtr FY 08 to 1st Qtr FY 09 to align with Joint Tactical Information Distribution System (JTIDS)/Multifunctional Information Distribution System (MIDS) and host platform updates. Platform Integration Testing events have been added to meet the AEGIS Baseline requirements. Multi-netting test events described as Phase I and Phase II. Phase I addresses requirements in the Tactical Data Link (TDL) Capabilities Development Document (CDD). Phase II addresses a fully dynamic multi-netting capability as addressed in the TDL CDD.

JSS milestone C slipped from 4th quarter FY07 to 4th quarter FY08. Full Rate Production (FRP) slipped 2nd quarter FY08 to 4th quarter FY08.

(U) Technical: Not applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						**DATE:**	**February 2007**	
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	2.727	0.496						
RDT&E Articles Qty								

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

(U) Link-16 Improvements extends Link-16 technological improvements to existing and new United States 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 and eliminate line-of-sight transmission limitations 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		**DATE: February 2007**
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) B. Accomplishments/Planned Program

NGC2P CAPABILITY	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.727	0.496		
RDT&E Articles Quantity				

FY 06 Accomplishments: Conducted Operational Assessment (OA) for Next Generation Command and Control Processor (NGC2P) Joint Range Extension (JRE) capability. Achieved Low Rate Initial Production - 3 (LRIP-3) Program Review (PR).
FY 07 Plan: Conduct technical evaluation (TECHEVAL) and operational evaluation (OPEVAL) of NGC2P JRE. Achieve full rate ptoduction (FRP) decision for NGC2P.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		**DATE: February 2007**
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) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN Line 2614 ATDLS	12.200	12.408	3.861	15.369	14.761	0.000	0.000	0.000	5.481	63.880

(U) D. ACQUISITION STRATEGY:

Next Generation Command and Control Processor (NGC2P) software development is utilizing an existing Northrop Grumman Defense Mission Systems, Inc., cost plus contract.

(U) E. MAJOR PERFORMERS:

Northrop Grumman Defense Mission Systems, Inc., Reston, Virginia. Performs 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.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1) **DATE: February 2007**

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 s 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	SPAWARSYSCEN, 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	SPAWARSYSCEN, 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				

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 3)								**DATE:**	**February 2007**			
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 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
NGC2P Test & Evaluation	WX	SPAWARSYSCEN, San Diego, CA	6.131	0.189	11/06						6.320	6.320
NGC2P Test & Evaluation	WX	NCTSI, San Diego, CA	0.724								0.724	0.724
NGC2P Test & Evaluation	WX	OPTEVFOR, Norfolk, VA	0.140	0.144	11/06							
Subtotal T&E			6.995	0.333		0.000		0.000				
Remarks:												
Engineering Support and Travel	Various	Various	5.239	0.163	Various						5.402	5.402
Subtotal Management			5.239	0.163		0.000		0.000				
Remarks:												
Total Cost			65.455	0.496		0.000		0.000				
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — **DATE: February 2007**

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**

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 NGC2P	EGIS BMD MS C LRIP △				LRIP-2 Program Review (PR) △				LRIP-3 Program Review (PR) △				FRP △																			
Engineering Milestones NGC2P																																
Test & Evaluation Milestones NGC2P - JRE	DT △			DT/CSIT/LINK CERT △		OA △			DT △			TECHEVAL / OPEVAL △△																				
Production Milestones NGC2P		AEGIS BMD LRIP △						LRIP-2 △			LRIP-3 △			FRP △																		

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					**DATE: February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N/BA-7**	PROGRAM ELEMENT **0205604N Tactical Data Links**				PROJECT NUMBER AND NAME **1743 Link-16 Improvements**			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
NGC2P AEGIS BMD MS C LRIP	2Q							
NGC2P JRE DT	2Q							
NGC2P AEGIS BMD LRIP Contract Award	3Q							
NGC2P DT/CSIT/LINK CERT	4Q							
NGC2P OA		2Q						
NGC2P LRIP-2 PR		3Q						
NGC2P DT			1Q					
NGC2P LRIP-3 PR			2Q					
NGC2P LRIP-3 PR Contract Award			3Q					
NGC2P JRE TECHEVAL / OPEVAL			4Q					
NGC2P FRP				2Q				
NGC2P FRP Contract Award				2Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					**DATE:** **February 2007**			
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	80.450	41,302	5,534	6,165	4,878	15,293	23,782	22,769
RDT&E Articles Qty	3							

(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 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 (TC) (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 integrated into the JSS host system and also Joint Tactical Information Distribution System (JTIDS), Multifunctional Information Distribution System (MIDS) and Joint Tactical Radio System (JTRS) terminals.

(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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		**DATE: February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N/BA-7	**0205604N Tactical Data Links**	**2126 ATDLS Integration**

(U) B. Accomplishments/Planned Program

MNIS delete

Joint Interface Control Officer Spt Sys (JSS)	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	26.746	15,205	0.500	
RDT&E Articles Quantity	3			

This funding includes the Navy's contribution to the JSS joint development initiative with the Air Force.

FY 06 Accomplishments: Conducted development test 1(DT 1) on JSS software capabilities and functionalities. Conducted Preliminary Design Review (PDR). Continued software development to fully implement the Multi-Tactical Data Link (TDL) architecture (MTA) planning capability and generation of operational task (OPTASK) Link message for on-line/off-line mode, the local JICO database repository (JDR); database management and joint symbology; Joint Range Extension (JRE); interfaces to the Theater Battle Management Core System (TBMCS); interfaces capability to Network Design Facility (NDF) for assessing JTIDS Network Library; Spectrum toolkit for submit/receive frequency request; software for calculation of Time Slot Duty Factor (TSDF) and Link-16 dynamic network management. Procured three Engineering Development Models (EDM) for technical evaluation that were tested at DT1.

FY 07 Plan: Continue software development to include the implementation of remote 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. Conduct early operational assessment (EOA) on JSS software capabilities and functionalities developed and to demonstrate system maturity and readiness. Conduct the security and vulnerability for system approval to operate (ATO). Prepare and update all required documents for MS C decision.

FY 08 Plan: Conduct development test 2 (DT 2) and operational test (OT) on all software and hardware developed. Conduct the Joint Interoperability Certification Testing. Achieve Joint MS C Decision and full rate production (FRP).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		**DATE: February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N/BA-7	**0205604N Tactical Data Links**	**2126 ATDLS Integration**

(U) B. Accomplishments/Planned Program

Common Link Integration Processing (CLIP)	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	38.656	20.146	0.000	0.000
RDT&E Articles Quantity				

This funding line includes the Navy's contribution to the Common Link Integration Processing (CLIP) joint development initiative with the Air Force. The Air Force is funding the CLIP software development contract in FYs 08 and 09.

FY 06 Accomplishments: Conducted CLIP Increment 1 Preliminary Design Review (PDR) and Critical Design Review (CDR). Conducted development testing of Increment 1 software capabilities and functionality.
FY 07 Plan: Conduct CLIP Acceptance Testing (CAT) of Increment 1 software capabilities and functionality including COMOPTEVFOR and Air Force Operational Test and Evaluation Command participation (AFOTEC). Develop plans for platform integration and testing of Increment 1 software on lead air platform. Prepare for U.S. Navy and U.S. Air Force (USAF) CLIP increment 1 Milestone C decision (2QT/FY08). After increment 1 MS C, CLIP development continues as an USAF program.

Dynamic Network Management (DNM)	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	15.048	5.951	5.034	6,165
RDT&E Articles Quantity				

FY 06 Accomplishments: Continued Dynamic Network Management (DNM) development expanding capability to support full Multi-netting Phase I capability allowing for data forwarding between Link-16, Internet Protocol (IP) networks and new Joint Tactical Radio System (JTRS) waveforms. Conducted Multi-netting Phase I CDR. Conducted Multi-netting Phase I capabilities development test. Completed integration of NetworkControl Technologies (NCT) capabilities into JSS. Conducted SHUMA development test. Commenced shipboard and aircraft integration of the DNM capabilities including the expanded Time Slot Reallocation (TSR) Receipt Compliance TSR RC. Conducted TSR RC development test. Conducted TSR RC platform integration testing for C2P/CDLMS. Continued support on DNM integrated logistic support products.
FY07 Plan: Continue development of multi-netting capabilities and migration efforts to Wideband Networking Waveform (WNW) and JTRS waveforms. Commence development of Multi-netting Phase II capability. Continue platform integration and testing of TSR RC (AEGIS Baselines).
FY08: Continue development of Multi-netting Phase II capabilities. Conduct Multi-netting Phase I operational test. Continue migration efforts to WNW and Joint Tactical Radio System (JTRS) waveforms. Conduct TSR RC/SHUMA operational test. Continue platform integration testing for TSR RC (AEGIS Baselines).
FY 09: Conduct Multi-netting Phase II CDR. Conduct Multi-netting Phase II development test with both JSS system and Link-16 terminals. Continue migration efforts to WNW and JTRS waveform. Achieve Stochastic Unified Multiple Access (SHUMA)/TSR RC IOC.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		**DATE: February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N/BA-7	**0205604N Tactical Data Links**	**2126 ATDLS Integration**

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN LI 2614 ATDLS	12.200	12.408	3.861	15.369	14.761	0.000	0.000	0.000	5.481	63.880
RDT&E,AF 0207434F/5050	157.677	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:

The Air Force was designated as the acquisition executive for the Joint Interface Control Officer 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 (EDM) 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. Remaining DNM development efforts will utilize an existing development contract with BAE Systems.

(U) E: MAJOR PERFORMERS:

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.
Space & Naval Warfare Systems Command Systems Center (SPAWARSYSCEN), San Diego, California. Performs as lead laboratory for CLIP, JSS and DNM development, systems engineering, integration and test and evaluation.

(U) F: METRICS:

Earned Value Management is used for metrics reporting and risk management.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1) **DATE: February 2007**

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	12.204	11/06						35	35
JSS Systems Engineering	CPFF	Galaxy Scientific, Arlington, VA	0.769								0.769	0.769
JSS Systems Engineering	WX	SPAWARSYSCEN, San Diego, CA	2.619	0.888	11/06	0.200	11/07				3.707	3.707
JSS Systems Engineering	Various	Various	0.333	0.426	Various	0.098	Various				0.857	0.857
CLIP Dev	WX	SPAWARSYSCEN, San Diego, CA	2.918	1.738	11/06					Continuing	Continuing	Continuing
CLIP Dev	Various	Various	8.090	3.251	Various					Continuing	Continuing	Continuing
CLIP SW Dev	CPAF/IF	Northrop Grumman DMS, Reston, VA	27.794	8.442	11/06					Continuing	Continuing	Continuing
CLIP Lead Platform Integration	CPFF	Lockheed Martin Corp, Moorestown, NJ	0.000	1.879	11/06					Continuing	Continuing	Continuing
TDL Training SW Dev	WX	NAVAIR Training Sys Div, Orlando, FL	1.605							Continuing	Continuing	Continuing
DNM System Engineering & Integration	WX	SPAWARSYSCEN, San Diego, CA	14.474	1.800	11/06	1.413	11/07	2.301	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	0.348	11/06	0.100	11/07	0.102	11/08	Continuing	Continuing	Continuing
DNM Development	CPIF	BAE Systems, Wayne, NJ (DLS)	2.327	0.232	11/06	0.200	11/07				2.759	2.759
DNM Host Platform Integration Sys Eng	CPFF	SeaPort-E/TBD	0.550	0.232	11/06	0.450	11/07	0.100	11/08	Continuing	Continuing	Continuing
DNM Systems Engineering	Various	Various	2.971	0.933	Various	0.450	Various	0.550	Various	Continuing	Continuing	Continuing
Subtotal Product Development			373.464	32.373		2.911		3.053				

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 3) **DATE: February 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E,N/BA-7	**0205604N Tactical Data Links**	**2126 ATDLS Integration**

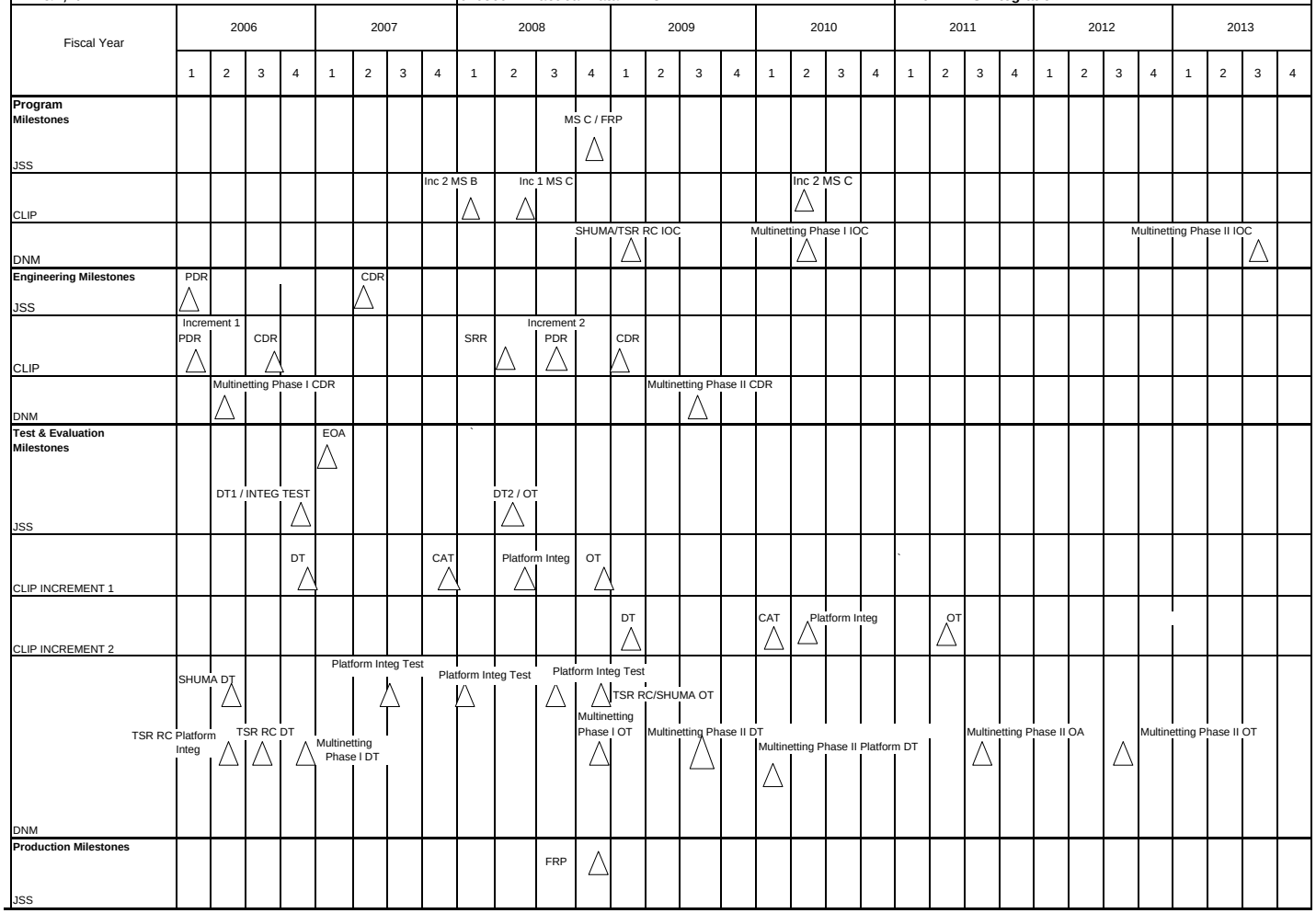
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation	Various	Various	4.025								4.025	4.025
MIDS F/A-18 T&E	WX	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	0.445	11/06						0.998	0.998
JSS T&E	WX	OPTEVFOR, Norfolk, VA	0.442	0.222	11/06	0.150	11/07				0.664	0.664
JSS T&E	WX	NCTSI, San Diego, CA	0.131	0.056	11/06	0.052	11/07				0.239	0.239
JSS Test Articles	CPAF/FFP	Northrop Grumman DMS, Reston, VA	3.536	0.118	11/06						3.654	3.654
JSS Test Articles	WX	SPAWARSYSCEN, San Diego, CA	0.553	0.222	11/06						Continuing	Continuing
CLIP T&E	WX	OPTEVFOR, Norfolk, VA	0.126	0.071	11/06					Continuing	Continuing	Continuing
CLIP T&E	WX	SPAWARSYSCEN, San Diego, CA	3.179	3.765	11/06					Continuing	Continuing	Continuing
Dynamic Network Management T&E	WX	SPAWARSYSCEN, San Diego, CA	7.216	1.682	11/06	0.550	11/07	0.984	11/08	Continuing	Continuing	Continuing
Dynamic Network Management T&E	WX	OPTEVFOR, Norfolk, VA	0.214					0.200	11/08	Continuing	Continuing	Continuing
Dynamic Network Management T&E	WX	Various	1.310	0.226	Various	0.324	Various	0.374	Various	Continuing	Continuing	Continuing
ATDLS T&E Support	CPFF	AMSEC LLC, Virginia Beach, VA	0.539	0.280	11/06	0.286	11/07	0.292	11/08	Continuing	Continuing	Continuing
Subtotal T&E			54.330	7.087		1.362		1.850				
Remarks:												
Engineering Support and Travel	Various	Various	14.876	1.842	Various	1.261	Various	1.262	Various	Continuing	Continuing	Continuing
Subtotal Management			14.876	1.842		1.261		1.262				
Remarks:												
Total Cost			442.670	41.302		5.534		6.165				

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — **DATE: February 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N/BA-7	**0205604N Tactical Data Links**	**2126 ATDLS Integration**



The Joint Interface Control Officer (JICO) Support System (JSS) is a multi-service development effort and is currently funded by the Navy's Tactical Data Links Program Office (PE 0205604N/2126) and the Air Force's Electronic Systems Center Tactical Data Links System Program Office (TDL SPO) (PE 0207434F/5050). The JSS Program schedule is shown above.

The CLIP Program is a joint initiative and is funded byU.S. Navy and U.S. Air Force programs. The development of the CLIP software is funded by the Navy's Tactical Data Links Program Office (PE 0205604N/2126) and the Air Force Tactical Data Links (TDL) Gateways and Network Management (TGN) System Program Office (PE 0207434F/5050). The integration of CLIP software is funded by platforms. The CLIP Program schedule is shown above. U.S. Navy is not participating in Increment 2 of CLIP.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					**DATE: February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N/BA-7**	PROGRAM ELEMENT **0205604N Tactical Data Links**				PROJECT NUMBER AND NAME **2126 ATDLS Integration**			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
JSS PDR	1Q							
CLIP Increment 1 PDR	1Q							
DNM Multinetting Phase I CDR	2Q							
DNM SHUMA DT	2Q							
DNM TSR RC Platform Integration	2Q							
CLIP Increment 1 CDR	3Q							
DNM TSR RC DT	3Q							
JSS DT 1 / Integration Testing	4Q							
CLIP Increment 1 DT	4Q							
DNM Multinetting Phase 1 DT	4Q							
JSS EOA		1Q						
JSS CDR		2Q						
DNM Platform Integration		3Q						
CLIP Increment 1 CAT		4Q						

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					**DATE: February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N/BA-7**	PROGRAM ELEMENT **0205604N Tactical Data Links**				PROJECT NUMBER AND NAME **2126 ATDLS Integration**			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
CLIP Increment 2 MS B			1Q					
DNM Platform Integration Test			1Q					
JSS DT2 / OT			2Q					
CLIP Increment 2 SRR			2Q					
CLIP Increment 1 MS C			2Q					
CLIP Increment 1 Platform Integ			2Q					
CLIP Increment 2 PDR			3Q					
DNM Platform Integration			3Q					
CLIP Increment 1 OT			4Q					
DNM TSR RC/SHUMA OT			4Q					
DNM Multinetting Phase I OT			4Q					
JSS MS C / FRP			4Q					
JSS FRP Contract			4Q					
DNM SHUMA/TSR RC IOC				1Q				
CLIP Increment 2 CDR				1Q				
CLIP Increment 2 DT				1Q				
DNN Multinetting Phase II DT				3Q				
DNM Multinetting Phase II CDR				3Q				
DNM Multinetting Phase ll Platform DT					1Q			
CLIP Increment 2 CAT					1Q			
DNM Multinetting Phase I IOC					2Q			
CLIP Increment 2 MS C					2Q			
CLIP Increment 2 Platform Integ					2Q			
CLIP Increment 2 OT						2Q		
DNM Multinetting Phase II OA						3Q		
DNM Multinetting Phase II OT							3Q	
DNM Multinetting Phase II IOC								3Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					**DATE:** **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N/BA-7**	PROGRAM ELEMENT NUMBER AND NAME **0205604N Tactical Data Links**			PROJECT NUMBER AND NAME **9999 Congressional Increases**				
COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost		1.740						
RDT&E Articles Qty								

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

(U) Congressional Increase for the Airborne Tactical Server (ATS). ATS is a digital audio/video recorder with removable mass memory and a central processing unit (CPU). The ATS will function as an adjunct processor within the F/A-18 to demonstrate Level 2 Airborne Network Integration. The ATS will use an existing contract for demonstration only as risk reduction for future Battlespace Networking efforts.

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		**DATE: February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N/BA-7	**0205604N Tactical Data Links**	**9999 Congressional Increases**

(U) B. Accomplishments/Planned Program

9888 Airborne Tactical Server	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.740			
RDT&E Articles Quantity				

(U) Congressional Increase for the Airborne Tactical Server (ATS). ATS is a digital audio/video recorder with removable mass memory and a Central Processing Unit (CPU). The ATS will function as an adjunct processor within the F/A-18 to demonstrate Level 2 Airborne Network Integration. The ATS will use an existing contract for demonstration only as risk reduction for future Battlespace Networking efforts.

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **FEBRUARY 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-07**			UNCLASSIFIED		R-1 ITEM NOMENCLATURE 0205620N Surface ASW Combat System Integration			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**12.387**	**18.546**	**11.200**	**14.421**	**13.584**	**14.053**	**13.482**	**14.679**
0896 / AN/SQQ-89 Modifications	**1.208**	**4.766**	**4.609**	**4.691**	**4.760**	**4.865**	**5.211**	**5.313**
1916 / Surface ASW System Improvements	**11.179**	**12.784**	**6.591**	**9.730**	**8.824**	**9.188**	**8.271**	**9.366**
9999 / Congressional Adds	**0.000**	**0.996**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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 focuses 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 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.

Project 1916 improves 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 will take 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.

Project 1916 includes FY 2006/2007 Congressional Adds for 'Surface Ship ASW Research and Development (R&D) Improvements'. Funding will be used to continue the development of promising technologies for at-sea tests in representative war fighting environments. Project 1916 includes FY 2006 Congressional Add for 'Common Surface and Air Undersea Warfare'. Funding will be used to continue the Air and Surface Ship Peer Review Process integration approach using an OA system to develop and test a single “Best of Breed” Common Airborne Undersea Sensor Software (CAUSS) processing baseline that will be used by all USW sonobuoy communities. Project 1916 also includes FY 2006/2007 Congressional Adds for 'Surface Ship Sonar Integrated Data Fusion Initiative'. Funding will be used to support the development, test, and evaluation of an integrated sonar data fusion and display capability for Surface Ship USW Combat Systems.

Project 9A75 includes FY 2007 Congressional Add 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.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 President's Budget	12.751	9.417	9.849	10.015
FY 2008 President's Budget	12.387	18.546	11.200	14.421
Total Adjustments	-0.364	9.129	1.351	4.406
Undist. General/Cong. Adjustments	-0.121	-0.071		
Realignment			3.000	3.000
SBIR/STTR Transfer	-0.243			
Congressional adds		9.200		
Pricing Adjustments				0.005
Program Adjustments			-1.649	1.401
Subtotal	-0.364	9.129	1.351	4.406

Schedule: Not Applicable

Technical: Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **FEBRUARY 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-07**	PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration				PROJECT NUMBER AND NAME 0896 AN/SQQ-89 Modifications			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**1.208**	**4.766**	**4.609**	**4.691**	**4.760**	**4.865**	**5.211**	**5.313**
RDT&E Articles Qty								

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 (formerly known as Task Force ASW) initiatives) to be quickly and affordably developed and incorporated. 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.

This project will take technologies developed by Program Executive Office for Integrated Warfare Systems, Undersea Systems Program Office (PEO IWS 5), Office of Naval Research (ONR), Defense Advanced Research Planning Agency (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; develop Marine Mammal Detection and Mitigation (MMDM) 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	0896 AN/SQQ-89 Modifications

B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Identification, Development and Integration of ASW Technologies Into adjunct AN/SQQ-89(V) Surface USW Combat Systems	1.208	4.516	4.359	4.441
RDT&E Articles Quantity				

FY06-09: 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 Improved Performance Sonar (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, DDG51, and FFG7 class ships as part of 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 06	FY 07	FY 08	FY 09
At-Sea Testing of Select ASW Technologies	0.000	0.250	0.250	0.250
RDT&E Articles Quantity				

FY07-09: 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.

RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	0896 AN/SQQ-89 Modifications

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	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	37.3	37.6	25.4	74.0	122.9	99.7	108.9	102.9	Continuing	Continuing

Related RDT&EN: PE 0205620N/ Surface ASW System Improvement Project 1916, PE 0603553N/ Surface ASW Project 1704

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

E. MAJOR PERFORMERS:

- Advanced Acoustic Concepts (AAC), NY - Small Business inivative 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), MD - 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:

Exhibit R-3 Cost Analysis (page 1)											DATE: **FEBRUARY 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-07**			PROGRAM ELEMENT 0205620N Surface ASW Combat System Integration			PROJECT NUMBER AND NAME 0896 AN/SQQ-89 Modifications								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
S/W Development/Test/Integration	C/CPFF	AAC, NY	0.000			0.551	01/07	0.450	11/07	0.450	11/08	Continuing	Continuing	
S/W Development/Test/Integration	C/CPFF	AM, MD	0.000	0.253	03/06	3.033	01/07	3.000	11/07	3.000	11/08	Continuing	Continuing	
S/W Development/Test/Integration	C/CPFF	JHU/APL, MD	0.000	0.606	03/06	0.260	01/07	0.289	11/07	0.310	11/08	Continuing	Continuing	
S/W Development/Test/Integration	C/CPFF	UT/ARL, TX	0.000			0.324	01/07	0.300	11/07	0.301	11/08	Continuing	Continuing	
S/W Development/Test/Support	Var.	Var.	0.000	0.349	02/06	0.348	01/07	0.320	10/07	0.380	10/08	Continuing	Continuing	
Subtotal Product Development			0.000	1.208		4.516		4.359		4.441		Continuing	Continuing	
Remarks:														
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **FEBRUARY 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-07**		PROGRAM ELEMENT 0205620N Surface ASW Combat System Integration			PROJECT NUMBER AND NAME 0896 AN/SQQ-89 Modifications									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	WX	NAVSEA/NEWPORT, RI	0.000			0.250	01/07	0.250	10/06	0.250	10/06	Continuing	Continuing	
Subtotal Test & Evaluation			0.000	0.000		0.250		0.250		0.250		Continuing	Continuing	
Remarks:														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		Continuing	Continuing	
Remarks:														
Total Cost			0.000	1.208		4.766		4.609		4.691		Continuing	Continuing	
Remarks:														

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **FEBRUARY 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-07**

PROGRAM ELEMENT NUMBER AND NAME: 0205620N Surface ASW Combat System Integration

PROJECT NUMBER AND NAME: 0896 AN/SQQ-89 Modifications

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/Contract Milestones/Reviews						△ New Contract Award - AN/SQQ-89(V) Prime System Integrator																										
Identification of Promising ASW Technologies for Test on SQQ-89(V) Adjunct Systems		■	■	■	■	■																										
Select Technologies for Test on SQQ-89(V) Adjunct Systems					■																											
Integration of Select Technologies Into Adjunct SQQ-89(V) Systems for At-Sea Test							△				△				△				△				△				△			△	
Complete Integration of Successful Technologies for Installation via S/W Upgrades on Adjuncts and SQQ-89A(V)15										△				△				△				△				△				△	
Test & Evaluation Milestones At-Sea Test and Evaluation of Select Technologies on SQQ-89(V) Adjunct Systems								▭				▭				▭				▭				▭				▭				▭
Production Milestones Production S/W Upgrade Delivery to Adjunct SQQ-89(V) SIPS Backfit Program (OPN BLI 2136)										△				△				△				△				△				△		
Production S/W Upgrade Delivery to SQQ-89A(V)15 Spiral Development Build Program (RDT&E,N PE 0205620N, Project 1916)														△				△				△				△				△		

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **FEBRUARY 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-07**	PROGRAM ELEMENT 0205620N Surface ASW Combat System Integration				PROJECT NUMBER AND NAME 0896 AN/SQQ-89 Modifications			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
New Contract Award - AN/SQQ-89(V) Prime System Integrator		2Q						
Identification of Promising ASW Technologies	2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Select Technologies for Test on Adjunct SQQ-89(V) Systems		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Integration Into Adjunct SQQ-89(V) Systems for At-Sea Test		3Q	3Q	3Q	3Q	3Q	3Q	3Q
At-Sea Test of Select Technologies on Adjunct SQQ-89(V) Systems		4Q	4Q	4Q	4Q	4Q	4Q	4Q
Complete Integration of Successful Technologies for Installation via S/W Upgrades			2Q	2Q	2Q	2Q	2Q	2Q
Production S/W Delivery to Adjunct SQQ-89(V) SIPS OPN Backfit Program			2Q	2Q	2Q	2Q	2Q	2Q
Production S/W Delivery to SQQ-89A(V)15 RDT&E,N Spiral Development Build Program				2Q	2Q	2Q	2Q	2Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **FEBRUARY 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-07**	PROGRAM ELEMENT NUMBER AND NAME 0205620N Surface ASW Combat System Integration				PROJECT NUMBER AND NAME 1916 Surface ASW Systems Improvements			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**11.179**	**12.784**	**6.591**	**9.730**	**8.824**	**9.188**	**8.271**	**9.366**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Surface ASW Systems Improvements Project will support essential performance enhancements to AN/SQQ-89(V) and Surface Ship Sonar Systems. This project will improve AN/SQQ-89(V) MOP by enhancing detection, tracking, classification, active and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth.

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/II/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).

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.

Project 1916 includes a realignment 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.

Project 1916 includes FY 2006/2007 Congressional Adds for 'Surface Ship ASW R&D Improvements'. Funding will be used to continue the development of promising technologies for at-sea tests in representative war fighting environments. Project 1916 also includes an FY 2006 Congressional Add for 'Common Surface and Air Undersea Warfare'. Funding will be used to continue the Air and Surface Ship Peer Review Process integration approach using an OA system to develop and test a single “Best of Breed” CAUSS processing baseline, that will be used by all USW sonobuoy communities. Project 1916 includes FY 2006/2007 Congressional Adds for 'Surface Ship Sonar Integrated Data Fusion Initiative'. Funding will be used to support the development, test, and evaluation of an integrated sonar data fusion and display capability for Surface Ship USW Combat Systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	1916 Surface ASW Systems Improvements

B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Surface Ship ASW R&D Improvements	3.915	6.369	0.000	0.000
RDT&E Articles Quantity				

FY06-07: (Congressional Add) Continue the development of Surface Ship ASW improvements that increase capability in passive/active sonar detection and in own ship torpedo self defense. This is through 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 06	FY 07	FY 08	FY 09
Common Surface and Air Undersea Warfare	2.055	0.000	0.000	0.000
RDT&E Articles Quantity				

FY06: (Congressional Add) Continued the Air and Surface Ship IPS Multi Processor Interconnect (MPI) technology transition process using an OA baseline, developed common technology innovations into the Air and Surface USW communities that provided generational improvements to offboard processing and integrated decision-making, provided technology transition of the common capabilities into the Littoral Combat Ship (LCS), DDX, SIPS, P-3C, SH-60R, Multi-Mission Aircraft (MMA) and warfighting communities, and used this developed technology to demonstrate a common Air USW Mission Module for LCS.

	FY 06	FY 07	FY 08	FY 09
Surface Ship Sonar Integrated Data Fusion Init.	2.078	1.800	0.000	0.000
RDT&E Articles Quantity				

FY06-07: (Congressional Add) Develop 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	1916 Surface ASW Systems Improvements

B. Accomplishments/Planned Program (Cont.)

	FY 06	FY 07	FY 08	FY 09
AN/SQQ-89(V) Test & Evaluation Program	0.201	0.450	0.450	0.450
RDT&E Articles Quantity				

FY06-09: Providing 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 06	FY 07	FY 08	FY 09
Enhancements via SQQ-89A(V)15 Spiral Development Build Process	2.930	4.165	3.141	6.280
RDT&E Articles Quantity				

FY06-09: 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 Cooperative Organic Mine Defense (COMID) Mine Avoidance Upgrades, Mid-Frequency Active Rapid Replay and Multi-Waveform Tracker, Hull Passive Functional Segment, Full Bandwidth Towed Array Passive ASW and Torpedo Detection Automated Detection, Classification and Localization (DCL) Improvements (active/passive), New Sensor Data Fusion Functional Segment to reduce the number of displays required for system operation, Multi-Frequency Acoustic Communications (MF ACOMMS) development, 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 integrated and delivered to the CG47 and DDG51 class AN/SQQ-89A(V)15 backfit production programs. Build 1 segment software update/integration effort completes in FY06. Build 2 segment software update development begins FY06 and integration effort completes in FY08. Build 3 segment software development begins FY07 and integration effort completes in FY10. Build 4 segment software development begins FY09 and integration effort completes in FY12.

FY06-09: Resolve/troubleshoot issues/deficiencies that arise from AN/SQQ-89(V) Test & Evaluation program.

	FY 06	FY 07	FY 08	FY 09
Surf. Ship Enhanced Measurement Pgm. (SSEMP)	0.000	0.000	3.000	3.000
RDT&E Articles Quantity				

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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	1916 Surface ASW Systems Improvements

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	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	37.3	37.6	25.4	74.0	122.9	99.7	108.9	102.9	Continuing	Continuing

Related RDT&EN: PE 0205620N/ AN/SQQ-89 Modifications Project 0896

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.
Award new, competitive contract for AN/SQQ-89(V) prime system integrator in 2Q FY 2007.

E. MAJOR PERFORMERS:

- AAC, NY - SBIR Phase III contract for common acoustic processor, acoustic intercept, and prime contractor for 'Common Surface and Air Undersea Warfare' FY 2006 Congressional Add provided to develop and test a single “Best of Breed” CAUSS processing baseline that will be used by all USW sonobuoy communities.
- AM, MD - 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 2006/2007 Congressional Adds.
- General Dynamics-AIS (GD-AIS, formerly DSR), VA - SBIR Phase III contract for common acoustic processor, prime contractor for 'Surface Ship ASW R&D Improvements' FY 2006/2007 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.
- 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:

Exhibit R-3 Cost Analysis (page 1) | DATE: **FEBRUARY 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-07**

PROGRAM ELEMENT: 0205620N Surface ASW Combat System Integration

PROJECT NUMBER AND NAME: 1916 Surface ASW Systems Improvements

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
S/W Development/Integration/Test	C/CPFF	AAC, NY	12.141	2.614	12/05	0.825	01/07	0.660	11/07	1.650	11/08	Continuing	Continuing	
S/W Development/Integration/Test	C/CPFF	AM, MD	5.782	3.018	02/06	3.050	12/06	0.506	11/07	0.810	11/08	Continuing	Continuing	
S/W Development/Integration/Test	C/CPFF	GD-AIS, VA	16.326	3.196	05/06	6.369						0.000	25.891	
S/W Development/Integration/Test	C/CPFF	JHU/APL, MD	9.841	0.989	03/06	0.400	01/07	2.300	11/07	3.491	11/08	Continuing	Continuing	
S/W Development/Integration/Test	C/CPAF	LOCKHEED MARTIN, NY	63.065	0.015	02/06							0.000	63.080	
S/W Development/Integration/Test	C/CPAF	TBD, TBD (FY07 Award)	0.000			0.300	01/07	0.300	11/07	0.300	11/08	Continuing	Continuing	
S/W TDA Support	WX	NAVSEA/DAHLGREN, VA	9.320	0.205	11/05	0.200	01/07	0.200	10/07	0.200	10/08	Continuing	Continuing	
S/W TDA Support	WX	NAVSEA/NEWPORT, RI	30.013	0.367	11/05	0.400	01/07	1.000	10/07	1.200	10/08	Continuing	Continuing	
S/W Dev./Integration/Test/Support	Var.	Var.	39.463	0.000	11/05	0.207	01/07	0.583	10/07	1.028	10/08	Continuing	Continuing	
Subtotal Product Development			185.951	10.404		11.751		5.549		8.679		Continuing	Continuing	

Remarks:

Engineering & Tech. Svcs (ETS)	Var.	Var.	0.900									0.000	0.900	
Studies, Analyses & Eval. (SAE)	Var.	Var.	1.500									0.000	1.500	
Subtotal Support			2.400	0.000		0.000		0.000		0.000		0.000	2.400	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **FEBRUARY 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-07**

PROGRAM ELEMENT: 0205620N Surface ASW Combat System Integration

PROJECT NUMBER AND NAME: 1916 Surface ASW Systems Improvements

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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 Conduct/Support	WX	COMOPTEVFOR, VA	2.659									0.000	2.659	
DT/OT Test Conduct/Support	WX	NAVSEA/NEWPORT, RI	5.681									0.000	5.681	
IV&V/SAT/TEMP Assess./Update	WX	NAVSEA/NEWPORT, RI	3.812	0.113	11/05	0.275	01/07	0.275	10/07	0.275	10/08	Continuing	Continuing	
DT/OT/Miscellaneous T&E	Var.	Var.	1.109	0.088	11/05	0.175	01/07	0.175	10/07	0.175	10/08	Continuing	Continuing	
Subtotal T&E			13.261	0.201		0.450		0.450		0.450		Continuing	Continuing	
Remarks:														
Program Management Support	CPAF	BAE Systems, MD	7.632	0.424	12/05	0.433	01/07	0.442	11/07	0.451	11/08	Continuing	Continuing	
Program Office Travel	PD	NAVSEA PEO IWS5, DC	1.604	0.150	11/05	0.150	01/07	0.150	10/06	0.150	10/06	Continuing	Continuing	
Subtotal Management			9.236	0.574		0.583		0.592		0.601		Continuing	Continuing	
Remarks:														
Total Cost			210.848	11.179		12.784		6.591		9.730		Continuing	Continuing	
Remarks:														

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — UNCLASSIFIED — DATE: **FEBRUARY 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-07**

PROGRAM ELEMENT NUMBER AND NAME: 0205620N Surface ASW Combat System Integration

PROJECT NUMBER AND NAME: 1916 Surface ASW Systems Improvements

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/Contract Milestones/Reviews	A(V)15 Build 0 IOC (CG73)					New Contract Award - AN/SQQ-89(V) Prime System Integrator																										
AN/SQQ-89A(V)15 Software Segment Development/ Integration /Test - **Build 1**	Integration/Test																															
AN/SQQ-89A(V)15 Software Segment Development/ Integration/Test - **Build 2**	Development				GAT	Integration/Test																										
AN/SQQ-89A(V)15 Software Segment Development/ Integration/Test - **Build 3**						Development							GAT	Integration/Test																		
AN/SQQ-89A(V)15 Software Segment Development/ Integration/Test - **Build 4**														Development							GAT	Integration/Test										
AN/SQQ-89A(V)15 Software Segment Development/ Integration/Test - **Build 5**																						Development							GAT	Integration/Test		
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		Build 1								Build 2								Build 3								Build 4						
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)																								(1)			(2,3,4)					(5,6,7)
DDG FLT I/II (OPN BLI 0900)																											(1,2)					(3,4,5)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail	UNCLASSIFIED					DATE: **FEBRUARY 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-07**	PROGRAM ELEMENT 0205620N Surface ASW Combat System Integration				PROJECT NUMBER AND NAME 1916 Surface ASW Systems Improvements			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Build 0 Initial Operational Capability (IOC) (CG73)	1Q							
Build 1 S/W Segment Integration/Test	1Q							
Build 1 Production S/W Delivery to System Integrator	2Q							
Build 2 S/W Segment Development	1Q-4Q	1Q						
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			
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
New Contract Award - AN/SQQ-89(V) Prime System Integrator		2Q						
Surface Ship Enhanced Measurement Program (SSEMP)			1Q-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 (Ship 2,3,4)							4Q	
CG47 Class B/L 3/4 Backfit Install (Ship 5,6,7)								4Q
DDG51 Class FLT I/II Backfit Install (Ship 1,2)							4Q	
DDG51 Class FLT I/II Backfit Install (Ship 3,4,5)								4Q

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	9A75 Advanced Materials for Acoustic Window Applications

CONGRESSIONAL PLUS-UPS:

	FY 06	FY 07	FY 08	FY 09
9A75 - Adv. Materials for Acoustic Window App.	0.000	0.996	0.000	0.000
RDT&E Articles Quantity				

FY07 Congressional Add: Design and build a full-scale, low-cost, advanced material AN/SQS-53C sonar dome window. 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.

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**					R-1 ITEM NOMENCLATURE MK48 ADCAP/0205632N			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**21.594**	**24.870**	**17.941**	**18.709**	**23.009**	**28.196**	**28.703**	**29.224**
MK48 ADCAP/F0366	**21.594**	**24.870**	**17.941**	**18.709**	**23.009**	**28.196**	**28.703**	**29.224**

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

MK48 ADCAP 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 Catagory (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 MK48 ADCAP, and Future Naval Capability technologies being 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 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 insertion, and APBs to rapidly upgrade the ADCAP to counter evolving threats and maintain robust performance. The CBASS program will develop and field a broadband sonar capable of identifying CMs and discriminating them from the target. CBASS will develop 22 test articles (2 test vehicles and 20 Engineering Development Models (EDMs)). CBASS met Milestone II requirements on 6 March 1998 and received MDA approval to proceed into EMD. CBASS Phase I received FRP decision in June 2006. Initial Operational Capability (IOC) is scheduled for FY06. The Commonwealth of Australia, Royal Australian Navy (RAN) is participating to jointly develop CBASS torpedo and signed an Armaments Cooperative Project (ACP) Agreement Mar 2003. The intent of the CBASS program is to achieve improvements in shallow water torpedo performance.

(U) The MK 48 ADCAP (Advanced Capability) torpedo R&D program focuses on two specific areas near term: Torpedo Advanced Processor Builds (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 being developed by the 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.

(U) The Torpedo Technology Insertion program will provide for evolutionary torpedo improvements and upgrades (including the transition and testing of advanced technologies from the R&D community (6.2/6.3) and contractors). This approach will incorporate developmental testing of the FNC transitioning technologies for ADCAP upgrades in the areas of torpedo sensors, weapon/platform connectivity, warhead lethality, speed and depth. These efforts will continue torpedo development investment at a lower cost and shorter term than traditional torpedo programs.

(U) 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, an electric propulsion system to improve torpedo performance and reduce the cost of maintaining Fleet readiness, and an improved warhead that resists inadvertent detonation and fulfills commitments documented in the Program Executive Office-Submarines Insensitive Munitions Strategic Plan of 15 February 2006.

EXHIBIT R-2, RDT&E Budget Item Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N BA-7	MK-48 ADCAP/0205632N	MK-48 ADCAP/F0366	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY2007 President's Budget	21.724	24.988	25.915	26.425
FY08/09 President's Budget	21.594	24.870	17.941	18.709
Total Adjustments	-0.130	-0.118	-7.974	-7.716
Summary of Adjustments				
Congressional recissions	0.015	0.000	0.000	0.000
Program Reductions	-0.027	-0.118	-7.974	-7.716
SBIR Adjustments	-0.118	0.000	0.000	0.000
Subtotal	-0.130	-0.118	-7.974	-7.716

Schedule:
Torpedo Advanced Processor Builds - Spiral 1 software delivery previously scheduled for FY07 Q1 to be delivered in Q4 instead due to submarine availability for testing. Software deliveries scheduled in both FY08 and FY10 to be delivered two quarters later than planned due to realignment of fleet assets for in-water testing.

Technology Insertions –FY08 through FY10 efforts scaled back to reflect $20M cut resulting in reduced hardware spiral delivery in FY11 and FY13. Aggressive development efforts to resume in FY11 to support FY15 delivery.

Technical:
Technology Insertions - Fiber Optics efforts eliminated due to $20M cut in FY08 through FY10.
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-7**	PROGRAM ELEMENT NUMBER AND NAME MK-48 ADCAP/0205632N				PROJECT NUMBER AND NAME MK-48 ADCAP/F0366			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**21.594**	**24.870**	**17.941**	**18.709**	**23.009**	**28.196**	**28.703**	**29.224**
RDT&E Articles Qty	**1**	**1**	**1**		**1**	**1**		**2**

Notes: Articles reflect: FY06: delivery of CBASS Ph. I; FY07: delivery of APB Spiral 1; FY08: delivery of APB Spiral 2/3; FY10: delivery of APB-1/Spiral 4 (Common); FY11: delivery of Technology Insertion Package #1; FY13: delivery of APB Common and Technology Insertion Package #2.

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

MK48 ADCAP 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 Catagory (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 MK48 ADCAP, and Future Naval Capability technologies being developed by Office of Naval Research (ONR).

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N BA-7	MK-48 ADCAP/0205632N	MK-48 ADCAP/F0366	

B. Accomplishments/Planned Program

TORPEDO APB	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	12.548	14.632	15.386	15.372

FY06 - Torpedo Advanced Processor Build efforts to address fleet identified performance priorities for the Mk48 ADCAP torpedo. DT/OT for APB Spiral 1.
FY07 - Spiral 1 Phase 2 torpedo APB software build planned for release in FY07 which provides full Spiral 1 capability and torpedo effectiveness gain. Efforts to focus on APB Spiral 2/3 development in preparation for software release in FY08. Tasking to include software coding, modeling and simulation and engineering test in water. Steps in the APB process include 1) evaluation, 2) assessment, 3) implementation, and 4) system assessment. Complete operational testing for APB Spiral 1.
FY08 - Delivery APB Spiral 2/3. Continue APB Spiral 4 development.
FY09 - Continue development of APB Spiral 4 in preparation for software release in FY10.

CBASS	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.390	0.000	0.000	0.000

FY06 - CBASS Full Rate Production Decision completed and IOC planned for 4Q FY06.
FY07 - CBASS hardware development completed in FY06.
FY08 - CBASS hardware development completed in FY06.
FY09 - CBASS hardware development completed in FY06.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N BA-7	MK-48 ADCAP/0205632N	MK-48 ADCAP/F0366	

B. Accomplishments/Planned Program (Cont.)

OPERATIONAL TEST SUPPORT	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.500	0.500	1.000	0.500

FY06- Conducted analysis and prepared final report for test and evaluation (OPEVAL) efforts prior to CBASS Torpedo release.
FY07- Provide for accreditation requirements and conduct analysis relating to APB software release planned in FY08.
FY08 - Conduct analysis and prepare final report for test and evaluation efforts prior to APB Spiral 2/3 release.
FY09 - Provide for accreditation requirements and conduct analysis relating to APB Spiral 4 software release planned in FY10.

TECHNOLOGY INSERTIONS	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	6.156	9.738	1.555	2.837

FY06- Transitioned torpedo technologies selected under Torpedo Technology Insertion program. Analyzed available technology solutions against desired performance objectives, and continued integration of first technology insertion package. Conducted System Design Review for Technology Insertion Package #1.
FY07- Conduct studies to support development of Heavyweight Torpedo Capability Development Document (CDD) and Capability Production Document (CPD). Technology Insertion Package #1. Begin development of new array and support plan for Insensitive Munitions (IM) warhead documented in Strategic Plan.
FY08 - Continue development of new array and support plan for an IM warhead. Begin development of an electric propulsion system.
FY09 - Continue development of new array, an electric propulsion system, and support plan for an IM warhead.

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-7**	PROGRAM ELEMENT NUMBER AND NAME MK-48 ADCAP/0205632N	PROJECT NUMBER AND NAME MK-48 ADCAP/F0366

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MK48 ADCAP MODS (WPN/PE0204284N/BA-3/P-1 Item 322500)	63.634	64.568	63.754	62.021	63.846	65.344	66.649	67.979

D. ACQUISITION STRATEGY:

Sole Source Production Contract awarded in FY 2004 for MK48 ADCAP MODS, Lightweight MK54 and CBASS kits, including Royal Australian Navy (RAN) units.

LRIP Contract for CBASS units awarded in FY 2004 and to include RAN units.

E. MAJOR PERFORMERS:

NUWC Division Newport, Newport, RI - System Integrator and Software Developer. Continued integration and development testing of CBASS hardware and software components and test equipment.

Raytheon awarded Sole Source Production Contract for MK48 ADCAP MODS, Lightweight MK54 and CBASS kits, including RAN units.

Commander Operational Test and Evaluation Force (COTF) - Test Planning, Independent operational Evaluation.

Exhibit R-3 Cost Analysis (page 1)												DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-7**			PROGRAM ELEMENT MK48 ADCAP/0205632N			PROJECT NAME AND NUMBER MK48 ADCAP/F0366								
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	WR	NUWC NPT	CONT.	5.806	10/05	4.388	10/06	0.778	10/07	1.419	10/08	CONT.	CONT.	N/A
Primary Hardware Development	Various	Various/Progeny	CONT.	0.000	03/06	5.000	12/06	0.777	12/07	1.418	12/08	CONT.	CONT.	N/A
Systems Engineering	WR	NUWC NPT	CONT.	7.367	10/05	6.548	10/06	2.903	10/07	3.119	10/08	CONT.	CONT.	N/A
Subtotal Product Development			CONT.	13.173		15.936		4.458		5.956		CONT.	CONT.	N/A
Remarks: Total Cost and Target Value of Northrop Grumman contract represents contract Latest Revised Estimate based on completed negotiations and CBASS hardware technical requirements. Various - TBD; Primary hardware development activity to be selected after evaluation of technologies from various vendors.														
Development Support Equipment														
Software Development	WR	NUWC NPT	CONT.	2.970	10/05	3.732	10/06	3.453	10/07	3.698	10/08	CONT.	CONT.	N/A
Software Development	Various	Various	CONT.	1.350	03/06	0.727	12/06	1.800	12/07	1.800	12/08	CONT.	CONT.	N/A
Integrated Logistics Support	Various	Various		0.000		0.000		0.100	10/07	0.040	10/08			
Subtotal Support			CONT.	4.320		4.459		5.353		5.538		CONT.	CONT.	N/A
Remarks:														

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2007						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-7**		PROGRAM ELEMENT MK48 ADCAP/0205632N			PROJECT NAME AND NUMBER MK48 ADCAP/F0366									
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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 & Evaluation	WR	NUWC NPT	CONT.	1.410	10/05	1.299	10/06	3.639	10/07	2.849	10/08	CONT.	CONT.	N/A
Operational Test & Evaluation	WR	Operational Test Support	CONT.	0.500	11/05	0.500	11/06	1.000	11/07	0.500	11/08	CONT.	CONT.	N/A
Modeling & Simulation	WR	NUWC NPT	CONT.	0.925	10/05	1.244	10/06	2.190	10/07	2.565	10/08	CONT.	CONT.	N/A
Modeling & Simulation	C,CPFF	ARL / PSU	CONT.	0.650	12/05	0.650	12/06	0.800	12/07	0.800	12/08	CONT.	CONT.	N/A
Subtotal T&E			CONT.	3.485		3.693		7.629		6.714		CONT.	CONT.	
Remarks:														
Program Management Support	Various	Anteon	CONT.	0.451	MISC.	0.451	MISC.	0.451	MISC.	0.451	MISC.	CONT.	CONT.	N/A
Travel			CONT.	0.045		0.045		0.050		0.050		CONT.	CONT.	N/A
Overhead			CONT.	0.120		0.286		0.000		0.000		CONT.	CONT.	N/A
Subtotal Management			CONT.	0.616		0.782		0.501		0.501		CONT.	CONT.	
Remarks:														
Total Cost			CONT.	21.594		24.870		17.941		18.709		CONT.	CONT.	
Remarks:														

EXHIBIT R-4, Schedule Profile		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-7**	PROGRAM ELEMENT NUMBER AND NAME MK-48 ADCAP/0205632N	PROJECT NUMBER AND NAME MK-48 ADCAP/F0366

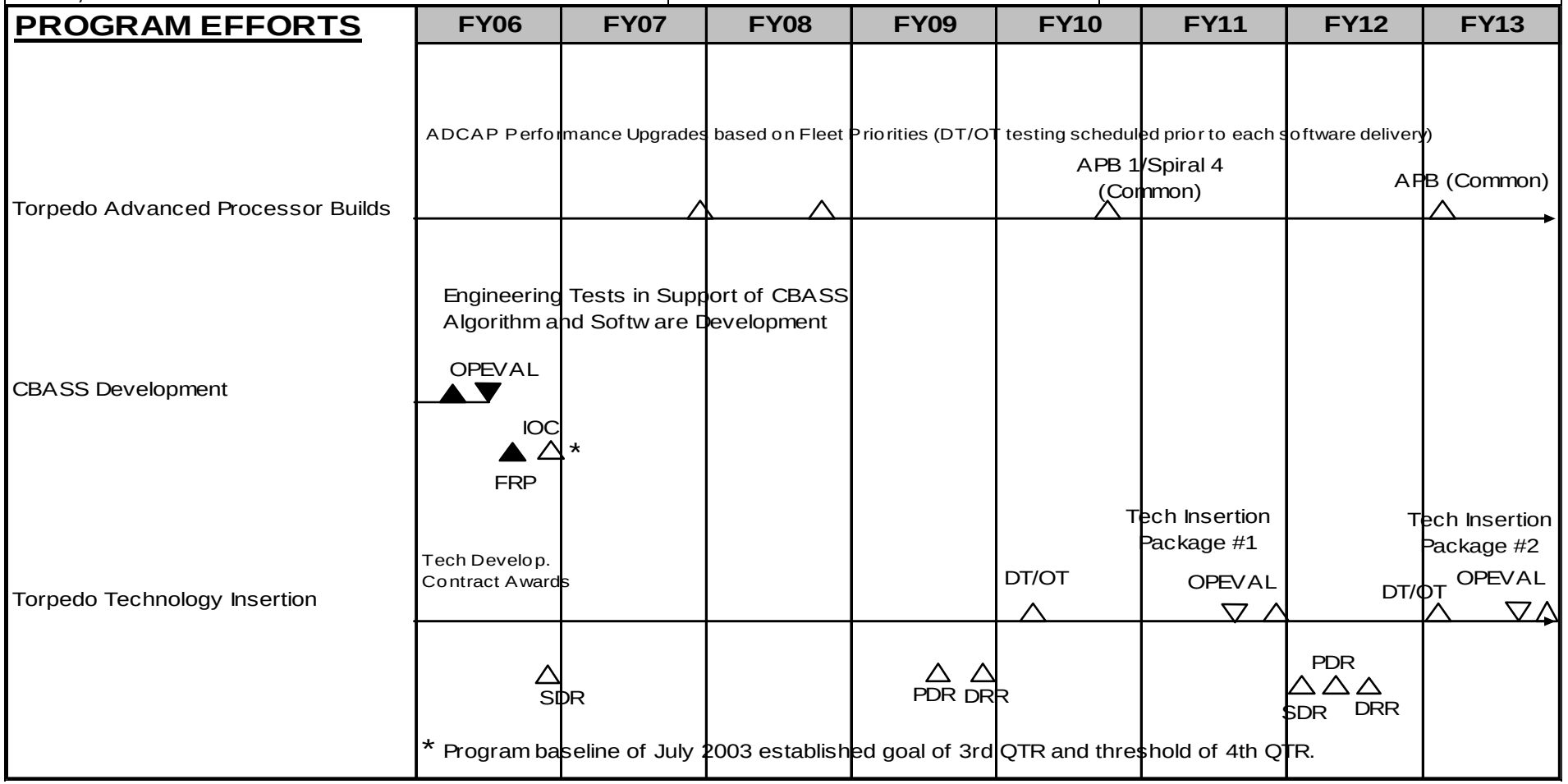


Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-7**	PROGRAM ELEMENT MK48 ADCAP/0205632N				PROJECT NUMBER AND NAME MK48 ADCAP/F0366			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Torpedo Advanced Processor Build								
Software Development	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Software Delivery		4Q	4Q		4Q			1Q
CBASS Development								
Engineering Tests								
Developmental Testing								
Developmental/Operational Testing	1Q							
Operational Evaluation (OPEVAL)	2Q							
Full Rate Production Decision	3Q							
IOC	4Q							
Torpedo Technology Insertion								
Study Phase/System Development	1Q-4Q	1Q-4Q	1Q-4Q			1Q-4Q		
System Design Review (SDR)	4Q						1Q	
Preliminary Design Review (PDR)				3Q			2Q	
Design Readiness Review (DRR)				4Q			3Q	
Developmental/Operational Testing					2Q-4Q			1Q-2Q
Operational Evaluation						3Q-4Q		3Q-4Q
Technology Insertion Package #1						4Q		
Technology Insertion Package #2								4Q

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0205633N, AVIATION IMPROVEMENTS		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	92.494	98.324	100.284	108.840	102.802	74.811	75.404	76.743
0601 A/C HANDLING & SERVICES EQ	1.676	3.039	2.973	3.267	3.344	3.417	3.480	3.544
0852 CONSOLIDATION AUTO SPT SYS	7.655	6.854	6.815	7.016	7.206	7.386	7.524	7.665
1041 ACFT EQ REL/MAINT PROG	2.996	2.986	2.247	2.789	2.821	2.874	2.923	2.973
1355 A/C ENG COMP IMP (CIP)	65.823	58.458	57.616	60.921	60.054	61.134	61.477	62.561
3189 DIGITAL I-TER		10.350	4.371	4.041	3.544			
3190 MULTI-PURPOSE BOMB RACKS			26.262	30.806	25.833			
9999 CONGRESSIONAL ADDS	14.344	16.637						

(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.

*$10.350M received in FY 2007 Title IX for Digital I-TER.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	94.928	71.612	66.503	67.900
Current BES:	92.494	98.324	100.284	108.840
Total Adjustments	-2.434	26.712	33.781	40.940
Summary of Adjustments				
Congressional Reductions	-0.103			
Congressional Rescissions				
Congressional Undistributed Reductions	-2.085	-0.338		
Congressional Increases		27.050		
Economic Assumptions	0.000		0.326	1.543
Miscellaneous Adjustments	-0.246		33.455	39.397
Subtotal	-2.434	26.712	33.781	40.940

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0205633N, AVIATION IMPROVEMENTS

Schedule: Project 0601 -Acquisition, testing and production milestones adjusted for TETI program. The milestones were shifted to the right by approximately two quarters. After the early planning meetings for the TETI program, the original schedule was determined to unrealistic. The schedule change will allow the program to be executed much more effectively, including early obligation and expenditure of the program RDT&E funds. Milestone A was mistakenly included on the FY06/07 President's budget, and has been eliminated. As TETI is a spinoff of two other engine test system programs (JETI and SETI), there is no need to go through a Milestone A.

Due to the anticipated complexity of the 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 1041 schedule changes due to maturation of several programs and several new start efforts.

Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 0601 A/C HANDLING & SERVICES EQ	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0601 COMMON GROUND EQUIPMENT	1.676	3.039	2.973	3.267	3.344	3.417	3.480	3.544
RDT&E Articles Qty	2	2	2	3	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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.060	1.400	1.423	.507
RDT&E Articles Qty	1	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 CVNX initiatives and to back-fit current CVs and amphibious ships. Utilize 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 amplificaton technology. Newly developed high-torque electric actuator/motors will provide the robotics. Variable geometry Ionator 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.616	1.639	1.550	2.402
RDT&E Articles Qty	1	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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 0601 A/C HANDLING & SERVICES EQ

Shipboard Firefighting Vehicle:	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost				.358
RDT&E Articles Qty				1

The Shipboard Firefighting Vehicle 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 acquistion approach is to develop, acquire, validate, deply and support production utilizing the lessons learned from the current firefighting vehicle and new emerging technology. This will enable us to integrate this capability into a new firefighting vehicle, which will be fully capable to support the current and future flight deck fire suppression mission.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN 070500 Ground Support Equipment	191.352	168.204	169.100	160.592	163.486	164.486	153.514	152.636		1,323.370

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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 0601 A/C HANDLING & SERVICES EQ						
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-NGMH	C-CPFF	FOSTER-MILLER, INC, WALTHAM, MA	5.323	1.150	3/31/2007	1.172	3/31/2008	.250	3/31/2009		7.895	7.895
Primary Hdw Development-TETI	C-CPFF	TBD		1.300	3/31/2007	1.200	3/31/2008	2.018	3/31/2009		4.518	4.518
Primary Hdw Development-TETI	VARIOUS	VARIOUS	.566								.566	
Systems Eng-SFV	WX	NAWCAD, LAKEHURST NJ						.358		.691	1.049	
Systems Eng-TETI	WX	NAWCAD, LAKEHURST NJ		.339	3/31/2007	.350	1/31/2008	.384	1/31/2009		1.073	
SUBTOTAL PRODUCT DEVELOPMENT			5.889	2.789		2.722		3.010		.691	15.101	

Remarks:

SUPPORT												
Develop Support Equip-NGMH	WX	VARIOUS	7.343	.250	VARIOUS	.251	VARIOUS	.257	VARIOUS		8.101	
Studies & Analysis-TETI	C-CPFF	UNIVE TECH RES SERV CHERRY HILL, NJ	.050								.050	.050
SUBTOTAL SUPPORT			7.393	.250		.251		.257			8.151	

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												

Remarks:

MANAGEMENT												
SUBTOTAL MANAGEMENT												

Remarks:

Total Cost			13.282	3.039		2.973		3.267		.691	23.252	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7									PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS														PROJECT NUMBER AND NAME 0601 A/C HANDLING & SERVICES EQ											
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 TETI						MS B △									MS C △		FRP DECISION △															
Prototype Phase						Prototype Phase																										
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																		△ FRP Start														
Deliveries																																

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: February 2007

APPROPRIATION/BUDGET ACTIVITY: RDT&E,N / BA-7

PROGRAM ELEMENT NUMBER AND NAME: 0205633N, AVIATION IMPROVEMENTS

PROJECT NUMBER AND NAME: 0601 A/C HANDLING & SERVICES EQ

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 NGMH						MS B △								MS C △					FRP DECISION △														
Prototype Phase	Prototype Phase																															
Radar System Development																																
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones NGMH																																
Development Test	Developmental Testing																															
Operational Test						Operational Testing																										
Production Milestones NGMH													LRIP △																			
FRP FY 10																			FRP START △													
Deliveries NGMH																	LRIP (3) △															

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																												DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7									PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS														PROJECT NUMBER AND NAME 0601 A/C HANDLING & SERVICES EQ											
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 SFV													MS B △															MS C △				
Prototype Phase													Prototype Phase																			
Test & Evaluation Milestones SFV Development Test																		Developmental Testing														
Operational Test																						Operational Testing										
Production Milestones SFV (P-25 REP)																													LRIP △			
FRP																															FRP START △	
Deliveries SPV																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 0601 A/C HANDLING & SERVICES EQ			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Schedule Profile - TETI								
Prototype Phase		2Q-4Q	1Q-4Q	1Q-3Q				
Milestone B		2Q						
Developmental Testing		3Q-4Q	1Q-3Q					
Milestone C (MS C)				3Q				
Operational Testing			3Q-4Q	1Q-3Q				
Full Rate Production Decision					1Q			
Full Rate Production Start					2Q			
Schedule Profile - NGMH								
Prototype Phase	1Q-4Q	1Q						
Milestone B		2Q						
Developmental Testing	1Q-4Q	1Q-3Q						
Milestone C (MS C)				2Q				
Operational Testing		2Q-4Q	1Q-4Q	1Q				
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: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS			PROJECT NUMBER AND NAME 0852, CONSOLIDATION AUTO SPT SYS				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0852 CONSOLIDATION AUTOM SPT SYS	7.655	6.854	6.815	7.016	7.206	7.386	7.524	7.665
RDT&E Articles Qty	3	3	2	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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.026	.181	.200	.200
RDT&E Articles Qty				
	1	1	1	1

CASS Station Upgrades

Provides technologies for upgrading CASS station test capability 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.175	1.200		
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	5.454	5.473	6.615	6.816
RDT&E Articles Qty	1	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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN 070500 CASS	74.978	79.400	82.248	84.223	86.100	87.890	105.564	111.176		711.579

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 2007			
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	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development CASS EO	C-CPFF	THE BOEING COMPANY, SAINT LOUIS, MO	2.175	1.200	11/4/2006						3.375	3.375
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		1.874	3/31/2007						1.874	1.874
Primary Hdw Development CASS Mod	TBD	TBD		1.378	3/31/2007	5.213	3/31/2008	5.409	3/31/2009	20.729	32.729	
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	TBD		.181	3/31/2007	.200	3/31/2008	.200	3/31/2009	1.200	1.781	1.781
SUBTOTAL PRODUCT DEVELOPMENT			12.258	4.633		5.413		5.609		21.929	49.842	

Remarks:

SUPPORT												
Develop Support Equip CASS Mod	WX	TBD	3.487	1.920	1/31/2007	1.100	1/31/2008	1.100	1/31/2009	6.460	14.067	
Develop Support Equip CASS Mod	WX	VARIOUS	2.556								2.556	
Develop Support Equip CASS Upgrad	WX	VARIOUS	2.449								2.449	
Develop Support Equip CASS Upgrad	VARIOUS	TBD	.822								.822	
SUBTOTAL SUPPORT			9.314	1.920		1.100		1.100		6.460	19.894	

Remarks:

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)	TO	NAVICP, PHILADELPHIA PA		.026	1/31/2007	.026	1/31/2008	.026	1/31/2009	.104	.182	
SUBTOTAL MANAGEMENT			.759	.301		.302		.307		1.204	2.873	

Remarks:

Total Cost			22.330	6.854		6.815		7.016		29.593	72.608	.000

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															
																														DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7									PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS														PROJECT NUMBER AND NAME 0852, CONSOLIDATION AUTOM SPT SYS									
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 ARGCS																																
Contract Award																																
System Development	System Development																															
Testing					Testing																											
eCASS																																
Contract Award									Contract Award △																							
System Development										System Development																						
Testing																		Testing														

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 0852, CONSOLIDATION AUTOM SPT SYS			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Schedule Profile - ARGCS								
Contract Award								
System Development	1Q-4Q	1Q						
Testing		1Q-4Q	1Q-4Q					
Schedule Profile - eCASS								
Contract Award			1Q					
System Development			1Q-4Q	1Q-4Q	1Q-2Q			
Testing					2Q-4Q	1Q-4Q		

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS			PROJECT NUMBER AND NAME 1041, ACFT EQ REL/MAINT PROG				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1041 ACFT EQ REL/MAINT PROG	2.996	2.986	2.247	2.789	2.821	2.874	2.923	2.973
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.620	1.596	.900	1.013
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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 1041, ACFT EQ REL/MAINT PROG

Air Vehicle	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.376	1.390	1.347	1.776
RDT&E Articles Qty				

AIR VEHICLE (B): Qualify new commercially available state-of-the-art fire and thermal barrier materials. 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. Field test and qualify for usage for all Naval Aviation an Office of Naval Research developed long-life CPC that can be effectively employed on a 308-day maintenance cycle. 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.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	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

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 1041, ACFT EQ REL/MAINT PROG							
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 Engineering	WX	NAWCAD, PATUXENT RIVER MD	1.165	1.377	11/1/2006	1.347	11/1/2007	1.776	11/1/2008	Continuing	Continuing	
Systems Engineering	WX	NAWCAD, PATUXENT RIVER MD	.989	1.229	11/1/2006	.640	11/1/2007	.853	11/1/2008	Continuing	Continuing	
Systems Engineering	SSFFP	RAYTHEON TECH SVCS, INDIANAPOLIS,IN	.300	.250	1/1/2007	.250	1/1/2008	.150	1/1/2009		.950	.950
Systems Engineering	SSFFP	EMA ASSOCIATES, INC LEXINGTON PARK MD	.200								.200	.200
SUBTOTAL PRODUCT DEVELOPMENT			2.654	2.856		2.237		2.779		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	SSFFP	VARIOUS	1.859	.120	VARIOUS						1.979	1.979
Program Management Support	WX	NAWCAD, PATUXENT RIVER MD	.295								.295	
Travel	WX	NAWCAD, PATUXENT RIVER MD	.040	.010	11/30/2006	.010	11/30/2007	.010	11/30/2008	.040	.110	
SUBTOTAL MANAGEMENT			2.194	.130		.010		.010		.040	2.384	

Remarks:

Total Cost			17.212	2.986		2.247		2.789		Continuing	Continuing	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: February 2007

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-7	0205633N, AVIATION IMPROVEMENTS	1041, ACFT EQ REL/MAINT PROG

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
Avionics and Wiring:																																
Smart Wire																																
Arc Fault Circuit Breaker																																
AN/ASH-37(V) Structural Data Recording Set (SDRS)																																
Processor Maintainability Program																																
ASW-25 Replacement																																
Investigate High Value Return on Investment																																
Avionics Reliability Enhancement																																
Wiring Diagnositcs and Prognostics																																
Air Vehicle:																																
Thermal Barrier Coating Improvement																																
Improved Firewall Materials																																
Advanced Non-Chrome Primers																																
Advanced Performance Topcoat																																
Imbedded Fire Bottle Condition Sensor																																
EMI Sealants and Coatings																																
Improved Corrosion Preventative Compounds																																
Investigate High Value Return on Investment																																
Corrosion Prevention Control																																
Advanced methods of Structural Repair																																
Subsystem improvement inititiatives																																
Production Milestones																																
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 1041, ACFT EQ REL/MAINT PROG			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Avionics & Wiring								
Smart Wire	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Arc Fault Circuit Breaker	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
AN/ASH-37 (V) Stuctura Data Recording Set	1Q-4Q	1Q-4Q	1Q-4Q					
Processor Maintainability Program	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
ASW-25 Replacement	1Q-4Q	1Q-4Q	1Q-4Q					
Investigate High Value Return on Investment	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Avionics Reliability Enhancements				1Q-4Q	1Q			
Wiring Diagnosis and Prognostics				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Air Vehicle								
Thermal Barrier Coating Improvement	1Q-4Q	1Q-4Q	1Q-4Q					
Improved Firewall Materials	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Advanced Non-Chrome Primers	1Q-4Q	1Q-4Q	1Q-4Q					
Advanced Performance Topcoat	1Q-4Q	1Q-4Q						
Imbedded Fire Bottle Condition Sensor	1Q-4Q	1Q-4Q						
EMI Sealants and Coatings	1Q-4Q	1Q-4Q	1Q-4Q					
Improved Corrosion Preventative Compounds	1Q-4Q	1Q-4Q	1Q-4Q					
Investigate High Value Return on Investment	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Corrosion Prevention and Control				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Advanced methods of Structural repair				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Subsystem Improvements initiatives				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1355 A/C ENG COMP IMP (CIP)	65.823	58.458	57.616	60.921	60.054	61.134	61.477	62.561
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	9.000	8.462	7.762	6.500
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.452	.441	.441	.500
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 2007
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	5.693	6.919	5.999	5.000
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.831	.694	.744	.900
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.308	4.205	3.857	5.000
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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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)

UH1N (T400)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.500	.615	.230	.300
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.

AV-8B (F402)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.988	3.892	3.570	4.500
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	13.871	9.068	8.318	9.200
RDT&E Articles Qty				

H-53/H-46/H-3 (T58/T64)
Bleed valve redesign. Efforts on the 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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)

F-18 C/D/E/F (F414/F404)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	14.924	12.398	14.764	15.894
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.

T-45 (F405)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.003	2.768	2.289	2.100
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.200	.200	.200	.300
RDT&E Articles Qty				

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

F-16 (F100)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.100	.100	.100	.100
RDT&E Articles Qty				

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

Multi-Platform Product Support Teams	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	7.953	8.696	9.342	10.627
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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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)

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	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

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
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	1.580	12/1/2008		6.976	
Systems Eng F402 Engine Program	SS-CPFF	ROLLS ROYCE - UK	38.240	2.527	12/1/2006	2.317	12/1/2007	2.921	12/1/2008		46.005	46.005
Systems Eng T58/T64 Engine Program	SS-CPFF	GE - MASS	50.484	6.350	10/1/2006	5.823	10/1/2007	6.440	10/1/2008		69.096	69.096
Systems Eng T58/T64 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD	9.949	2.718	1/1/2007	2.495	1/1/2008	2.760	1/1/2009		17.923	
Systems Eng J52 Engine Program	SS-CPFF	P & W - FLORIDA	23.628	4.777	10/1/2006	4.031	10/1/2007	3.450	10/1/2008		35.886	35.886
Systems Eng J52 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD	3.056	2.142	12/1/2006	1.968	12/1/2007	1.550	12/1/2008		8.716	
Systems Eng T56 Engine Program	SS-CPFF	ROLLS ROYCE - IN	20.494	3.091	2/1/2007	2.833	2/1/2008	2.372	2/1/2009		28.790	28.790
Systems Eng T56 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD	8.210	5.371	2/1/2007	4.929	2/1/2008	4.127	2/1/2009		22.637	
Systems Eng F405 Engine Program	SS-CPFF	ROLLS ROYCE - UK	17.125	2.768	12/1/2006	2.290	12/1/2007	2.100	12/1/2008		24.283	24.283
Systems Eng F414 /F404 Engine Program	SS-CPFF	GE - MASS	34.796	12.398	12/1/2006	12.552	12/1/2007	13.434	12/1/2008		73.180	73.180
Systems Eng F414 /F404 Engine Program	VARIOUS	VARIOUS				2.212	12/1/2007	2.460	12/1/2008		4.672	
Systems Eng T700 Engine Program	SS-CPFF	GE - MASS	13.096	2.490	1/1/2007	2.283	1/1/2008	2.960	1/1/2009		20.829	20.829
Systems Eng T700 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD	3.458	1.715	1/1/2007	1.574	1/1/2008	2.040	1/1/2009		8.786	
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	.300	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	.300	12/1/2008		4.211	4.211
Systems Eng J85 Engine Program	SS-CPFF	GE -OK	2.657	.694	11/1/2006	.744	11/1/2007	.900	11/1/2008		4.995	4.995
Systems Eng F100 Engine Program	WX	NAWCAD, PATUXENT RIVER MD	.100	.100	10/1/2006	.100	10/1/2007	.100	10/1/2008	Continuing	Continuing	
Systems Eng Props Program	SS-CPFF	HAM SUNSTRAND - CON	8.312	.441	12/1/2006	.441	12/1/2007	.500	12/1/2008		9.694	9.694
Systems Eng Contracts under 1.0M	VARIOUS	VARIOUS	15.892	.109	10/1/2006	.113	10/1/2007	.116	10/1/2008	Continuing	Continuing	
Systems Eng Lab Fld Activity-1.0 or more	WX	NAWCAD, PATUXENT RIVER MD	145.719	7.112	10/1/2006	7.945	10/1/2007	9.218	10/1/2008	Continuing	Continuing	
Systems Eng Other In-House Spt	VARIOUS	VARIOUS	17.984	.316	10/1/2006	.316	10/1/2007	.316	10/1/2008	Continuing	Continuing	
GFE	MILSTRIP	DES/DLA	6.032	.663	10/1/2006	.451	10/1/2007	.451	10/1/2008	Continuing	Continuing	
Award Fees	SS-CPFF		1.305								1.305	1.305
SUBTOTAL PRODUCT DEVELOPMENT			453.757	57.962		57.100		60.395		Continuing	Continuing	

Totals may not add due to rounding.

Exhibit R-3 Cost Analysis (page 1)			DATE: February 2007
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	.310	VARIOIUS	Continuing	Continuing	
SUBTOTAL SUPPORT			6.082	.310		.310		.310		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	

I

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	.110	VARIOUS	Continuing	Continuing	
SUBTOTAL MANAGEMENT			1.594	.133		.153		.163		Continuing	Continuing	

Total Cost			464.447	58.458		57.616		60.921		Continuing	Continuing	

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3189 DIGITAL I-TER		10.350	4.371	4.041	3.544			
RDT&E Articles Qty		6						

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 mulpitle 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. This project plans to leverage an Air Force contract that upgrades their TER-9 system. When this development effort is complete, both the TER-9 and Digital ITER will have the same electronics capability. FY07-10 RDT&E funding will support full development of Digital ITER, including AV-8B integration and Test and Evaluation.

*$10.350M received in FY 2007 Title IX for Digital I-TER.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

DIGITAL ITER KIT DEVELOPMENT	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		4.491	2.494	1.589
RDT&E Articles Qty		6		

Continues Digital ITER kit development and prototype fabrication. Continues aircraft integration and Support Equipment re-design

DIGITAL ITER SOFTWARE DEVELOPMENT	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		5.859	1.000	.600
RDT&E Articles Qty				

Continue Digital ITER Software Development.

DIGITAL ITER TESTING	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			.877	1.852
RDT&E Articles Qty				

Begin Developmental Testing and Operational Test planning.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 3189, DIGITAL I-TER

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY2007	FY 2007	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
072000 War Consumables (APN-7)										
Digital ITER ($M)					7.400					7.400
Quantity					148					

D. ACQUISITION STRATEGY: Digital ITER development plans to leverage an Air Force contract that upgrades their TER-9 system. Integration and software development on the AV-8B will be done through NAWC AD Patuxent River, MD and NAWC WD China Lake, CA. A sole source, firm-fixed price contract is planned in FY10 to procure 148 racks.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2007		
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		.320	Apr 2007	.205	Nov 2007	.250	Oct 2008	.190	.965	
Primary Hdw Development	MP	Wright Patterson AFB OH		2.800	May 2007	1.409	Nov 2007				4.209	
SUBTOTAL PRODUCT DEVELOPMENT				3.120		1.614		.250		.190	5.174	

Remarks: Target Value of contract is latest Program Manager estimate.

SUPPORT												
Develop Support Equip	WX	NAWCAD, LAKEHURST NJ		.326	Apr 2007	.110	Nov 2007	.150	Oct 2008	.380	.966	
Integrated Logistics Sup	WX	NAWCWD, CHINA LAKE CA		.225	Apr 2007	.230	Nov 2007	.635	Oct 2008	.444	1.534	
Software Development	WX	NAWCWD, CHINA LAKE CA		5.859	Apr 2007	1.000	Nov 2007	.600	Oct 2008	.550	8.009	
SUBTOTAL SUPPORT				6.410		1.340		1.385		1.374	10.509	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCWD, CHINA LAKE CA				.877	Nov 2007	1.167	Oct 2008	.100	2.144	
Oper Test & Eval	WX	NAWCWD, CHINA LAKE CA						.685	Dec 2008	1.309	1.994	
SUBTOTAL TEST & EVALUATION						.877		1.852		1.409	4.138	

Remarks: Target Value of contract is latest Program Manager estimate.

MANAGEMENT												
Contractor Eng Sup	TBD	TBD		.195	Apr 2007	.130	Dec 2007	.133	Dec 2008	.137	.595	
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD		.300	Apr 2007	.260	Nov 2007	.267	Oct 2008	.273	1.100	
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD		.125	Apr 2007	.060	Nov 2007	.062	Oct 2008	.062	.309	
Travel		NAVAIR, PAXTUXENT RIVER MD		.200	Apr 2007	.090	Nov 2007	.092	Oct 2008	.099	.481	
SUBTOTAL MANAGEMENT				.820		.540		.554		.571	2.485	

Remarks:

Total Cost				10.350		4.371		4.041		3.544	22.306	

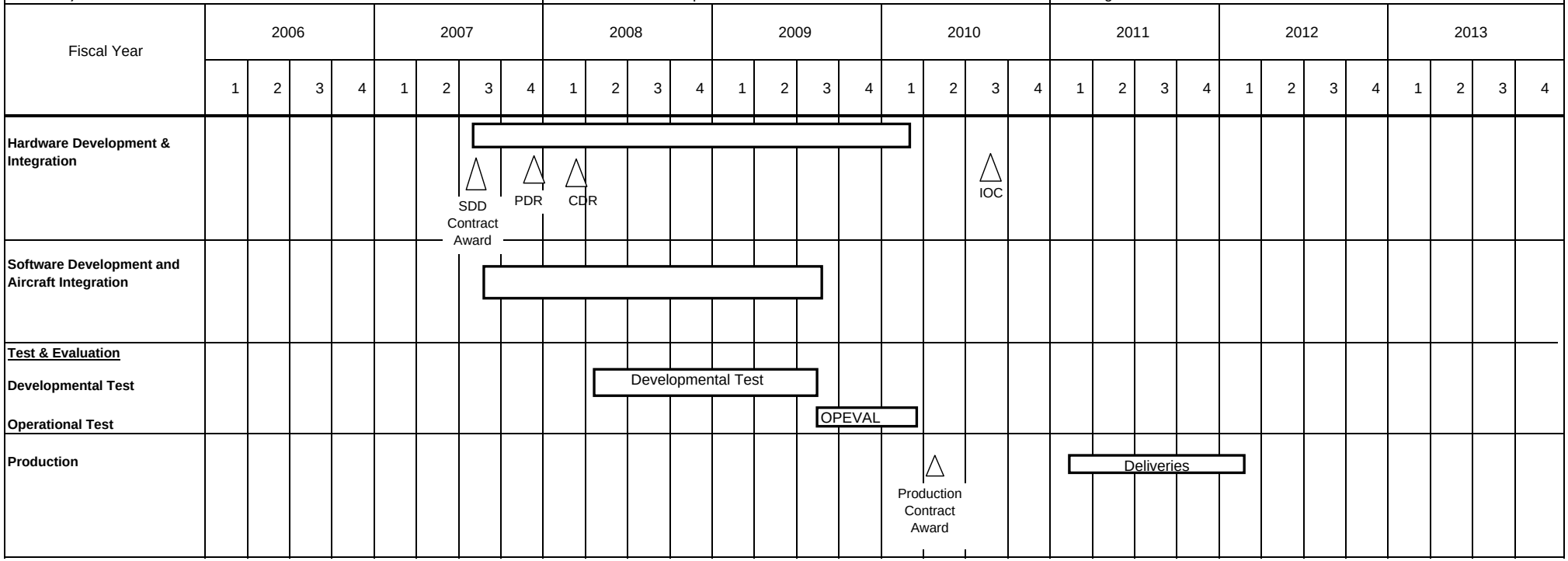
CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT NUMBER AND NAME: 0205633N Aviation Improvements

PROJECT NUMBER AND NAME: 3189 Digital I-TER



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 3189, DIGITAL I-TER			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SDD Contract Award		3Q						
Hardware Development and Integration		3Q-4Q	1Q - 4Q	1Q - 4Q	1Q			
Software Development and Aircraft Integration		3Q-4Q	1Q - 4Q	1Q - 3Q				
Preliminary Design Review (PDR)		4Q						
Developmental Testing			2Q-4Q	1Q - 3Q				
Critical Design Review (CDR)			1Q					
Operational Testing				3Q-4Q	1Q			
Production Contract Award					2Q			
IOC					3Q			
Production Contract Deliveries						1Q-4Q	1Q	

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, AVIATION IMPROVEMENTS	PROJECT NUMBER AND NAME 3190, MULTI-PURPOSE BOMB RACKS	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3190 MULTI-PURPOSE BOMB RACKS			26.262	30.806	25.833			
RDT&E Articles Qty				12	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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			20.980	15.578
RDT&E Articles Qty				12

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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			3.286	7.272
RDT&E Articles Qty				

Begin software development and aircraft integration.

MULTI-PURPOSE BOMB RACK TESTING	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			1.996	7.956
RDT&E Articles Qty				

Provide systems engineering support and begin Developmental Test and Evaluation.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
072000 War Consumables (APN-7)										
Cost Code 73600 Multi-Purpose Bomb Racks (m)					10.800	32.400	34.200	35.100	144.986	257.486
Quantities					100	300	300	300		

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.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2007		
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	Nov 2007	2.060	Nov 2008	.650	3.460	
Primary Hdw Development	C/CPFF	TBD				16.784	Nov 2007	9.833	Nov 2008	1.792	28.409	28.409
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD				2.300	Oct 2007	2.300	Oct 2008	1.700	6.300	
SUBTOTAL PRODUCT DEVELOPMENT						19.834		14.193		4.142	38.169	

Remarks: Target Value of contracts represents latest Program Manager estimates.

SUPPORT												
Develop Support Equip	WX	NAWCAD, LAKEHURST NJ				.100	Oct 2007	.250	Oct 2008	.400	.750	
Software Development	WX	NAWCWD, CHINA LAKE CA				3.286	Oct 2007	7.272	Oct 2008	6.572	17.130	
SUBTOTAL SUPPORT						3.386		7.522		6.972	17.880	

Remarks: Target Value of contracts represents latest Program Manager estimates.

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD				1.996	Oct 2007	7.956	Oct 2008	7.826	17.778	
Oper Test & Eval	WX	OPER T & E FOR CD 30, NORFOLK VA								4.943	4.943	
SUBTOTAL TEST & EVALUATION						1.996		7.956		12.769	22.721	

Remarks:

MANAGEMENT												
Contractor Eng Sup	TBD	TBD				.175	Dec 2007	.200	Dec 2008	.400	.775	
Government Eng Sup	WX	NAVAIR, PATUXENT RIVER MD				.200	Oct 2007	.260	Oct 2008	.400	.860	
Government Eng Sup	WX	NAVSEA, CRANE IN				.400	Oct 2007	.400	Oct 2008	.725	1.525	
Program Mgmt Sup	WX	NAVAIR, PATUXENT RIVER MD				.200	Oct 2007	.200	Oct 2008	.300	.700	
Travel		NAVAIR, PAXTUXENT RIVER MD				.071	Oct 2007	.075	Oct 2008	.125	.271	
SUBTOTAL MANAGEMENT						1.046		1.135		1.950	4.131	

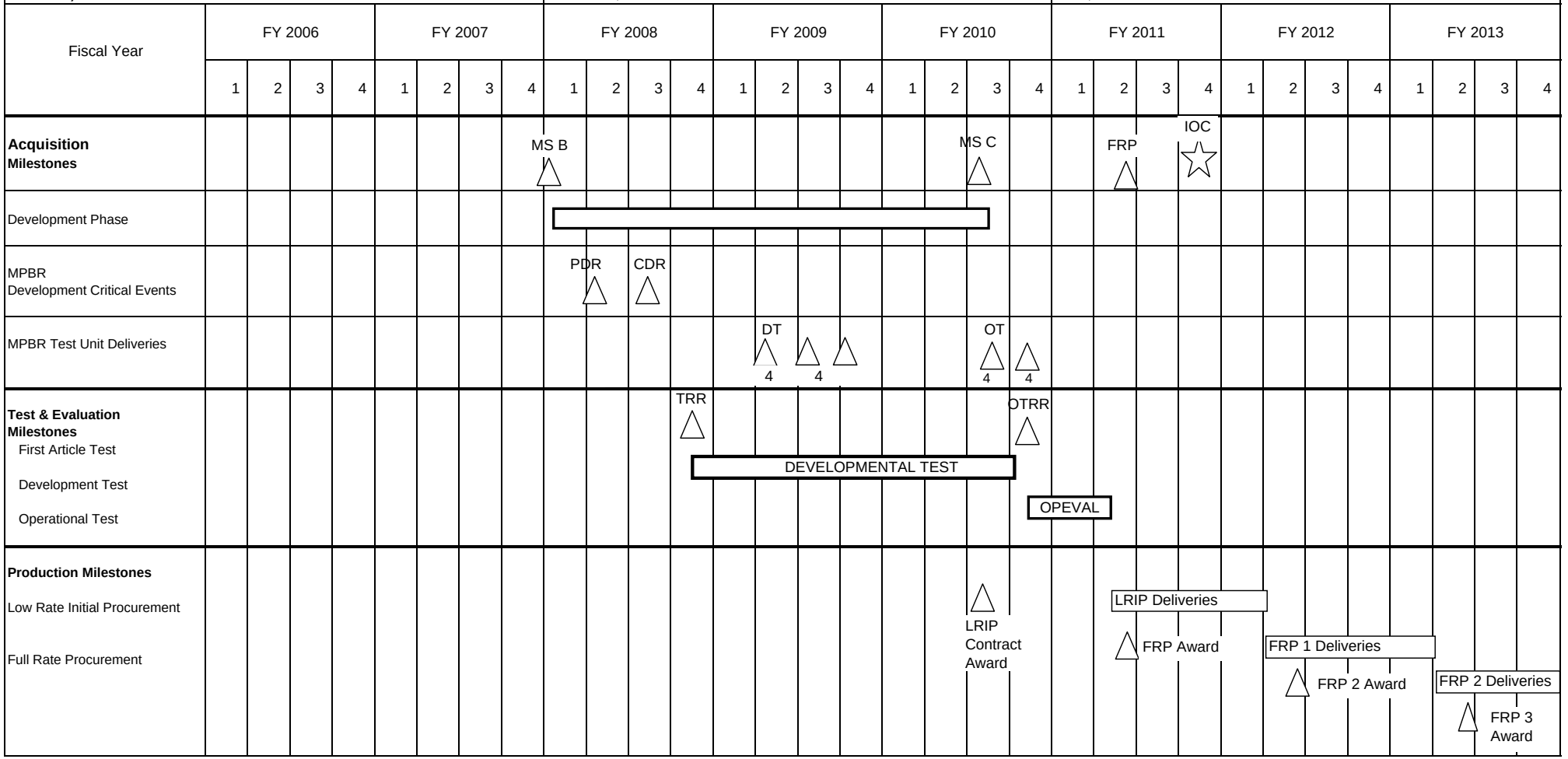
Remarks:

Total Cost						26.262		30.806		25.833	82.901	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2007**

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



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 3190, MULTI-PURPOSE BOMB RACKS			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B			1Q					
Development Phase			1Q - 4Q	1Q - 4Q	1Q - 3Q			
Preliminary Design Review (PDR)			2Q					
Critical Design Review (CDR)			3Q					
Developmental Test Assets Delivered				2Q - 4Q				
Developmental Test Readiness Review (TRR)			4Q					
Developmental Test and Evaluation			4Q	1Q - 4Q	1Q - 4Q			
Milestone C (MS C) / LRIP Decision					3Q			
Operational Test Assets Delivered					3Q - 4Q			
Low-Rate Initial Production Contract Award					3Q			
Operational Test Readiness Review (OTRR)					4Q			
Operational Evaluation (OT-IIC) (OPEVAL)					4Q	1Q - 2Q		
Full Rate Production (FRP) Decision						2Q		
FRP 1 Contract Award						2Q		
Low-Rate Initial Production Deliveries						2Q - 4Q	1Q-2Q	
IOC						4Q		
FRP 1 Deliveries							2Q - 4Q	1Q
FRP 2 Contract Award							2Q	
FRP 2 Deliveries								2Q - 4Q
FRP 3 Contract Award								2Q

EXHIBIT R-2a, RDT&E Project Justification							DATE: **FEBRUARY 2007**	
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**14.344**	**16.637**						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

CONGRESSIONAL ADDS

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	**0205633N, AVIATION IMPROVEMENTS**	**9999, CONGRESSIONAL ADDS**

B. Accomplishments/Planned Program

9426C	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.907			
RDT&E Articles Quantity				

Automated Wire Analysis

Automated Wire Analysis- to incorporate new technology to increase the accuracy while decreasing the time required when performing wiring inspection.

9628C	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.963			
RDT&E Articles Quantity				

Smart Multi-functional Corrosion Inhibiting Coatins

Smart Multi-functional Corrosion Inhibiting Coatings - The Corrosion Inhibiting Coatings initiative is an effort to develop and test a conductive polymer coating for increased corrosion resistance.

9630C	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.723			
RDT&E Articles Quantity				

DMS Aviation Improvements

DMS Aviation Improvements - 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 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	**0205633N, AVIATION IMPROVEMENTS**	**9999,CONGRESSIONAL ADDS**

B. Accomplishments/Planned Program

9750 N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.296			
RDT&E Articles Quantity	1			

F404/F414 Borescope Equipment Service Life Extension Program

Development of Next Generation Technology for the Inspection of Aircraft Engines, Diagnostics and Repair - Program objective is to develop next generation Common Video Borescope Set, to enhance the visual inspection of internal components of Navy/Marine aircraft primary and secondary power plants and airframes, for defects by improving survivablity, reducing inventory, reducing maintenance cost, improving training and reliability, and maximizing commonality of the inspection equipment.

9751 N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.040			
RDT&E Articles Quantity				

NAVAIR Depot Maintenance Operations Unique ID

NAVAIR Depot Maintenance Operations Unique ID - This effort is to evaluate and modify as required Automatic Identification Technology (AIT) for operation and application in the harsh environments of Naval Aviation Organic Depots. This system and business process improvements must be designed and deployed to integrate this required capability into Naval Aviation Depots.

9752 N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.922	2.491		
RDT&E Articles Quantity				

Real-time Weight and Balance System

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.

CLASSIFICATION:			
EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA7	**0205633N, AVIATION IMPROVEMENTS**	**9999, CONGRESSIONAL ADDS**	

B. Accomplishments/Planned Program (Cont.)

9856 N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.493			
RDT&E Articles Quantity				

Advanced Very Lightweight Avionics System

Advanced very lightweight avionics system for airborne platforms - This effort is to study and evaluate advanced cooling technologies for integration into existing avionics systems.

9A76N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.295		
RDT&E Articles Quantity				

Advanced 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 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.992		
RDT&E Articles Quantity				

Age Exploration Model Extension

Age Exploration Model extension program is a continution 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 readines and will provide the Navy with a valuable tool for understanding, predicting, and communicating impacts of decisions and for mitigating rishs associated with these decisions.

CLASSIFICATION:		
EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA7	**0205633N, AVIATION IMPROVEMENTS**	**9999, CONGRESSIONAL ADDS**

B. Accomplishments/Planned Program (Cont.)

9A78N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.996		
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 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.395		
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 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.996		
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 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA7	**0205633N, AVIATION IMPROVEMENTS**	**9999, CONGRESSIONAL ADDS**

B. Accomplishments/Planned Program (Cont.)

9A81N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.445		
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 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.046		
RDT&E Articles Quantity				

Nanocrystalline Diamond Coatings-Complex Curved

This congressional add supports the Nanocrystalline Diamond Coatings Complex Curved Improvement program.

9A83N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.996		
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 studie and analysis support for Aging Aircraft issues.

CLASSIFICATION:		
EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA7	**0205633N, AVIATION IMPROVEMENTS**	**9999, CONGRESSIONAL ADDS**

B. Accomplishments/Planned Program (Cont.)

9A84N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.996		
RDT&E Articles Quantity				

Rotor Blade Protection

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.

9A85N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.046		
RDT&E Articles Quantity				

Sacrificial Film Laminates-Navy Helicopter

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.

9A86N	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.943		
RDT&E Articles Quantity				

Wireless Sensors for Navy Aircraft

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.

FY 2008/2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2007
Exhibit R-2

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N
PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

COST: (Dollars in Thousands)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE	5,609	3,363	3,473	3,608	3,761	3,827	3,857	3,881
0834 LABORATORY FLEET SUPPORT	5,609	3,363	3,473	3,608	3,761	3,827	3,857	3,881

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.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N
PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 President's Budget Submission	3,858	3,376	3,496	3,661
Congressional Adjustments	3	-13	0	0
Execution Adjustments	1,748	0	0	0
Non-Pay Inflation Adjustments	0	0	-28	19
Program Adjustments	0	0	19	26
Program Realignment	0	0	-40	-124
Rate Adjustments	0	0	26	26
FY 2008/FY 2009 President's Budget Submission	5,609	3,363	3,473	3,608

PROGRAM CHANGE SUMMARY EXPLANATION:
Technical: FY 2006 program funded 24 Science Advisors. For FY 2007 and out, the program is funded for 24 Science Advisors. Changes from 2006 include: Joint Interagency Task Force-South assuming full responsibility for one Science Advisor billet; Naval Special Warfare Command eliminated the Science Advisor position; a new billet is being established to work with the Deputy Chief of Naval Operations for Communications Networks (OPNAV N6).

Schedule: Not applicable.

C. OTHER PROGRAM FUNDING SUMMARY:
Not applicable.

D. ACQUISITION STRATEGY:
Not applicable.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N
PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

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.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
PROJECT NUMBER: 0834 PROJECT TITLE: LABORATORY FLEET SUPPORT

COST: (Dollars in Thousands)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
0834 LABORATORY FLEET SUPPORT	5,609	3,363	3,473	3,608	3,761	3,827	3,857	3,881

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.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
PROJECT NUMBER: 0834 PROJECT TITLE: LABORATORY FLEET SUPPORT

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2006	FY 2007	FY 2008	FY 2009
NAVAL SCIENCE ADVISOR PROGRAM	5,609	3,363	3,473	3,608

Changes to reflect FMB Controls

FY 2006 Accomplishments:

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 by pursuing CLASSIFIED joint technological CLASSIFIED Joint Force Maritime Component Commander (JFMCC) vulnerability study supported by the NRE. To date, JFMCC experimentation has involved three Carrier Strike Groups and one Expenditionary Strike Group. Elements of this JFMCC vulnerability study were defined under Naval Warfare and Doctrine Command Tactical Development and Evaluation Project 07-15.

• Science Advisor, Commander Fleet Forces Command (CFFC), increased Fleet inputs into the Future Naval Capabilities (FNCs), Rapid Technology Transition (RTT), and Joint Concept Technology Demonstration (JCTD) S&T programs. Coordinated and led 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. Collected data, surveyed F/F leadership and warfighters to justify the extension of the lease of the Joint High Speed Vessel (JHSV-2) Advanced Concept Technology Demonstrations (ACTD) Operational Management Team establish and execute Military Utility Assessment (MUAs) in order to capture the warfighter value of the ONR funded project. Shaped briefs, refined products, and recommended decisions to the Sea Trial Executive Steering Group (STESG) and Technical Oversight Group (TOG) through the Federal Networking Council and Sea Trial Exercise Plan (EXPLAN) processes.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
PROJECT NUMBER: 0834 PROJECT TITLE: LABORATORY FLEET SUPPORT

• Science Advisor, Joint Forces Command (JFCOM), supported development and exercise of Maritime Headquarters/Maritime Operations Center (MHQ/MOC) concept in the Navy's Trident Warrior Exercise by leveraging United States Joint Forces Command (USJFCOM) Joint Innovation and Experimentation Division's National civilian and foreign military engagement with the Second Fleet, Naval Net Warfare Command and North Atlantic Treaty Organization (NATO). Supported selection and fielding of technologies to improve efficiency and accuracy of the United States Marine Corps (USMC) personnel reporting and tactics through involvement of Program Reservists in an Urban Environment Exercise (TRUEX). Science Advisors facilitated engagements with various OSD, joint, service and foreign commands in order to identify areas of programs to improve Net Centric Warfare capabilities.

• Science Advisor, Commander U. S. Naval Forces Central Command (COMUSNAVCENT), developed and socialized COMUSNAVCENT Technology gaps. Science Advisor's worked with portable detector initiatives across programmatic, laboratory, and field fronts, while performing hands-on utility assessment, operational technology insertion at sea, and initiating RDT&E efforts to improve the detector under the ONR’s Tech Solutions program. Initiated Urgent Need Statements (URNS) for a surveillance aerostat system, portable machine translators, and interdiction Unmanned Surface Vehicle (SUV), and portable chemical, biological, radiological, nuclear, and high yield explosives/Weapons of Mass Destruction (CBRNE/WMD) detector. Worked across the technical and programmatic lines to research and select commercially available technologies for rapid insertion into COMUSNAVCENT operations, including an at-sea tethered aerostat surveillance system and an armed USV for mobilization staff officer (MSO) interdiction.

• Science Advisor, Commander Submarine Forces Atlantic Fleet (COMSUBLANT), provided wide-ranging support to the COMSUBLANT staff on S&T issues. Completed the Submarine Technology Report for Congress. Led the Threat cell of the Unmanned Vehicle Command and Control Study tabletop war game. Evolved an engagement strategy with ONR and other S&T organizations for technology management to include a Future Capability Matrix (FCM) and Future Capability Measures of Performance (MOPs) tools.

• Science Advisor, Commander Naval Surface Forces Pacific Fleet (COMNAVSURFPAC), participated in SPARTAN (an Unmanned Surface Vehicle) Military Utility Assessment testing at Camp Pendleton. Managed the Scientist-to-Sea Program. Coordinated NAVSURFPAC activities with the Surface Ship Technology (SURFTEC) organization.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
PROJECT NUMBER: 0834 PROJECT TITLE: LABORATORY FLEET SUPPORT

• Science Advisor, Commander Third Fleet (COMTHIRDFLT) (C3F), coordinated and conducted an ONR sponsored Antisubmarine Warfare (ASW) Command and Control (C2) Limited Objective Experiment at C3F Maritime Operations Center. Investigated, submitted, and coordinated approval of ONR Tech Solutions project 802.11 device locating and monitoring system. Coordinated, planned, and conducted SPARTAN (an Unmanned Surface Vehicle) Advanced Concept Technology Demonstration program development for C3F. Established C3F as the Operational Manager for the Joint Multi-Mission ElectroOptic System (JMMES) Joint Technology Capability Demonstration (JCTD), a new FY'07 JCTD start. Coordinated C3F Sea Trial/Sea Shield Experimentation.

• Science Advisor, Commander Sixth Fleet (COMSIXTHFLT) (C6F)/Commander Naval Forces Europe (CNE), worked on further developing Maritime Security within the C6F Area of Responsibility (AOR). Worked with the Regional Maritime Awareness Capability (RMAC) Joint Capability Technology Demonstration (JCTD) team to obtain support and resources for the planning, and execution of RMAC. Helped establish the CNE-C6F Knowledge Management Director as RMAC Operational Manager, and assisted in obtaining detailees to serve on the CNE-C6F RMAC team. Worked to establish a broad interministerial base of participation, rather than strictly working in the military-to-military domain, to support engagement activities in the Gulf of Guinea, the Caspian Sea and the Black Sea. Led the RMAC team to São Tomé and Principe (STP) to obtain support of the STP government and civil sectors. Continued further develop of a Maritime Domain Awareness network and tools to support vessel traffic analysis. Served as the United States European Command (EUCOM) Co-Operational Manager for the Comprehensive Maritime Awareness (CMA) JCTD. Participated in the development of the Implementation Directive, Management Plan, and selection of an Operational Test Agent. Led an effort to embed Fast Connectivity for Coalitions and Agents Project (FastC2AP) into the CMA Advanced Concept Technology Demonstrations (ACTD), and defined the role of CMA in CNE-C6F Maritime Security and Safety programs. Provided technical oversight for the successful introduction and evaluation of FastC2AP into CNE-C6F and North Atlantic Treaty Organization (NATO) Component Commander, Maritime (CCMAR) operations. Served as the Predictive Analysis for Naval Deployment Activities (PANDA) link between CNE-C6F and PANDA Program Management to have CNE-C6F included among the sites at which PANDA will be deployed, bringing tremendous analysis capabilities to Maritime Security and Safety efforts. Organized the Maritime Security and Safety Information System (MSSIS) concept. MSSIS is the realization of a "multilateral, unclassified, freely-shared data network", which enables information sharing among enduring and emerging partners, and creates the foundation for control of maritime spaces. Successfully advocated and participated in the development of the Merchant Vessel Inspection Guide (MVIG) concept to Technical Support Working Group (TSWG), ensuring that it was NATO-releasable in support of Operation Active Endeavor (NATO Maritime Interdiction Operations in the Mediterranean). Actively supported CNE-C6F Theater Security Cooperation (TSC) programs in the Gulf of Guinea. These activities included follow-up to the December 2005

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
PROJECT NUMBER: 0834 PROJECT TITLE: LABORATORY FLEET SUPPORT

S&T trip made to Nigeria and Cameroon, Maritime Security Strategy work in Ghana, participation in the Maritime Security in the Gulf of Guinea Ministerial Workshop in Benin, and obtaining support for RMAC in São Tomé and Principe from the heads of the STP government, military, and civilian sectors. Participated in the formulation of CNE and EUCOM strategies for Global War on Terror (GWOT) Phase 0 operations, and in defining the naval role in accordance with the National Strategy for Maritime Security. Participated in the development and certification of the Joint Task Force/Joint Force Maritime Component Commander (JTF/JFMCC) Headquarters. Joint Task Force Lebanon was the JTF final certification event. JTF Lebanon was a real-world event that transpired in August and September of 2006 to plan for, and be prepared to evacuate America embassy personnel from Beirut, to assist in the delivery of humanitarian assistance during the period that Israel enforced a naval blockade, and to plan for and be prepared to evacuate non-combatant personnel from Lebanon. Successfully identified and accredited desktop/LAN search engines for installation on all NIPR and SIPR stations at CNE-C6F. These two accomplishments represent a breakthrough in CNE-C6F Knowledge Management capabilities.

• Science Advisor, Commanding General 1st Marine Expeditionary Force (CG I MEF), established a requirement for and fielded a number of Operations Analysts within the Assessments branch of the MEF (FWD i.e., in Iraq) to help assess every mission/project thread. Developed the Escalation of Force analysis and reporting process with MEF (FWD). This process continues to be held monthly (by Office of the Appellate Defender (OAD) at Marine Corps Combat Development Command (MCCDC) and is presented at each Commander’s Conference. Researched the viability of Mine-Resistant-Armor-Protected (MRAP) vehicles for the USMC in support of their Counter Improvised Explosive Device (IED) efforts. As a result of this research, an Urgent Universal Need Statement (UUNS) and Joint Universal Operational Need Statement (JUONS) were submitted. The Marine Corps Systems Command released a contract for these vehicles.

• Science Advisor, Chief of Naval Operations (CNO) Strategic Studies Group (SSG) 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 direct links with a broad spectrum of 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. Aggressively expanded the professional networks of the SSG, allowing the Group to engage with nationally-recognized experts in the generation of concepts for SSG XXV. Oversaw the planning and nationwide travel of four SSG teams to explore commercial, academic, and defense state of the art technology and processes.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
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• Science Advisor, Joint Interagency Task Force (JIATF)-South, attended various operational evaluation working meetings. Participated in two Global Hawk Counterdrug demonstration flights for Target Boat Testing/Training. Briefed the Air Combat Command on the Contingency Aerostat Surveillance System (CASS). JIATF-South has assumed total responsibility for this position. ONR will continue to coordinate closely with JIATF-South on issues of mutual concern.

• Science Advisor, Commander, U.S. Marine Corps, Atlantic (COMMARFORLANT), supported establishment of a Foreign Language and Culture Program (FLCP). Updated MARFORCOM staff on status of current Voice Response Translator (VRTs), Phraselators, Iraqi Tactical Language Training System (TLTS), and Joint Forces Command (JFCOM) Language Translation initiatives. Collaborated with the II Marine Expeditionary Force (IIMEF) Science Advisor in the demonstration, evaluation, training, and fielding of VRTs and other language tools. Coordinated the delivery of 50 Phraselators and training support in support of II MEF units through JFCOM's Machine Foreign Language Translation program. Began coordination with MARFORPAC's Experimentation Cell (MEC) for training support during Mojave Viper at Twentynine Palms. Participated in the Joint Improvised Explosive Devise Defeat Office (JIEDDO) working group in order to assist in the identification of intelligence sources, potential software packages, social behavior models, and prediction algorithms. Coordinated delivery of Improvised Explosive Device Kwikpoint cards for 24th MEU. Assisted in 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.

• Science Advisor, Commander Naval Air Systems Command (COMNAVAIRSYSCOM), improved Flight Deck Communications System (IFCS). Initiated the design and development of an improved Acoustic Hailing Device for use as an Anti-terrorism/Force Protection (AT/FP) communications, warning/non-lethal deterrent and close-in surveillance device onboard Navy Ships (CANS). Initiated and managed several Tech Solutions programs to include CVN Surveillance System and CVN Underwater Hull Search Vehicle. Identified 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), supported the CEP Near Term Assessment Study with emphasis on technology issues. Worked with the Office of the Secretary of Defense (OSD) Policy sub-groups on technology issues. Initiated the CNO directed Innovation and Technology Transition Subcommittee.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
PROJECT NUMBER: 0834 PROJECT TITLE: LABORATORY FLEET SUPPORT

• Science Advisor, Commanding General 2nd Marine Expeditionary Force (CG II MEF) continued working Improvised Explosive Devise (IED), Force Protection, Intelligence Surveillance Reconnaissance (ISR), Command and Control (C2), and Language Translation issues for MEF.

• Science Advisor, Commander, U.S. Marine Corps, Pacific (COMMARFORPAC), developed a successful proof of concept for the visualization tools and techniques needed for effective battle management and decision making at higher echelons of command, and demonstrated them to the Marine Corps requirements and acquisition commands. Worked on several critical Science and Technology (S&T) issues related to the Department of Defense (DoD) response in the United States Pacific Command (PACOM) to a pandemic outbreak of influenza. Conducted successful demonstration of cooling gloves, which have potential to reduce a Marine’s core body temperature under high heat conditions.

• Science Advisor, Commander Pacific Fleet (COMPACFLT), focused efforts on Anti-submarine Warfare (ASW). Continued as a member of Task Force ASW and interacted heavily with the leadership of the Littoral ASW FNC. Coordinated the development of an ASW technologies assessment in support of Pacific Fleet Science and Technology requirements to support Pacific Area of Responsibility (AOR) wartime contingency plans. Worked on ASW search improvements and a thrust for automated marine mammal localization to mitigate possible interaction.

• Science Advisor, Naval Supply Systems Command (NAVSUP), completed demonstration of Machinery Health Monitoring/Sense and Respond Logistics (S&RL) application on an afloat platform (DDG) that connects condition based maintenance sensors to legacy maintenance and supply systems. Received fleet approval for funding of Modified Atmosphere Packaging System (MAPS) to 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), and Lead Free Solder. Managed NAVSUP’s Small Business Innovation Research (SBIR) projects. Working with ONR on Sea-basing FNC EC for S&RL. Served as member of Virtual SYSCOM (VS) Systems Engineering working group. This working group completed an overhaul of VS Technical Authority policy. Working collaboratively with Navy Automated Identification Technology (AIT) Office to enable and expand use of AIT applications.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
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• Science Advisor, Navy Warfare Development Center (NWDC), worked on the initial technical feasibility of the concept to use standard U.S. Army obscurants for U.S. Navy ship self-defense. Participated in a series of Maritime Headquarters with Marine Operations Center (MHQ w/MOC) events including the Command Third Fleet (C3F) sponsored Joint Force Maritime Component Commander (JFMCC) Tactical Memorandum (TACMEMO) Workshops and the Naval Warfare College (NWC) sponsored Maritime Security Workshop. Leading investigations into new and emerging technologies that could potentially support offshore infrastructure protection.

• Science Advisor, Naval Criminal Investigation Service/OPNAV (NCIS/N34), created the Navy Anti-Terrorism/Force Protection (AT/FP) requirements Technical Advisory Group (NAFTAG). Created a new RDT&E program entitled “Forensic/Biometric Equipment and Technology Demonstration”. Created a new program to evaluate the anti-compromise aspect of Department of Defense (DoD) security/anti-terrorism/force protection technologies/prototypes. Appointed to the Naval Operations Staff (OPNAV) as the Lead for BioMetrics. Participated as the Navy representative in the Joint Service Biometric Quick Turn Capabilities Based Assessment (CBA) to identify urgent warfighting gaps and technical solutions in support of deployed forces.

• Science Advisor, U. S. Pacific Command (USPACOM), participated in counter-Improvised Explosive Device systems installation in Operation Iraqi Freedom (OIF) with the Naval Explosive Ordnance Disposal Technology Division. Coordinated ACTD efforts in the PACOM AOR. Participated in annual staff talks with Singapore. Coordinated Joint Coalition Maritime Awareness (CMA) efforts in the Pacific.

• Science Advisor, Commander Submarine Forces Pacific Fleet (COMSUBPAC), identified and provided engineering recommendations for fleet initiatives to optimize navigational communications capability for submarines operating in a surfaced condition. Worked with ONR’s Tech Solutions Program to conduct an evaluation of how to make a submarine on the surface more visible to shipboard radars, and deliver an improved Submarine Radar Reflector prototype for the purpose of collision avoidance. Researched and provided technical assistance in the area of Ring Laser Gyro Navigation. Subsequent research and technical interaction resulted in the generation of an agreement between COMSUBPAC and the In-Service Engineering Agent (ISEA) to conduct periodic system hard drive analysis. Involved in development of solutions for communications at speed and depth that support war plan requirements. Provided guidance to the Submarine Force concerning the configuration and use of Digital Selective Calling (DSC). Due to the potential of undesired radio emissions, DSC employment became a high priority technical issue to be addressed throughout the Submarine Force.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
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• Science Advisor, Commander Special Warfare Command (COMNAVSPECWAR), coordinated the fielding of an optics detection system to assist the SEALs. Reviewed the Naval Surface Warfare (NSW) Technology Base program to give more direct input from the SPECWAR community. Identified sources and routes of transition funding to take capabilities under development and mature them to a point where they are ready for procurement. This Science Advisor position was eliminated by COMNAVSPECWARCOM.

• Science Advisor, OPNAV N81 (Assessments), 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, Navy vulnerability to an Electromagnetic Pulse (EMP) attack, S&T required to bringing non-lethal ship stopping technologies to the Fleet, and finding game-changing technologies to target long-range S&T investments. Presented gaps in areas of future warfighting capability that need to be improved using technology in order to help force long range S&T planning.

• Science Advisor, Fleet Anti-Submarine Warfare Command (FLTASW), participated in defining the investment plan and associated risks for a $500 million program to develop the next generation Anti-Submarine Warfare sensors. Developed performance objectives for a Naval Mine and Anti-Submarine Warfare (NMAWC)/Third Fleet (C3F) lead Military Utility Assessment (MUA) of the Deployable Autonomous Distributed System (DADS) program. Briefed the technologies, risks, near term development and experimentation plans for ASW Distributed Netted Systems (DNS) to COMTHIRDFLT.

FY 2007 Plans:

Continue FY 06 efforts with 24 Science Advisors.

FY 2008 Plans:

Continue FY 07 efforts with 24 Science Advisors.

FY 2009 Plans:

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
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Continue FY 08 efforts with 24 Science Advisors.

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 Joint Experimentation
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

D. ACQUISITION STRATEGY:
Not applicable.

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2007			
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**245.129**	**233.708**	**280.140**	**248.687**	**195.421**	**190.864**	**173.310**	**155.997**
C2270 Expeditionary Indirect General Support Weapon Systems	**22.031**	**15.030**	**36.144**	**37.653**	**30.399**	**32.038**	**36.037**	**34.921**
C2272 Intelligence C2 Systems	**26.639**	**26.571**	**17.052**	**18.624**	**26.036**	**26.332**	**22.989**	**24.644**
C2273 Air Operations C2 Systems	**80.884**	**47.098**	**43.238**	**27.825**	**22.737**	**11.501**	**8.491**	**6.449**
C2274 Command & Control Wargare Systems	**5.901**	**3.827**	**11.320**	**8.835**	**8.952**	**9.747**	**10.445**	**10.945**
C2275 Joint Tactical Radio Systems	**11.843**	**14.557**	**10.259**	**10.208**	**6.302**	**5.548**	**4.099**	**4.180**
C2276 Communications Switching & Control Systems	**3.497**	**4.477**	**4.783**	**2.574**	**0.811**	**0.826**	**0.326**	**0.335**
C2277 System Engineering & Integration	**10.613**	**8.855**	**6.833**	**6.988**	**7.197**	**7.409**	**8.851**	**9.095**
C2278 Air Defense Weapons Systems	**14.443**	**6.399**	**1.859**	**4.587**	**3.967**	**3.723**	**3.823**	**3.910**
* C2315 Training Devices/Simulators	**8.513**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
C2510 MAGTF CSSE & SE	**15.901**	**35.178**	**36.647**	**38.841**	**29.806**	**29.660**	**34.502**	**16.509**
C3099 Radar Systems	**25.354**	**55.527**	**112.005**	**92.552**	**59.214**	**64.080**	**43.747**	**45.009**
C9999 Congressional Adds	**19.510**	**16.189**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
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

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 establi

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

Note:

* Funds for Project C2315 were realigned to PE 0206623M in FY07.

EXHIBIT R-2, RDT&E Budget Item Justification				DATE: February 2007
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

	FY 2006	FY 2007	FY 2008	FY 2009
(U) FY 2007 President's Budget:	**256.291**	**218.460**	**193.192**	**291.472**
(U) Adjustments from the President's Budget:				
(U) Congressional/OSD Program Reductions	-0.094			
(U) Congressional Rescissions				
(U) Congressional Increases		16.250		
(U) Reprogrammings	-5.571		85.114	-45.019
(U) Reprogramming for Execution	-1.000			
(U) SBIR/STTR Transfer	-4.456			
(U) Minor Affordability Adjustment	-0.041	-1.002	1.834	2.234
(U) FY 2008 NAVCOMPT Budget:	**245.129**	**233.708**	**280.140**	**248.687**

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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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 Command Post Systems**

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost	**22.031**	**15.030**	**36.144**	**37.653**	**30.399**	**32.038**	**36.037**	**34.921**
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 Back-up Computer System (BUCS), and the Battery Maneuver 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 sprial necessary to remain interoperable with other Services and stay abreast of emerging Joint C4I requirements and standards, while also executing an agressive 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 tactical workstations/systems used at the platoon and below level.

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 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 MS C for TLDHS Block II was June 2005 and the Fielding Decision was June 2006.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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 Command Post Systems**

Marine Air Ground Task Force, Command and Control (MAGTF C2) Systems Applications - Marine Air Ground Task Force C2 (MAGTF C2) is a holistic end-to-end MAGTF C2 transformation across all the MAGTF elements - Air Combat Element (ACE), Ground Combat Element (GCE), INTEL, & Combat Service Support Element (CSSE). It enhances lethality and effectiveness across the range of military operations through better decision making and shared understanding. MAGTF C2 enables network-centric operations throughout the MAGTF and empowers the initiative of warfighters at all levels command by harnessing the synergy of commanders interest and enabling technology.

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) The 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) and Control CE (C2CE) software. The Dismounted 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 commanders 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) The 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, in-transit 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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.998**	**1.750**	**2.009**	**1.513**
RDT&E Articles Qty				

TLDHS: Test Development and integration support.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.074**	**0.818**	**0.479**	**0.316**
RDT&E Articles Qty				

AFATDS: Development of BackUp Computer System (BUCS) and Software (SW).

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.081**	**0.084**	**0.086**	**0.088**
RDT&E Articles Qty				

AFATDS: SPAWAR Test and Integration.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.469**	**0.244**	**0.520**	**0.520**
RDT&E Articles Qty				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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 Command Post Systems**	
AFATDS: Program Management, engineering support and hardware development.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.161**	**0.036**	**0.038**	**0.040**
RDT&E Articles Qty				
AFATDS: MCTSSA tested new Software (SW) and Federation of Systems (FEDOS).				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**3.184**	**1.811**	**1.546**	**1.819**
RDT&E Articles Qty				
AFATDS: Development of improved interoperability with USMC and Joint Systems. Enhancement to EMT and C2PC interface.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.604**	**1.858**	**2.871**	**2.725**
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.435**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
AFATDS: Gun Display Unit.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.650**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
C2PC: Software Development.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.162**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
C2PC: Program Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**1.026**	**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 capabilities.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.411**	**0.000**	**0.000**
RDT&E Articles Qty				
C2PC: Engineering Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.961**	**0.000**	**0.000**
RDT&E Articles Qty				
C2PC: Program Management Support.				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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 Command Post Systems**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**2.442**	**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).				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.400**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty reprogrammed				
MAGTF Software Baseline: 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 capabilities.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.411**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
MAGTF Software Baseline: Engineering Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.042**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
MAGTF Software Baseline: Program Management Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.458**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
MAGTF Software Baseline: Development of MSBL Client in MS Windows environment (C2PC) and foot mobile Marines in Windows CE environment, Command and Control Compact Edition (C2CE).				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**2.026**	**3.000**
RDT&E Articles Qty reprogrammed				
MAGTF C2: Build, test, field and support a common software baseline to fulfill C2 requirements across the six Warfighting functions focused initially on the integration, inclusion and incorporation of Fire Support, Maneuver and Intel capabilities.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.500**	**0.600**
RDT&E Articles Qty				
MAGTF C2: Engineering Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**1.000**	**1.200**
RDT&E Articles Qty				
MAGTF C2: Program Management Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.302**	**0.000**
RDT&E Articles Qty				
MAGTF C2: Conduct C2PC Code Quality Analysis.				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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 Command Post Systems**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.007**	**0.007**
RDT&E Articles Qty				
MAGTF C2: NMCI Certification Cost.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**2.490**	**1.765**
RDT&E Articles Qty				
MAGTF C2 Program Management.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**9.263**	**7.229**
RDT&E Articles Qty				
MAGTF C2 Software Development.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**2.592**	**1.836**
RDT&E Articles Qty				
MAGTF C2 Integration, IV&V, Logistics.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.414**	**0.293**
RDT&E Articles Qty				
MAGTF C2 ECP and trouble desk support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.505**	**0.357**
RDT&E Articles Qty				
MAGTF C2 JTCW Operational Testing.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.803**	**0.568**
RDT&E Articles Qty				
MAGTF C2 Licensing and Server Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.808**	**0.572**
RDT&E Articles Qty				
MAGTF C2 PDSS				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**6.646**	**8.873**
RDT&E Articles Qty				
MAGTF C2 Software Refactoring.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.034**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
DACT: DACT FMF test support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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 Command Post Systems**	
Accomplishment/Effort Subtotal Cost	**0.862**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
DACT: Mount Development.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.202**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
DACT: Protocol Implementation.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.020**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
DACT: DACT Technical Support Plan.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.900**	**0.298**	**1.329**
RDT&E Articles Qty				
BFSA: FMF test support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.000**	**0.636**
RDT&E Articles Qty				
BFSA: Increased Capabilities.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.828**	**0.000**	**1.200**
RDT&E Articles Qty				
BFSA: Mount Development.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.650**	**0.150**	**0.159**
RDT&E Articles Qty				
BFSA: SW Integration.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.500**	**0.057**	**0.055**
RDT&E Articles Qty				
BFSA: Training Development.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.155**	**0.170**	**0.174**	**0.225**
RDT&E Articles Qty				
TCO: Program management and engineering support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.204**	**0.164**	**0.167**	**0.214**
RDT&E Articles Qty				
TCO: System testing and integration to develop additional functional capabilities.				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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 Command Post Systems**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.185**	**0.149**	**0.152**	**0.225**
RDT&E Articles Qty				
TCO: Integrate software changes into new system and perform testing.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.240**	**0.228**	**0.241**	**0.289**
RDT&E Articles Qty				
TCO: Testing and validations of advanced concepts and technologies.				
(U) Total $	**22.031**	**15.030**	**36.144**	**37.653**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**18.131**	**15.095**	**17.187**	**19.982**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	4.023		19.636	17.264
(U) SBIR/STTR Transfer	-0.136			
(U) Minor Affordability Adjustments	0.013	-0.065	-0.679	0.407
(U) FY 2008 President's Budget:	**22.031**	**15.030**	**36.144**	**37.653**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.
(U) Schedule:
(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
PMC BLI 463100 DACT	8.248	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.248
PMC BLI 463100 AFATDS	3.898	10.088	2.253	0.862	3.418	3.482	3.549	3.631	Cont	Cont
PMC BLI 463100 BFSA	19.900	69.273	11.360	7.068	5.140	3.140	15.611	20.789	Cont	Cont
PMC BLI 463100 GCCS	3.871	10.504	4.648	4.561	4.909	5.033	5.099	5.191	Cont	Cont
PMC BLI 463100 TCO	0.183	0.413	0.410	0.210	0.220	0.230	0.237	0.243	Cont	Cont
PMC BLI 463100 TLDHS	2.636	13.843	0.920	1.023	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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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 Command Post Systems**

(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.

(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 a CPIF 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 Titan Corporation, Dumfries, 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.

(U) TCO: Contracting is done with various vendors for software test and integration, COTS evaluation and documentation. The PMO conducts quarterly performance reviews.

(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 (HMMWV, AAV, LAV, and Tanks). The acquisition objective 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)

FY06	Stauder Technologies	St Louis MI	T&E
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

FY06 RAYTHEON, Fort Wayne IN. Develop and test software. Oct 06
MCOTEA, Quantico, van. Test software. Award Dec 06.
MCTSSA, Software Testing, Award Oct 06.
SPAWAR, Charleston SC, Software Testing. Award Oct 06.

FY07 RAYTHEON, Fort Wayne IN. Develop and test software. Oct 07
MCOTEA, Quantico, van. 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, van. 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, van. 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 06 SPAWAR, CHARLESTON, S.C. Provide funds to EMA, INC, Charleston, S.C. for Testing and Validation of new workstation concept, integrate software changes into new system, and perform testing.

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), Carlsbad, CA, Training Development
L-3 Com/Titan, Stafford, VA Program Support

Exhibit R-3 Cost Analysis														DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Systems Development**		PROGRAM ELEMENT **0206313M Marine Corps Communications Systems**						PROJECT NUMBER AND NAME **C2270 Command Post Systems**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	4.564	2.088	03/06	1.500	08/06	1.759	08/06	1.263	08/06	Cont	Cont	
AFATDS	WR	SPAWAR, Charleston, SC	0.015	0.082	02/06	0.084	10/06	0.086	10/07	0.088	10/08	Cont	Cont	
AFATDS	WR	MCTSSA QUANTICO VA	0.030	0.045	11/05	0.036	11/06	0.038	11/06	0.040	11/08	Cont	Cont	
AFATDS	MPR	CECOM FT MONMOUTH	2.623	3.791	03/06	4.413	03/07	4.822	03/08	4.793	03/09	Cont	Cont	
AFATDS	RCP	CEOSS CTQ MCSC	0.499	0.461	01/06	0.244	01/07	0.520	01/07	0.520	01/09	Cont	Cont	
AFATDS	RCP	KCI, Stafford VA	0.000	0.046	01/06								0.046	
AFATDS	Repro	MCSC, QUANTICO, VA	0.000	0.040	01/06								0.040	
AFATDS	MP	PMI&E FT. MONMOUTH	0.000	1.435	N/A								1.435	
MAGTF SOFTWARE BASELINE	RCP	NGMS, San Diego	8.583	0.166	05/06								2.042	
MAGTF SOFTWARE BASELINE	WR/RCP	SPAWAR Charleston	2.876	1.4	10/05								8.749	
MAGTF SOFTWARE BASELINE	RCP	MCSC QUANTICO VA	0.000	2.292	04/06								4.276	
C2PC	RCP	MCSC QUANTICO VA	0.000	2.42	04/06								2.292	
C2PC	MP	SPAWAR	0.000	0.23		1.000	10/06						3.420	
C2PC	RCP	NGMS, SAN DIEGO	0.000			1.058	10/06						1.288	
MAGTF C2	RCP	NGMS, San Diego	0.000					18.182	10/07	17.800	10/08	Cont	Cont	
MAGTF C2	WR/RCP	SPAWAR Charleston	0.000					3.737	10/07	3.460	10/08	Cont	Cont	
TCO	WR/RCP	SPAWAR. Charleston, SC	1.328	0.776	11/05	0.703	11/06	0.722	11/07	0.941	11/08	Cont	Cont	
TCO	MP	Robins AFB	0.016	0.008	10/05	0.008	11/06	0.012	11/07	0.012	11/08	Cont	Cont	
BFSA	FFP	SPAWAR. Charleston, SC	0.090	0.000		0.650	01/07	0.150	01/08	0.824	01/09	Cont	Cont	
BFSA	FFP	OSEC, Carlsbad, CA	0.600	0.000		0.500	01/07	0.055	01/08	0.055	01/09	Cont	Cont	
BFSA	UNK	TBD (Mount Development)		0.000		0.828	11/06	0.000	01/08	1.200	01/08	Cont	Cont	
		Northrop Grumman, San Dieg	0.450										0.450	
DACT	RCP	MCSC, QUANTICO, VA	0.000	1.721	05/06								1.721	
DACT	RCP	MCTTSA, Camp Pendleton	0.320	0.043	04/06								0.363	
DACT	RCP	MCSC, QUANTICO, VA	0.000	0.052	02/06								0.052	
DACT	MPR	DISA	0.000	0.050	03/06								0.050	
DACT	MPR	CECOM	0.000	0.252	03/06								0.252	
Subtotal Product Dev			**20.534**	**17.398**		**11.024**		**30.083**		**30.996**		**Cont**	**Cont**	
Remarks:														

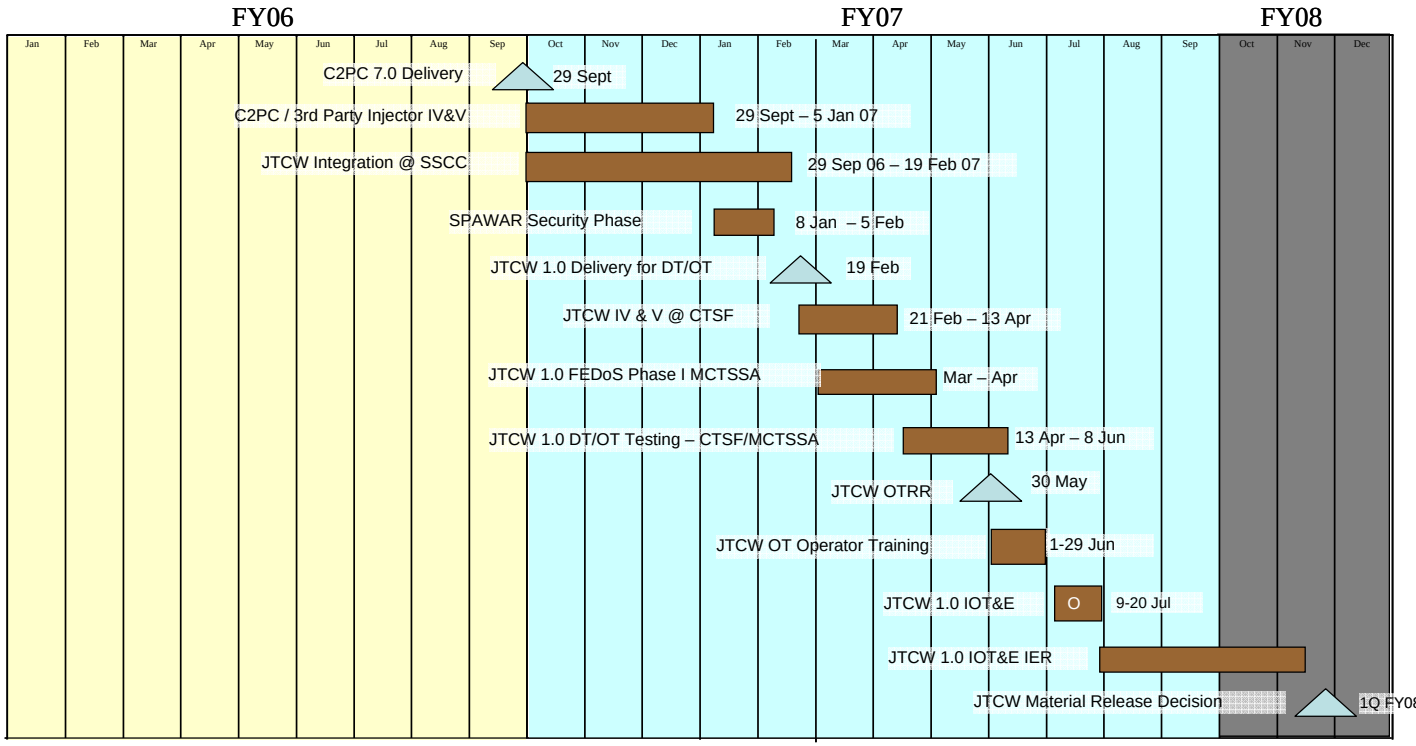
Exhibit R-3 Cost Analysis													DATE: FEBRUARY 2007		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Systems Development**		PROGRAM ELEMENT **0206313M Marine Corps Communications Systems**						PROJECT NUMBER AND NAME **C2270 Command Post Systems**							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.875	0.100	12/05	0.100	12/06	0.100	12/07	0.100	12/08	Cont	Cont	
MAGTF SOFTWARE BASELINE	WR	MCTSSA	0.734	0.411	01/06								1.145	
C2PC	RCP	MCTSSA	0.000	0.012	03/06								0.012	
C2PC	RCP	DISA	0.000	1.150	04/06								1.150	
C2PC	RCP	MCOTEA FY06	0.000			0.350	10/06						0.350	
C2PC	RCP	WEB LOGIC LICENSE FY06	0.000			0.275	10/06						0.275	
C2PC	RCP	CARNIGIE MELLON	0.000			0.150	02/06						0.150	
C2PC	RCP	NMCI CERTIFICATION	0.000			0.007	10/06						0.007	
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					0.538	10/07	0.498	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					.					0.004	
Subtotal Support			**1.609**	**1.673**		**0.882**		**2.338**		**2.172**		Cont	Cont	
Remarks:														

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.000	0.036	12/05								0.036	
TLDHS	WR	MCSC QUANTICO VA	0.000	0.074	02/06								0.074	
TLDHS	Repro	MCOTEA	0.600	0.700	01/06	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	0.000	0.074	12/05	0.074	12/06	0.076	12/07	0.074	12/08	Cont	Cont	
BFSA	WR	FMF, MCB Camp Pendleton/M				0.900	11/06	0.298	01/08	1.300	01/09	Cont	Cont	
DACT		MCOTEA TESTING	0.434	0.034	04/06								0.468	
												Cont	Cont	
												Cont	Cont	
												Cont	Cont	
												Cont	Cont	
Subtotal T&E			**2.007**	**0.918**		**1.124**		**0.524**		**1.524**		**Cont**	**Cont**	
Remarks:														

Exhibit R-3 Cost Analysis														
								DATE:						FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Systems Development**		PROGRAM ELEMENT **0206313M Marine Corps Communications Systems**						PROJECT NUMBER AND NAME **C2270 Command Post Systems**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	6.948	2.042	10/06								8.990	
C2PC	RCP	MCSC QUANTICO CTQ	0.000			2.000	10/06						2.000	
MAGTF C2	RCP	MCSC QUANTICO CTQ	0.000					3.199	10/07	2.961	10/08	Cont	Cont	
Subtotal Management			**6.948**	**2.042**		**2.000**		**3.199**		**2.961**		**Cont**	**Cont**	
Remarks:														
Total Cost			**31.098**	**22.031**		**15.030**		**36.144**		**37.653**		**Cont**	**Cont**	

Exhibit R-4-4a Project Schedule/Detail		DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Systems Development	**0206313M Marine Corps Communications Systems**	**C2270 Command Post Systems**

MSBL/C2PC & MAGTF C2



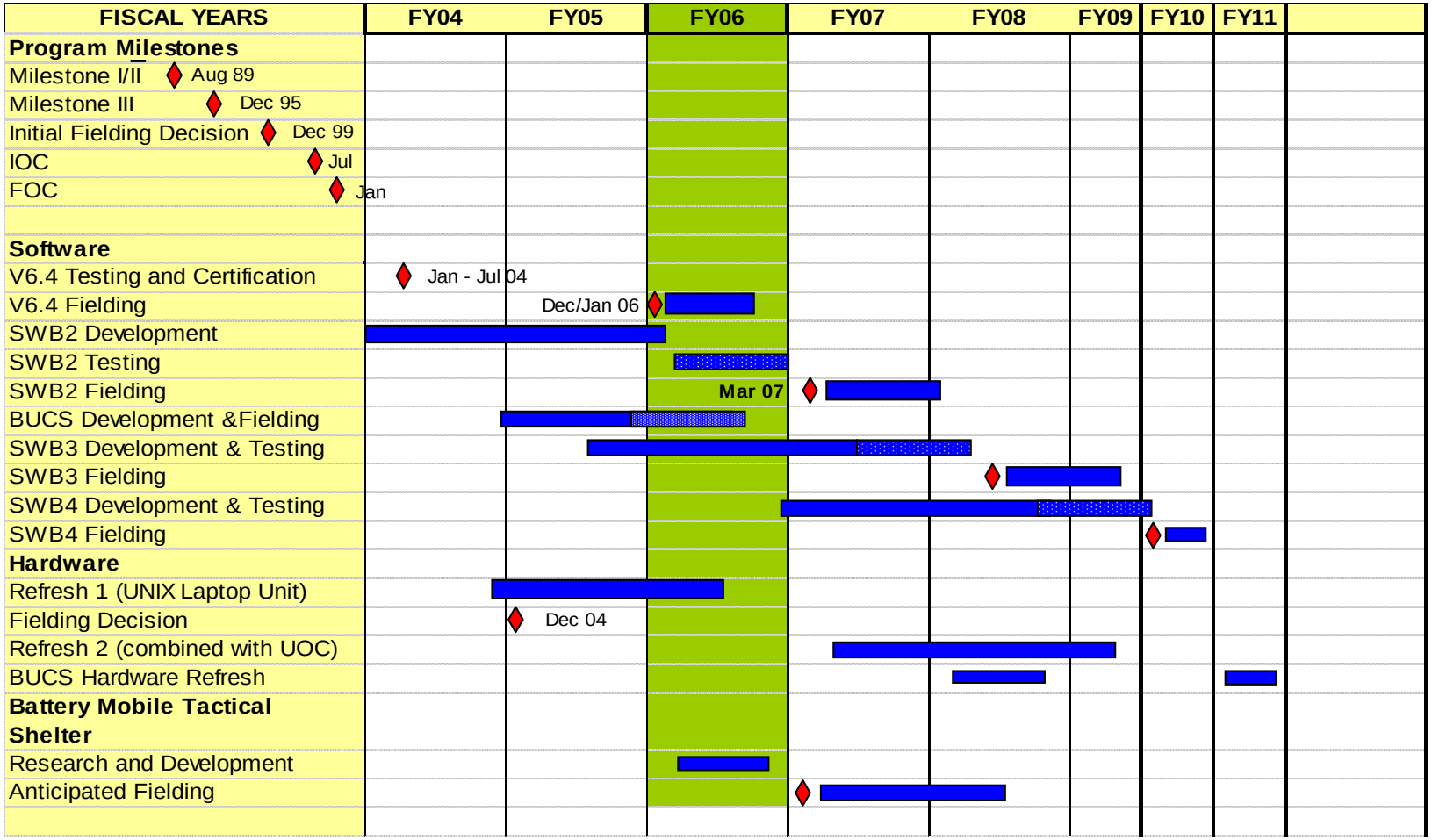
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N C2270 C2PC	3.812	4.840	0.000	0.000	0.000	0.000	0.000	0.301	0.000	8.953
(U) RDT&E,N C2270 MAGTF Software Baseline	6.311	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.311
(U) RDT&E,N C2270 MAGTF C2 Systems Applications	0.000	0.000	28.278	26.300	20.667	22.852	24.993	23.306	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail			DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Systems Development**	PROGRAM ELEMENT **0206313M Marine Corps Communications Systems**	PROJECT NUMBER AND NAME **C2270 Command Post Systems**	

MSBL 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 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2270 Command Post Systems

ADVANCED FIELD ARTILLERY TACTICAL DATA SYSTEMS (AFATDS)



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, C2270, AFATDS	6.008	4.851	5.540	5.508	5.271	5.818	5.939	6.072	Cont	Cont
(U) PMC BLI, 463100, AFATDS	3.898	10.088	2.253	0.862	3.418	3.482	3.549	3.631	Cont	Cont

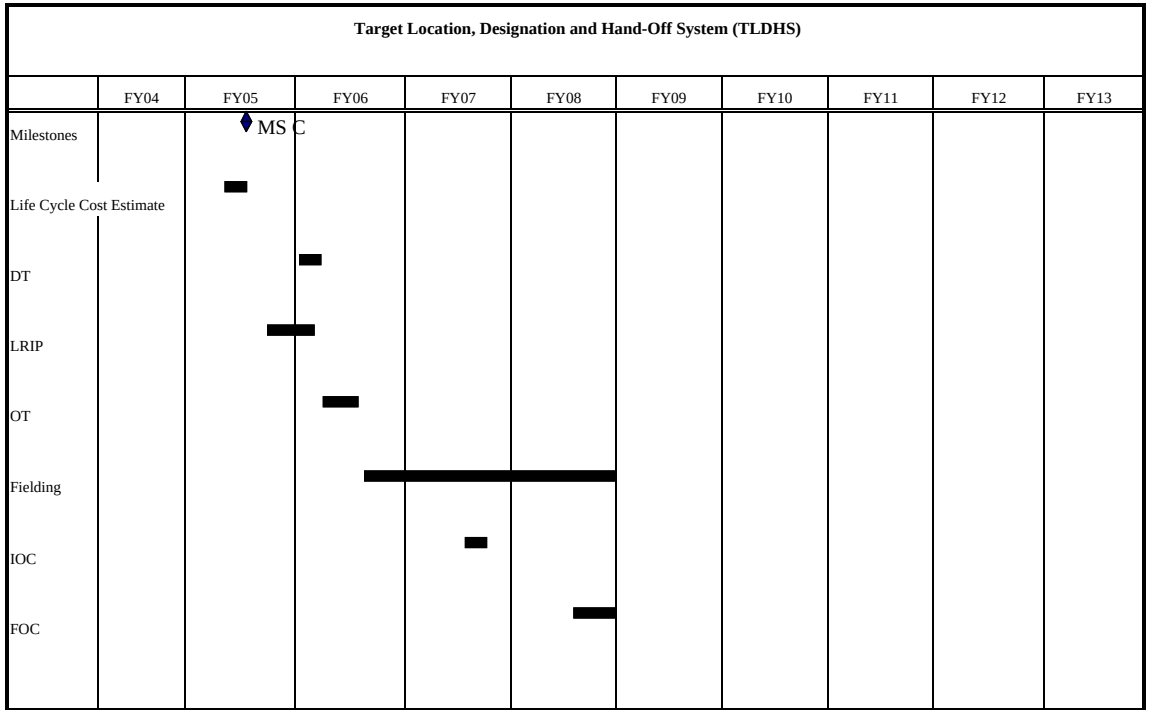
Exhibit R-4-4a Project Schedule/Detail			DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Systems Development	**0206313M Marine Corps Communications Systems**	**C2270 Command Post Systems**	

AFATDS SCHEDULE DETAILS

AFATDS DELIVERY DETAILS	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AFATDS Software Block 2 Delivery		2nd Qtr						
AFATDS Software Block 3 Delivery			3rd Qtr					
AFATDS follow on Software Delivery					1st Qtr	3rd Qtr		1st Qtr
EMT Software Delivery		2nd Qtr	3rd Qtr		1st Qtr	3rd Qtr		1st Qtr
BUCS V2.0 Delivery		1st Qtr						
BUCS follow on Software Delivery			3rd Qtr					
Shelter Fielding		3rd Qtr						

Exhibit R-4-4a Project Schedule/Detail		DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Systems Development	**0206313M Marine Corps Communications Systems**	**C2270 Command Post Systems**

TLDHS SCHEDULE



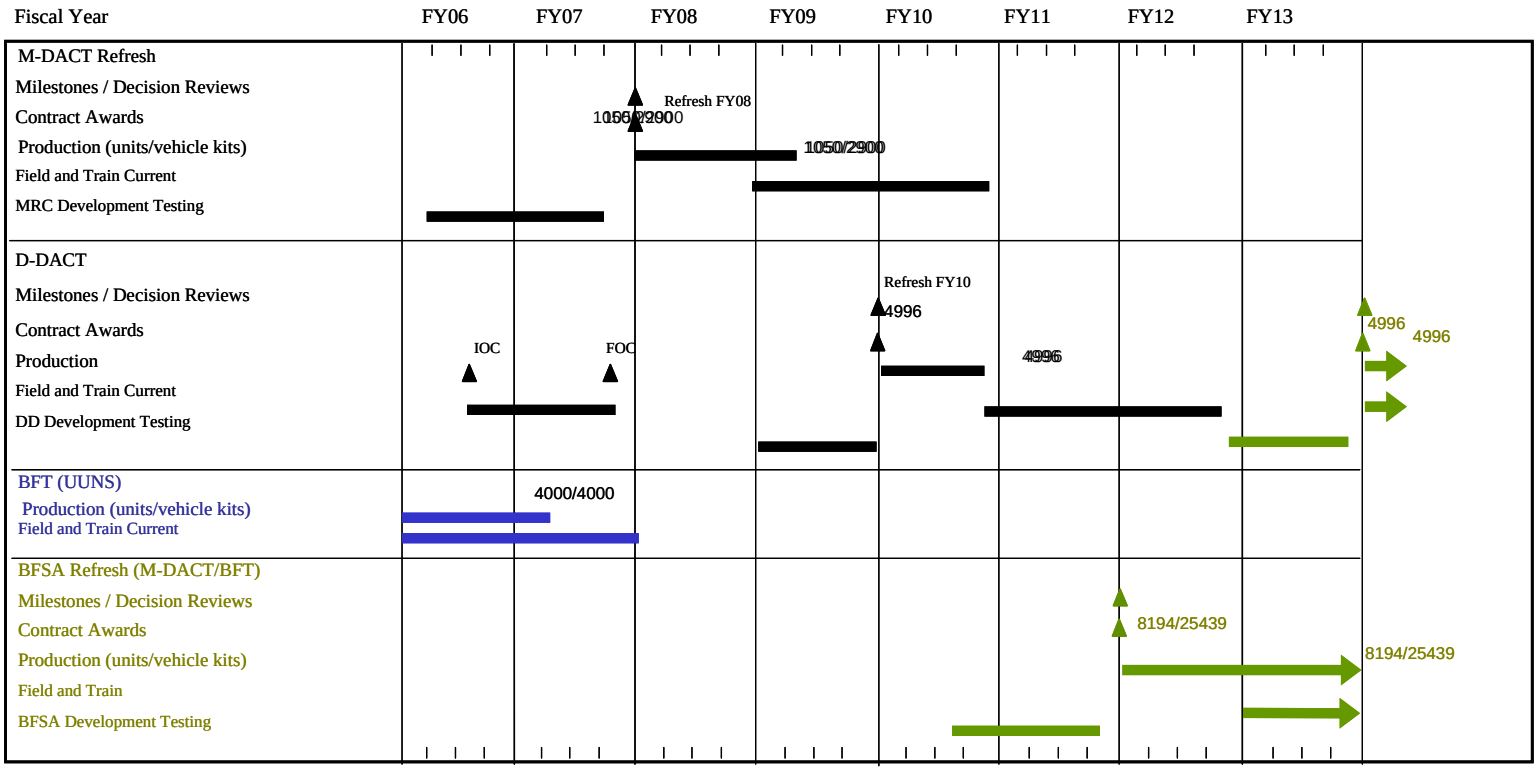
Program Funding Summary (APPN, BLI #, NOMEN)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**To Compl**	**Total Cost**
(U) RDT&E,N C2270 TLDHS	2.998	1.750	2.009	1.513	1.513	1.008	1.031	1.055	Cont	Cont
(U) PMC BLI 4631000 TLDHS	2.636	13.843	0.926	1.033	1.035	2.054	2.084	2.132	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail			DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Systems Development	**0206313M Marine Corps Communications Systems**	**C2270 Command Post Systems**	

TLDHS SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milstone C	3rd Qtr							
Life Cycle Cost Estimate	3rd Qtr							
DT		1st Qtr						
LRIP		1st Qtr						
OT		3rd Qtr						
Fielding		4th Qtr	----------	4th Qtr				
IOC			4th Qtr					
FOC				4th Qtr				

Exhibit R-4-4a Project Schedule/Detail		DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Systems Development	0206313M Marine Corps Communications Systems	C2270 Command Post Systems

DACT SCHEDULE



Program Funding Summary

(APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY 2012	FY 2013	Comp	Total Cost
(U) RDT&E,N, C2270, DACT	2.118	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail		DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Systems Development	**0206313M Marine Corps Communications Systems**	**C2270 Command Post Systems**

DACT SCHEDULE DETAIL

SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009
DACT: Hardware Integration		2nd-4th		
DACT: Software Integration		1st-4th	1st-4th	2nd-4th
DACT: Testing (OT/OA/IOTE)		1st-4th	1st-4th	1st-4th
DACT: Mount Development		2nd-4th	1st-2nd	1st-4th

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**26.639**	**26.571**	**17.052**	**18.624**	**26.036**	**26.332**	**22.989**	**24.644**
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 geospatical 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 wor 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 reprts and secondary imagery products for tactical operations, strike planning, precision targeting, detection and location of targets of opportunity, and battle damange 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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) - 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.

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.

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.

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.

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).

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.

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.

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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

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/SCI and Secret Collateral levels to USMC intelligence units. TROJAN SPIRIT terminals provide connectivity into JWICS, NSANET and SIPRNET via the TROJAN Network Control Center.

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, Surevillance and Reconnassiance (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 reseach and development to meet a congressionally mandated implementation deadline.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007	
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(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.026**	**0.035**	**0.037**	**0.038**
RDT&E Articles Qty				

CIHEP: Engineering, Integration and Technical support for technical refresh and update of program hardware/software upgrades.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.080**	**0.091**	**0.091**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.420**	**0.440**	**0.044**	**0.434**
RDT&E Articles Qty				

GCCS-I3: Program Support, Integration and Software Engineering

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.800**	**0.978**	**0.000**	**1.012**
RDT&E Articles Qty				

GCCS-I3: Software Engineering Support

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.110**	**0.100**	**0.000**	**0.100**
RDT&E Articles Qty				

GCCS-I3: Engineering/Acq Logistics Support

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.065**	**0.070**	**0.000**	**0.080**
RDT&E Articles Qty				

GCCS-I3: Program Testing

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.507**	**0.728**	**0.710**	**0.722**
RDT&E Articles Qty				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007	
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IAS MOD KIT: Software Engineering and Management Support				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.413**	**0.310**	**0.326**	**0.341**
RDT&E Articles Qty				
IAS MOD KIT: Program, Logistic and Admin Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.812**	**1.000**	**0.000**	**1.009**
RDT&E Articles Qty				
IBR: Engineering and technical service support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.200**	**0.087**	**0.000**	**0.000**
RDT&E Articles Qty				
IBR: Contract and Program Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.604**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
ISR: Program Management and Technical Support for the ISR Program.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.700**	**0.201**	**0.202**
RDT&E Articles Qty				
ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.236**	**0.000**	**0.000**
RDT&E Articles Qty				
ISR: System Engineering support for the ISR Testing and Training Center.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.243**	**0.300**	**0.134**	**0.307**
RDT&E Articles Qty				
JSTARS: Engineering and technical support for development of software dissemination capability.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.116**	**0.050**	**0.214**
RDT&E Articles Qty				
JSTARS: Future MTI capability into JSTARS ground elements.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.102**	**0.115**	**0.050**	**0.214**
RDT&E Articles Qty				
JSTARS: MTIX Capability.				

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COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.100**	**0.116**	**0.000**	**0.000**	
RDT&E Articles Qty					
JSTARS: CGS/JSWS Client Development.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.000**	**0.116**	**0.000**	**0.000**	
RDT&E Articles Qty					
JSTARS: IPv6 integration research.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.890**	**0.710**	**1.310**	**0.506**	
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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.300**	**0.371**	**0.445**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.237**	**0.000**	**0.239**	**0.264**	
RDT&E Articles Qty					
JSIPS-TEG: Program Management and Technical support for T&E of program refresh.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.076**	**0.130**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.254**	**0.290**	**0.350**	**0.153**	
RDT&E Articles Qty					
JSIPS-TEG: Development and integration of video capture and exploitation capability.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.400**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.000**	**0.094**	**0.346**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.000**	**0.563**	**0.604**	**0.345**	
RDT&E Articles Qty					
JSIPS-TEG: Engineering/technical management and Infrastructure/Team IMINT shared costs.					

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COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.000**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.190**	**0.210**	**0.214**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.030**	**0.041**	**0.044**	**0.046**	
RDT&E Articles Qty					
MSIDS: Program Management and technical support for Technical and Evaluation of program refresh.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**1.162**	**1.511**	**1.100**	**0.845**	
RDT&E Articles Qty					
TCAC: Software development, integration and testing for TCAC with COE 4.X and future releases.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.450**	**0.209**	
RDT&E Articles Qty					
TCAC: Program Management Support.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**2.769**	**2.976**	**2.953**	**3.824**	
RDT&E Articles Qty					
TENCAP: Program support and management; evaluate national intelligence data systems for MAGTF applicability.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.746**	**0.897**	**0.608**	**0.135**	
RDT&E Articles Qty					
TENCAP: Technical assessments of emerging national data dissemination capabilities.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.000**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.000**	**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.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.280**	**0.322**	**0.318**	**0.318**	
RDT&E Articles Qty					
TPC: Integration of Hardware and Software of Spiral Development Support					

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COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.039**	**0.035**	**0.043**	**0.047**	
RDT&E Articles Qty					
TPC: Contractor Support for Integration and Re-engineering Support					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.235**	**1.299**	**0.257**	**0.259**	
RDT&E Articles Qty					
TPCS-MPC: EDM Design.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.180**	**0.000**	**0.250**	**0.200**	
RDT&E Articles Qty					
TPCS-MPC: System development.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.071**	**0.000**	**0.050**	**0.050**	
RDT&E Articles Qty					
TPCS-MPC: Training development and test support.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**1.432**	**1.700**	**0.500**	**0.502**	
RDT&E Articles Qty					
TPCS-MPC: Program support and management.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.402**	**0.500**	**0.535**	**0.000**	
RDT&E Articles Qty					
TPCS-MPC: Operational Test and Evaluation (OT&E).					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.000**	**0.700**	**0.703**	**0.706**	
RDT&E Articles Qty					
TRSS-PIP: Logistic and Admin support.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.308**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.350**	**0.075**	**0.000**	**0.000**	
RDT&E Articles Qty					
TRSS-PIP: Management support - MCSC					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**2.096**	**0.503**	**0.000**	**0.000**	
RDT&E Articles Qty					
TRSS-PIP: Development of P3I Sensors.					

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COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.087**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
TRSS-PIP: Air Certification of Advanced Air Delivered Sensor (AADS) store.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.168**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
TRSS-PIP: Development of SMMS II.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**2.000**	**0.000**	**0.000**
RDT&E Articles Qty				
TRSS-PIP: Development of Urban Sensor Sets				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.422**	**0.000**	**0.000**
RDT&E Articles Qty				
TRSS-PIP: Support IOT&E and Increment II efforts.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.374**	**0.422**	**0.426**	**0.429**
RDT&E Articles Qty				
TROJAN SPIRIT: Engineering and Technical Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.700**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
DCGS-MC - USMC DCGS Integrated Backbone (DIB).				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.500**	**0.000**	**0.361**	**0.800**
RDT&E Articles Qty				
DCGS-MC - Research and Development and Integration efforts.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**3.601**	**2.376**	**1.188**	**1.578**
RDT&E Articles Qty				
DCGS-MC - Engineering and Technical Services.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.280**	**1.468**	**1.467**	**1.927**
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 $	**26.639**	**26.571**	**17.052**	**18.624**

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(U) PROJECT CHANGE SUMMARY:	**FY2006**	**FY2007**	**FY2008**	**FY2009**
(U) FY 2007 President's Budget:	**26.619**	**26.672**	**22.059**	**19.010**
(U) Adjustments from the President's Budget:				
(U) Congressional Prog Reduction				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings			-4.522	-0.619
(U) SBIR/STTR Transfer				
(U) Minor Affordability Adjustment	0.020	-0.101	-0.485	0.233
(U) FY 2008 President's Budget:	**26.639**	**26.571**	**17.052**	**18.624**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
PMC BLI 474700 Intel Support Eq	TRSS-PIP	26.994	12.082	2.818	4.332	7.152	11.365	3.753	5.340	Cont	Cont
PMC BLI 474700 Intel Support Eq	CIHEP	4.298	14.501	5.076	6.106	6.681	8.113	6.151	5.698	Cont	Cont
PMC BLI 474700 Intel Support Eq	DCGSI	0.000	0.000	0.532	0.616	6.246	0.577	0.593	0.610	Cont	Cont
PMC BLI 474700 Intel Support Eq	JSIPS - TEG	4.103	1.367	1.077	1.363	1.826	0.301	0.309	0.317	0.000	10.663
PMC BLI 474700 Intel Support Eq	TPCS	7.505	9.742	1.157	0.303	0.875	1.944	0.000	0.000	0.000	21.526
PMC BLI 474700 Intel Support Eq	MSIDS	7.080	10.525	1.663	1.957	3.783	3.814	1.854	1.655	Cont	Cont
PMC BLI 474700 Intel Support Eq	IBR	0.582	3.901	1.057	0.000	1.077	1.096	0.449	0.461	Cont	Cont
PMC BLI 474700 Intel Support Eq	TPC	2.250	10.560	3.009	2.790	1.007	8.646	4.114	5.408	0.000	37.784
PMC BLI 474700 Intel Support Eq	RREP	3.923	3.234	2.007	6.698	1.083	1.301	1.389	1.427	Cont	Cont
PMC BLI 474700 Intel Support Eq	TSCM	1.140	0.000	1.409	0.000	1.410	0.000	1.539	0.000	Cont	Cont
PMC BLI 474700 Intel Support Eq	TROJAN SPIR	7.156	7.094	0.212	0.560	0.109	0.114	0.116	0.120	Cont	Cont
PMC BLI 474700 Intel Support Eq	JWICS	0.708	0.781	0.555	0.828	0.638	0.620	0.896	0.921	0.867	6.814
PMC BLI 474700 Intel Support Eq	TCVS	13.534	5.600	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.134
PMC BLI 465200 Mod Kits	IAS MOD Kit	7.372	16.847	2.635	0.964	2.725	1.729	2.320	1.308	Cont	Cont
PMC BLI 465200 Mod Kit	TCAC	0.869	3.904	0.951	1.135	0.000	0.776	0.000	0.000	Cont	Cont
PMC BLI 465200 Mod Kit	JSTARS	4.235	1.624	2.746	1.636	1.497	2.511	2.752	4.893	Cont	Cont
PMC BLI 465200 Mod Kit	TERPES	2.154	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.154
PMC BLI 465200 Mod Kit	ISR	4.980	12.993	3.260	3.188	3.316	4.907	4.811	4.945	Cont	Cont

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(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

(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.

(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.

(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.

(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.

(U) ACQUISITION STRATEGY TENCAP: Work will be led in-house. Necessary contractor support will be acquired using already existing contracts.

(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.

(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 unsupportable. The increment refresh approach will effectively leverage technological advances. Each increment of upgrades will refresh 1/3 of the fielded components.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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) 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.

(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.

(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.

(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 compliancdee with the NGA US Imagery and Geospatial Information System. The TPC program uses existing Government contracts for hardware/software developmet and integration. Full-time contractor support is provided through the Commercial Enterprise Omnibus Support Services (CEOss) contract. Additionall 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.

(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.

(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.

(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.

(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 compliancy efforts.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

(U) E. MAJOR PERFORMERS:

MANPACK SIDS (MP SIDS)

FY 06 Navy Systems Management Activity (MTC, Stafford, VA). Provide funds for engineering and program management support.
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 06 SPAWAR, Provide engineering support for the ISR Testing and Training Center
NSMA (MTC), Stafford, VA. Provide contract and program support.
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)

FY06 SPAWAR, CHARLESTON, S.C. Provide funds for development, upgrades, integration, research and analysis of hardware for system refresh.
Navy Systems Management Activity (MTC, Stafford, VA). Provide funds for Integration and hardware upgrade study.
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)

FY06 SPAWAR, CHARLESTON, S.C. Provide funds for engineering, testing, evaluation and training support.
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 2007
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)

FY06 SPAWAR, CHARLESTON, S.C. 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, Provide funds for program management and engineering support services
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 06 Navy Systems Management Activity (NSMA), MTC Services Corporation (MTC) Stafford, VA. Provide funds for Engineering and Program support services.
SPAWAR, CHARLESTION, SC. Development, upgrades, integration, research and analysis for system refresh.
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, CHARLESTION, 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 06 MARCORSYSCOM, (MCSC), Quantico, VA 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), Provide funds for engineering & technical management support.
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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

JOINT SURVEILLANCE TARGET ATTACK RADAR (JSTARS)

FY 06 SPAWAR, Charleston, S.C. Provide funds for client software connectivity solution, future MTI, CDL, MTI sensor capabilties and Internet Protocol Version 6 (IPv6) research and development NSMA, VA,
Provide engineering and technical support for development of software dissemination capability.
FY 07 SPAWAR, Charleston, S.C. Provide funds for client software connectivity solution, future MTI, CDL, MTI sensor capabilties 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 capabilties 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 capabilties and Internet Protocol Version 6 (IPv6) research and development. NSMA, VA,
Provide engineering and technical support for development of software dissemination capability.

JOINT SERVICE IMAGERY PROCESSING SYSTEM-TACTICAL EXPLOITATION GROUP (JSIPS-TEG)

FY06 ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract.
MARCORSYSCOM, (MCSC), Quantico, VA Provide funds for Program and technical support.
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 06 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA) (MTC, Stafford, VA) Software development, integration and testing for TCAC with COE 4.X and future releases. NAWC,
Provide program management support.
FY 07 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA) (MTC, Stafford, VA) Software development, integration and testing for TCAC with COE 4.X and future releases. NAWC,
Provide program management support.
FY 08 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA) (MTC, Stafford, VA) Software development, integration and testing for TCAC with COE 4.X and future releases. NAWC,
Provide program management support.
FY 09 NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA) (MTC, Stafford, VA) Software development, integration and testing for TCAC with COE 4.X and future releases. NAWC,
Provide program management support.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

TACTICAL REMOTE SENSOR SYSTEM (TRSS)

FY06 NAWCWD.
MARCORSYSCOM, Quantico, VA. Funds provided to CEOss for ALA and Engineering support.
OCEAN SYSTEMS ENGINEERING CORP. (OSEC), San Diego, CA. Funds provided software development AADS and UGMS.
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)

FY06/FY07 MARCORSYSCOM (MCSC), Quantico, VA. Provide program management support for tech refresh and upgrade of program hardware and software.
FY06/FY07/FY08/FY09 NSMA, MTC, Stafford, VA - Provided for Pgm Mgmt support for tech refresh and upgrade of program hardware and software.
FY06/FY07 ACTION SYSTEMS, Las Cruces, NM. Provide engineering, integration and technical support for tech refresh and upgrade of program hardware and software.

TROJAN SPIRIT

FY06 NSMA, MTC Stafford, VA - Provide funds for P3I prototype, technical and Engineering support to include EOA, DT and OT.
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

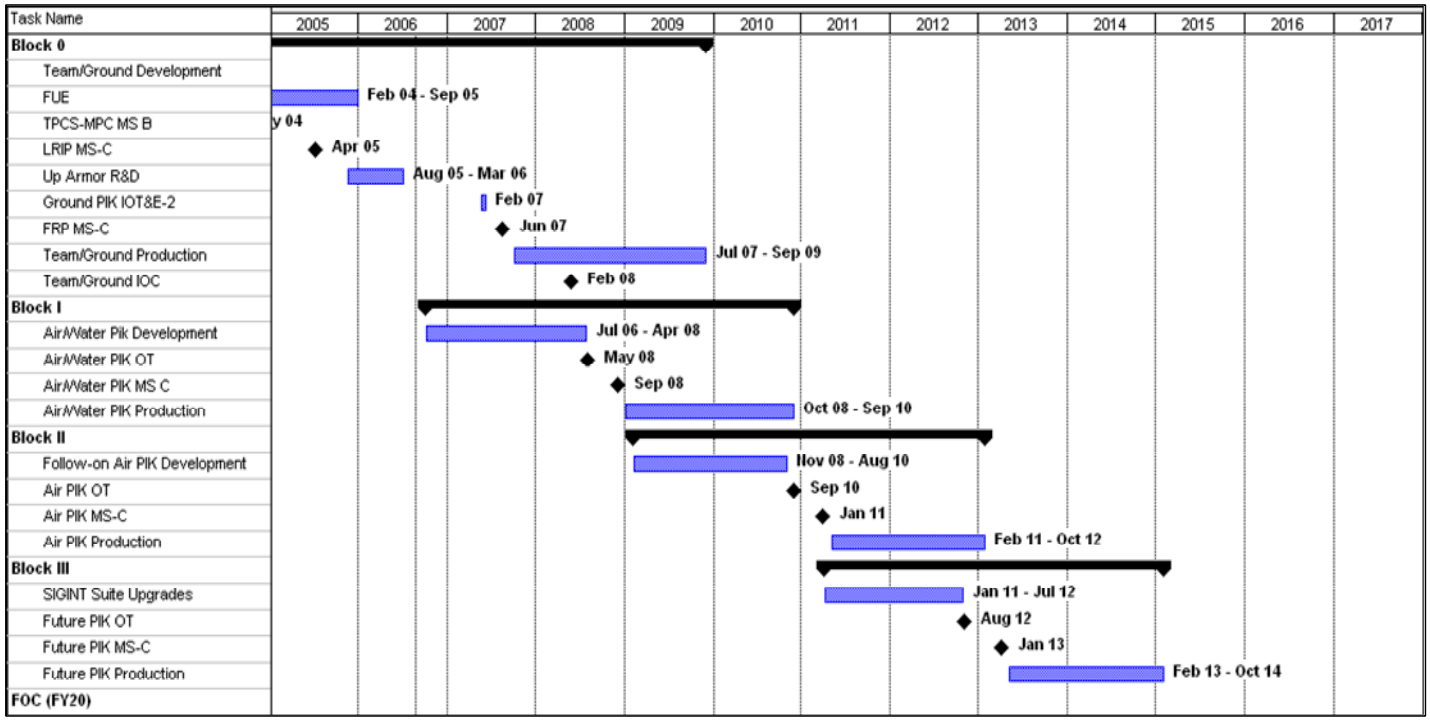
FY06 USAF 10.2 Contract. Research and development of DCGS Integrated Backbone (DIB) software and integration into Marine Corps legacy systems.
NSMA, MTC, Stafford, VA Integrated Teams Solution Facility, Stafford, VA Provide Engineering & technical services, studies, analysis and evaluation for DIB integration, and integration support. 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,

Exhibit R-3 Cost Analysis				DATE: February 2007										
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**						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	17.547	3.515	12/05	4.008	12/06	3.711	12/07	3.959	12/08	Cont	Cont	
TPCS	RCP	SPAWAR	4.263	0.231	12/05	0.799	11/06	0.257		0.259	12/08	Cont	Cont	
TPCS	WR	SPAWAR	0.000	0.000		0.500	11/06	0.250	12/07	0.200		Cont	Cont	
MSIDS	RCP	NSMA (MTC)	0.323	0.220	04/06	0.251	01/07	0.258	01/08	0.262	01/09	Cont	Cont	
CIHEP	RCP	Action Systems	0.234	0.026	11/05	0.020	11/06					Cont	Cont	
CIHEP	RCP	USAIMA	0.024	0.000		0.015	04/07					Cont	Cont	
CIHEP	RCP	NGIT	0.012	0.025	01/06	0.025	01/07	0.037	01/08	0.038	01/09	Cont	Cont	
CIHEP	RCP	NSMA (MTC)	0.013	0.025	01/06	0.025	01/07	0.091	01/08	0.091	01/09	Cont	Cont	
CIHEP	RCP	MCSC	0.230	0.030	06/06	0.041	06/07					Cont	Cont	
TRSS-PIP	RCP	OSEC	1.192	0.308	11/05	1.000	01/07					0.000	2.500	
TRSS-PIP	MIPR	NAWCWD	0.653	2.087	11/05	0.000						0.000	2.740	
TRSS-PIP	RCP	NSMA (MTC)	2.162	0.000		0.700	01/07	0.703	01/08	0.706	01/09	Cont	Cont	
TRSS-PIP	RCP	MCSC	3.203	2.446	01/06	2.578	01/07					0.000	8.227	
TRSS-PIP	RCP/WR	SSCC	0.000	0.168	01/06	0.000						0.000	0.168	
JSTARS	WR/MPR	SPAWAR	0.728	0.131	03/06	0.463	12/06	0.100	12/07	0.428	12/08	Cont	Cont	
JSTARS	RCP	NSMA (MTC)	0.693	0.213	03/06	0.300	12/06	0.134	12/07	0.307	12/08	0.000	1.647	
TROJAN SPIRIT	RCP	NSMA (MTC)	0.000	0.374	12/05	0.422	12/06	0.426	12/07	0.429	12/08	Cont	Cont	
DCGSI	RCP	NSMA (MTC)	0.000	4.101	12/05	3.844	12/06	3.016	12/07	4.305	12/09	Cont	Cont	
DCGSI	MPR	USAF	0.000	0.700	11/05	0.000						Cont	Cont	
JSIPS - TEG	MPR	ASPO	2.871	1.941	02/06	1.684	02/07	2.448	02/08	0.875	02/09	Cont	Cont	
JSIPS - TEG	RCP	NSMA (MTC)	4.709	0.000		0.663	11/06	0.775	11/07	0.531	11/08	Cont	Cont	
JSIPS - TEG	MPR	SPAWAR	0.489	0.000		0.094	11/06	0.346	11/07	0.116	11/08	Cont	Cont	
JSIPS - TEG	RCP	MCSC (CEOss)	0.056	0.000		0.000		0.058	12/07	0.060	12/08	Cont	Cont	
JSIPS - TEG	RCP	MCSC	0.000	0.145	08/06	0.000		0.050	12/07	0.060	12/08	Cont	Cont	
Subtotal Product Development			43.457	16.686		17.432		12.660		12.626		Cont	Cont	
Remarks:														

Exhibit R-3 Cost Analysis				DATE: February 2007										
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**						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	1.280	0.280	12/05	0.322	12/06	0.318	12/07	0.318	12/08	Cont	Cont	
TPC	RCP	NSMA (MTC)	0.000	0.039	12/05	0.035	12/06	0.043	12/07	0.047	12/08	Cont	Cont	
TPCS	RCP	NSMA (MTC)	4.901	1.328	02/06	1.700	02/07	0.500	12/07	0.502	12/08	Cont	Cont	
IAS MOD KIT	RC/WR	SPAWAR Charleston	1.006	0.507	01/06	0.627	01/07	0.600	01/08	0.602	01/09	Cont	Cont	
IAS MOD KIT	RCP	NSMA (MTC)	0.858	0.413	03/06	0.411	01/07	0.436	01/08	0.461	01/09	Cont	Cont	
GCCS I3	RCP	NSMA (MTC)	1.853	0.420	02/06	0.440	02/07	0.044	02/08	0.434	02/09	Cont	Cont	
GCCS I3	RCP	SPAWAR Charleston	0.630	0.800	12/05	0.978	12/06	0.000	12/07	0.912	12/08	Cont	Cont	
GCCS I3	WR	SPAWAR Charleston	0.000	0.110	12/05	0.100	12/06	0.000	12/07	0.200	12/08	Cont	Cont	
TCAC	RCP	NSMA (MTC)	1.675	0.528	01/06	1.136	12/06	1.107	12/07	0.829	12/08	Cont	Cont	
TCAC	RCP	MCSC	0.000	0.035	05/06	0.050	11/06	0.218	11/07	0.050	11/08	Cont	Cont	
TPCS	MPR	MCLB	0.000	0.000		0.000		0.000		0.050	11/08	Cont	Cont	
IBR	WR	SPAWAR	0.109	0.726		0.000				0.500		Cont	Cont	
IBR	RCP	NSMA (MTC)	0.000	0.203	12/05	0.087	12/06			0.509		Cont	Cont	
ISR	WR	SPAWAR, Charleston	0.000	0.604	03/06	0.936	01/07	0.201	01/08	0.202	01/09	Cont	Cont	
JSTARS	RCP	MCSC	0.000	0.101	03/06							0.000	0.101	
Subtotal Support			15.546	6.094		6.822		3.467		5.616		Cont	Cont	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.000	0.035	01/06	0.025	11/06	0.025	11/07	0.025	11/08			
TCAC	MIPR	DIA	0.000	0.358	05/06	0.000		0.000		0.000				
GCCS I3	MPR	JITC	0.064	0.065	10/05	0.070	10/06	0.000	10/07	0.080	10/08	0.000	0.279	
TRSS-PIP	RCP	MCOTEA	0.000	0.000		0.422	01/07					0.000	0.422	
TPCS	MIPR	MCOTEA	0.348	0.289	02/06	0.500	02/07	0.585	02/08			Cont	Cont	
TPCS	MIPR	ABERDEEN	0.000	0.070	02/06	0.000						Cont	Cont	
TPCS	MIPR	USAOTC	0.000	0.402	02/06	0.000						Cont	Cont	
JSIPS	MIPR	ABERDEEN	0.000	0.071	02/06	0.000		0.115	02/08	0.127	02/09	Cont	Cont	
IBR	RCP	NSWC	0.000	0.083	05/06	1.000						Cont	Cont	
Subtotal T&E				1.373		2.017		0.725		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 06 Cost	FY 06 Award Date	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	0.000	2.280	03/06	0.000		0.000		0.000				
TCAC	WR	NAWC	0.000	0.206	03/06	0.300	11/06	0.200	11/07	0.150	11/08			
Subtotal Management				2.486		0.300		0.200		0.150		Cont	Cont	
Remarks:														
Total Cost				26.639		26.571		17.052		18.624		Cont	Cont	

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2007
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**

TPCS



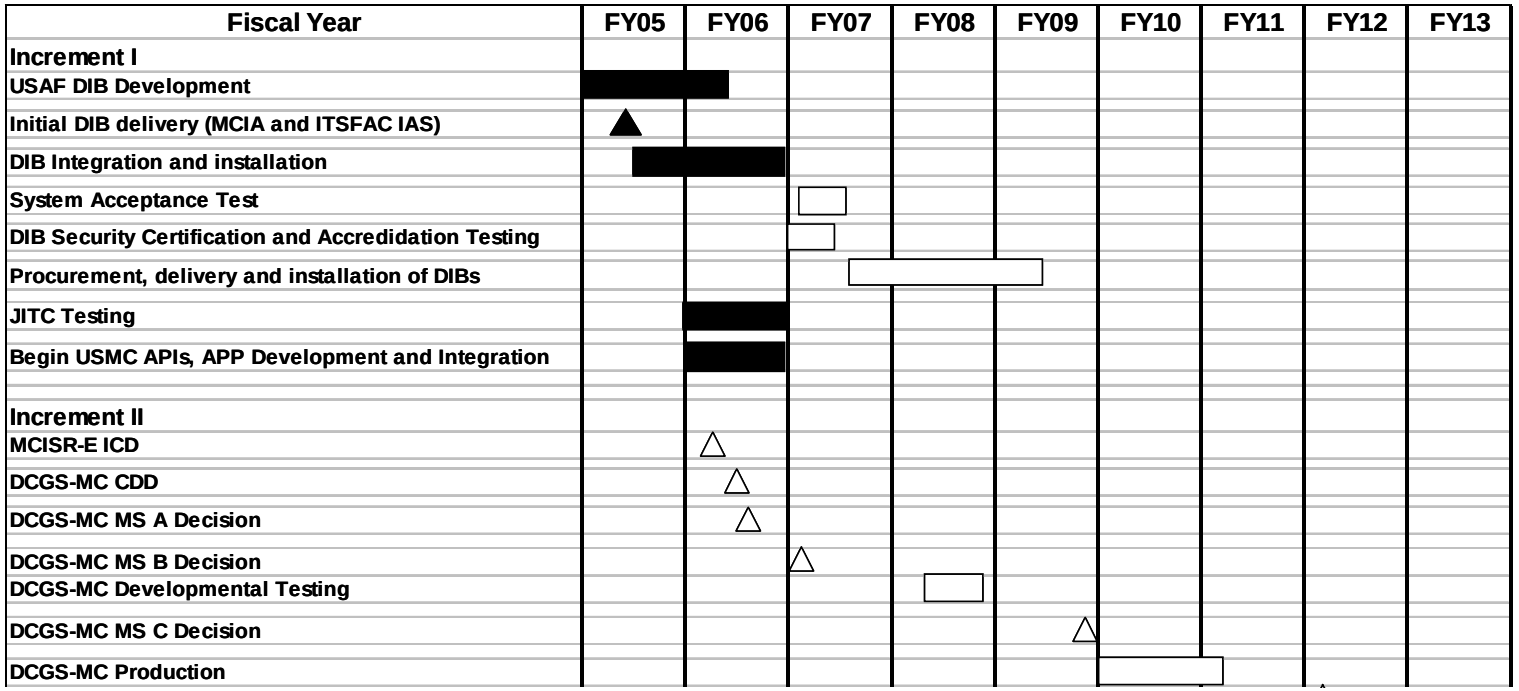
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N	2.320	3.499	1.592	1.011	1.554	1.461	1.657	1.701	Cont	Cont
(U) PMC BLI 474700 Intel Suppor TPCS	7.505	9.742	1.158	0.303	0.874	1.944	0.000	0.000	0.000	21.526

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2007
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**

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 2007
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

DCGS MILESTONE CHART



Line Item No. & Name (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	7.081	3.844	3.016	4.305	4.475	4.460	3.510	3.606	Cont	Cont
(U) PMC BLI 474700 Intell Supp	0.000	0.000	0.532	0.616	6.246	0.577	0.593	0.610	Cont	Cont

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2007
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**

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 2007				
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 **C2273 Air Operations C2 Systems**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY2012	FY2013
Project Cost	**80.884**	**47.098**	**43.238**	**27.825**	**22.737**	**11.501**	**8.491**	**6.449**
RDT&E Articles Qty								

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

(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.

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.

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.

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.)

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).

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.

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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

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: interrogaror/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 fieded, 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, icidents 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.

Small Unit Remote Scouting System (SURSS) - The SURSS program is a family of small tactical sensors for the Marine Company and Battalion. When fully fielded it will consist of an aerial sensor, hand-emplaced and munitions sensor controlled by a common ground control station. The current budget provides funding for the aerial sensor. Funding for FY06 and FY07 SURSS resides in C1901 P.E. 0206623M.

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.

This is a combined Navy (PE#0207257N) 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 Cops 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# 0207257N.

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.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**3.963**	**4.100**	**4.100**	**4.100**
RDT&E Articles Qty				

CAC2S: Program management support.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**10.385**	**7.562**	**8.019**	**1.131**
RDT&E Articles Qty				

CAC2S: System Development and Demonstration (SDD). Engineering Development Model (EDM) hardware and software development, design of host processing system, and conduct software integration of Joint mandated applications, developmental testing and evaluation and baseline stabilization.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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 **C2273 Air Operations C2 Systems**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**32.012**	**12.109**	**5.112**	**4.168**
RDT&E Articles Qty				
CAC2S: System development, Government Furnished Equipment (GFE), and testing in accordance with continued sensor interface/integration, communications interface/interoperability development.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.289**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
JCIET: Logistics support for JCIET exercise. Funding for this program in FY07 and beyond is found in Project C2278 within this PE.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.856**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
JCIET: Data and analysis for exercise. Funding for this program in FY07 and beyond is found in Project C2278 within this PE.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.025**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
JCIET: Program management support. Funding for this program in FY07 and beyond is found in Project C2278 with this PE.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.926**	**0.192**	**0.000**	**0.000**
RDT&E Articles Qty				
CTN: Engineering Development Model (EDM) hardware and software development and support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.462**	**0.590**	**3.450**	**0.000**
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.				
Accomplishment/Effort Subtotal Cost	**0.703**	**0.712**	**0.770**	**0.600**
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.588**	**0.755**	**1.206**	**0.913**
RDT&E Articles Qty				
CTN: Program management support.				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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 **C2273 Air Operations C2 Systems**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.586**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
COMMAND POST/DERF CRITICAL INFRA: VTC Coop Engineering.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**3.341**	**2.960**	**2.552**	**1.914**
RDT&E Articles Qty				
MACCS SUSTAINMENT: Hardware obsolescence upgrades for the TAOM, SAAWF, TIU, MCIU, ADCP, CIS and CDLS.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**3.315**	**1.795**	**2.518**	**1.932**
RDT&E Articles Qty				
MACCS SUSTAINMENT: Planned software sustainment for the TAOM, ADCP and CDLS.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**14.503**	**10.442**	**0.000**	**0.000**
RDT&E Articles Qty				
SIAP: Service System Engineering support to Joint SIAP System Engineering Organization.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.841**	**1.300**	**0.000**	**0.000**
RDT&E Articles Qty				
SIAP: Engineering and analysis for SIAP system engineer Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.200**	**0.325**	**0.329**	**0.334**
RDT&E Articles Qty				
TBMCS: USMC TBMCS development.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.100**	**0.191**	**0.196**	**0.187**
RDT&E Articles Qty				
TBMCS: MCTSSA TBMCS software support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.100**	**0.225**	**0.228**	**0.230**
RDT&E Articles Qty				
TBMCS: Program management support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.061**	**0.077**	**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: February 2007	
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 **C2273 Air Operations C2 Systems**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**1.000**	**1.000**
RDT&E Articles Qty				
BTID: Program management support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**1.325**	**0.376**
RDT&E Articles Qty				
BTID: Joint component led SDD.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**2.122**	**1.021**
RDT&E Articles Qty				
BTID: SDD Developmental Test Articles.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.075**	**0.100**
RDT&E Articles Qty				
BTID: Life Cycle Cost Estimate.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.481**	**0.376**
RDT&E Articles Qty				
SURSS: Funds will be used for development, demonstration and testing of product improvements and block upgrades to meet increasingly demanding Operational Requirement Document (ORD) thresholds.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.440**	**2.877**	**2.984**	**1.562**
RDT&E Articles Qty				
COC: Continue engineering and manufacturing development effort of production representative modules.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.503**	**0.886**	**0.954**	**0.728**
RDT&E Articles Qty				
COC: Program Management Support				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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 **C2273 Air Operations C2 Systems**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.685**	**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).				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.000**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**1.250**	**2.000**
RDT&E Articles Qty				
TIER II UAS: Operational Testing (OT).				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**1.983**	**0.509**
RDT&E Articles Qty				
TIER II UAS: Development, testing and evaluation of Tier II UAS and payloads.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**1.809**	**1.067**
RDT&E Articles Qty				
TIER II UAS: Development of common UAS ground control station.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.700**	**0.500**
RDT&E Articles Qty				
TIER II UAS: Program Management Support.				
(U) Total Cost $	**80.884**	**47.098**	**43.238**	**27.825**

(U) PROJECT CHANGE SUMMARY:	**FY2006**	**FY2007**	**FY2008**	**FY2009**
(U) FY 2007 President's Budget:	**88.765**	**47.341**	**34.693**	**20.968**
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases	0.019			
(U) Reprogrammings	-5.976		8.271	6.587
(U) SBIR/STTR Transfer	-1.932			
(U) Minor Affordability Adjustments	0.008	-0.243	0.274	0.270
(U) FY 2008 President's Budget:	**80.884**	**47.098**	**43.238**	**27.825**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

CHANGE SUMMARY EXPLANATION:

(U) Funding: Funding changes in FY2008 through FY2009 is due to various PBD adjustments.

(U) Schedule: Schedule changes have been reflected in exhibit R-4/4a, Schedule Profile/Detail for the COC, CTN, CAC2S programs.

(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Comp	Total Cost
(U) PMC, BLI #464000, CAC2S	3.759	38.531	0.000	20.878	35.451	48.810	49.973	15.160	Cont	Cont
(U) PMC, BLI #464000, CTN	0.000	0.000	5.780	15.784	20.982	18.127	0.531	0.000	0.000	61.204
(U) PMC, BLI #464000, MACCS SUSTAINMENT	11.145	13.321	1.871	1.789	6.468	1.229	1.226	1.228	Cont	Cont
(U) PMC, BLI #464000,TBMCS	6.371	6.485	1.954	3.895	3.527	2.328	3.696	3.797	Cont	Cont
(U) PMC, BLI #474700, SURSS	6.954	3.817	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.771
(U) PMC, BLI #4640000, SURSS	0.000	0.000	10.369	15.075	4.804	4.470	5.619	3.713	Cont	Cont
(U) PMC, BLI #464000, Tier II UAS	0.000	0.000	0.000	13.486	20.305	9.513	18.858	15.757	Cont	Cont
(U) PMC, BLI #464000, BTIS	0.000	0.895	0.000	6.370	9.117	7.408	8.117	8.229	Cont	Cont
(U) PMC, BLI #419000, COC	1.049	268.269	8.041	19.247	23.059	28.405	17.460	18.318	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. The SDD contains options for the Production and Deployment Phase (Phased Pricing Fixed Fee). The Production Phase 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, which will complete for resources in the FY08 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

(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.

(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.

(U) Small Unit Remote Scouting System (**SURSS)**: These programs range from off-the-shelf modifications to developmental items. Modification covers safety, reliability, and technology up-grades to meet Marine Corps requirements. Plans are being drafted for block 1 upgrade to migrate to a Joint Small Unmanned Aerial System (UAS) and become interoperable with MAGTF C2.

(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.

(U) **COC**: The Combat Operations Center (COC) is a Competitively Awarded Contract for design (cost type) and Firm Fixed Price production options.

(U) E. Major Performers:

COMBAT OPERATIONS CENTER (COC)

FY06 - FY09 SPAWAR, Charleston SC. Support Services. Jan 05.
FY06 - FY09 Coherent Systems, Lexington Park, MD. System development, demonstration, integration, test and evaluation. Apr 05.
FY06 - FY08 Raytheon E-Systems, San Diego, CA. System development, demonstration, integration, test and evaluation. May 04.
FY05 Raytheon E-Systems, San Diego, CA. System development, demonstration, integration, test and evaluation. May 05.
FY06 - FY09 NSWC Crane, IN. Mobility platform integrator. Jan 04.
FY06-FY09 Lockheed Martin, Syracuse NY. Radar integration. Jan 04.
FY06-FY09 Science Applications International Corporation, St. Petersburg, FL. Antenna development and production. Jan 04.

CRITICAL INFRASTRUCTURE

FY06 SPAWAR, Charleston SC. Product Development. Mar 03.

MACCS SUSTAINMENT

FY06 - FY09 Northrop Grumman Electronic Systems, Woodland Hills, CA. TAOC Engineering and CETS services. Jan 04.
FY06 - FY09 Ultra Electronics, Austin, TX. CDLS Engineering and Software services. March 06.
FY06 - FY09 Carlisle Research Incorporated, Van Nuys, CA. TAOM Software Sustainment services. Feb 06.
FY06 - FY09 Naval Surface Warfare Center, Crane, IN. ADCP, CIS, DASCAS, CDLS Engineering services. Oct 03.

BTID

FY06-FY07 NSWC, Crane, IN, Engineering Services.
FY06 MarCorSysCom (PA&E) Life Cycle Cost Estimate effort. Contractor Techolote.
FY07-FY08 MarCorSysCom support for component led Systems Development and Demonstration (SDD) phase.
FY09 MarCorSysCom support for component led and developmental test.

SINGLE INTEGRATED AIR PICTURE (SIAP)

FY06 - FY07 RNB Technologies, Inc., Stafford, VA Engineering services. Jan 04.

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.

Exhibit R-3 Cost Analysis					DATE: February 2007									
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									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	118.242	23.555	10/05	11.179	10/06	4.182	10/07	3.688	10/08	Cont	Cont	
CAC2S	WR	SPAWAR (Charleston)	2.320	1.560	10/05	0.600	10/06	0.600	10/07	0.300	10/08	Cont	Cont	
CAC2S	WR	DAHLGREN	0.320	0.860	12/05							0.000	1.180	
CAC2S	WR	SPAWAR (San Diego)	50.306	6.007	01/06	0.300	01/07	0.300	01/08	0.150	01/09	Cont	Cont	
CAC2S	RCP	NCT	0.038	0.030	12/05	0.030	12/06	0.030	12/07	0.030	12/08	Cont	Cont	
MACCS SUSTAINMENT	RCP	NGES, Woodland Hills, CA	6.238	2.514	03/06	2.366	03/07	2.552	03/08	1.933	03/09	Cont	Cont	
MACCS SUSTAINMENT	CPFF	CRL, Van Nuys, CA	2.693	2.127	03/06							0.000	4.820	
SIAP	RCP	MCSC, Quantico, VA	23.168	16.069	06/06	11.742	01/07					0.000	50.979	
TBMCS	MIPR	ESC, Hanscom AFB	0.723			0.325	01/07	0.329	01/08	0.334	01/09	Cont	Cont	
TBMCS	MIPR	Greater Hampton, VA	0.100									0.000	0.100	
CTN	WR	NSWC, Crane, IN	3.516	0.720	11/05	0.100	01/07					0.000	4.336	
CTN	RCP	John Hopkins, Laurel, MD		0.265	03/06							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	1.490	1.919	03/06							0.000	3.409	
CTN	RCP	SAIC, San Diego, CA	5.478	0.600	02/06							0.000	6.078	
CTN	WR	NSWD, Bethesda, MD		0.025	05/06							0.000	0.025	
COC	WR	SPAWAR	5.397			0.790	01/07	1.735	01/08	0.940	01/09	Cont	Cont	
COC	RCP	General Dynamics	15.786	3.477	06/06	2.565	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	3.940	1.251	06/06							0.000	5.191	
Critical Infrastructure	RCP	SSC Charleston	0.000	1.410	06/06							0.000	1.410	
TIER II	TBD	TBD						2.100	12/06			0.000	0.000	
TIER II	TBD	TBD						1.567	12/08	2.783	12/09	Cont	Cont	
TIER II	TBD	TBD								0.500	12/09	Cont	Cont	
BTID	WR	NSWC, Crane, IN	1.968					1.022	01/08	TBD	TBD	Cont	Cont	
SURSS	RCP	AeroVironment, Simi Val	0.225					0.100	12/07	0.075	12/08	Cont	Cont	
SURSS	MIPR	USSOCOM, Tampa, Fl	0.675					0.252	12/07	0.253	12/08	Cont	Cont	
SURSS	MIPR	Natick, MA	0.035					0.020	12/07	0.015	12/08	Cont	Cont	
SURSS	MIPR	MCSC, Quantico, VA	0.217					0.094	01/08	0.033	01/09	Cont	Cont	
SURSS	MIPR	NAVAIR, Pax River, MD	0.030					0.015	01/08			0.000	0.030	
Subtotal Product Development			**242.905**	**62.389**		**30.090**		**17.101**		**12.384**		**Cont**	**Cont**	

Exhibit R-3 Cost Analysis					DATE: February 2007									
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									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	1.034	0.744	10/05	0.250	10/06	0.200	10/07	0.100	10/08	Cont	Cont	
CAC2S	WR	MCSC, Quantico, VA	1.870	0.942	10/05	0.932	10/06	0.932	10/07	0.746	10/08	Cont	Cont	
CAC2S	RCP	MCSC, Quantico, VA	0.000	4.258	10/05	1.091	10/06	1.332	10/07			0.000	5.349	
CAC2S	WR	NSWC, Crane, IN	0.825	0.217	10/05	0.230	10/06	0.200	10/07	0.200	10/08	Cont	Cont	
CAC2S	WR	JITC	0.207	0.150	10/05	0.050	10/06	0.050	10/07	0.050	10/08	Cont	Cont	
CAC2S	RCP	Lockheed Martin	0.000	0.480	03/06							0.000	0.480	
CAC2S	WR	DASC A	0.000			1.700	12/06	1.961	12/07			0.000	1.700	
CAC2S	WR	ATC	0.000			1.000	12/06	1.000	12/07			0.000	1.000	
JCIET	WR	MCSC, Quantico, VA	0.310	0.169	11/06							0.000	0.479	
JCIET	WR	NSWC, Crane, IN	0.419	0.030	04/06							0.000	0.449	
JCIET	RCP	Anteon, Stafford, VA	1.553	0.951	06/06							0.000	2.504	
JCIET	RCP	CACI, Chantilly, VA	0.020	0.020	11/05							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	0.000	0.126	02/06	0.200	06/07	0.200	06/08	0.161	06/09	Cont	Cont	
MACCS Sustainment	WR	NSWC, Crane, IN	0.619	2.026	05/06	0.600	01/07	0.600	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	0.140	0.218	02/06	0.105	01/07	0.105		0.105	01/09	Cont	Cont	
Cost Categories Subtotal Support (Cont.)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	WR	MCSC, Quantico, VA	0.166	0.106	01/06	0.054	01/07	0.091	01/08	0.082	01/09	Cont	Cont	
TIER II	TBD	TBD						0.000	12/08	0.000	12/09	Cont	Cont	
TIER II	TBD	TBD						0.500	12/08	0.500	12/09	Cont	Cont	
BTID	TBD	TBD						2.100	TBD	1.021	TBD	Cont	Cont	
CTN	WR	NA	0.060	0.030	11/05							0.000	0.090	
CTN	WR	MCSC, Quantico, VA	0.095	0.025	03/06							0.000	0.120	
CTN	RCP	Raytheon, St. Peters., FL				0.554	01/07	2.613	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			**9.709**	**10.492**		**8.397**		**14.284**		**4.717**		**Cont**	**Cont**	
Remarks:														

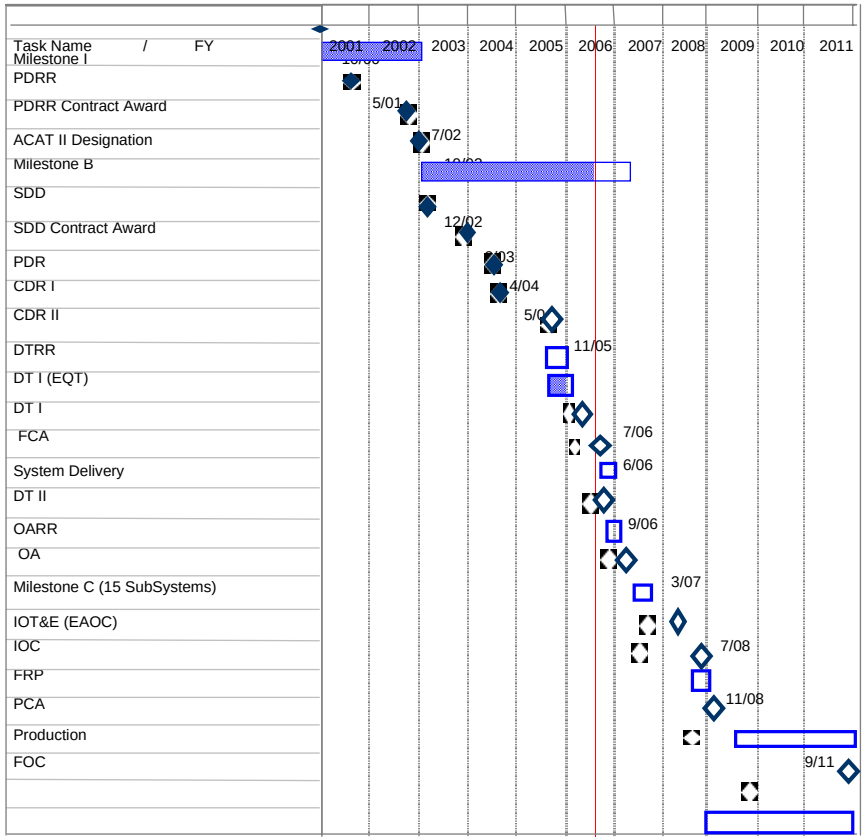
Exhibit R-3 Cost Analysis					DATE: February 2007									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev		PROGRAM ELEMENT 0206313M Marine Corps Communications Sys			PROJECT NUMBER AND NAME C2273 Air Operations C2 Systems									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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				0.100	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	0.081	0.114	06/06	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	0.464	0.463	04/06	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	RCP	CECOM (MCOTEA)	0.413	1.222	12/05	0.600	11/06	1.000	11/07			0.000	2.235	
CAC2S	MIPR	WSMR NM	0.414	0.005	10/05							0.000	0.419	
CAC2S	MIPR	MITRE	0.000	0.852	01/06	0.220	10/06	0.220	11/07			0.000	1.072	
CAC2S	WR	MACCS X	0.000	0.320	01/06	0.300	10/06	0.300	11/07	0.035	11/08	Cont	Cont	
CAC2S	WR	MCTSSA, CPndltn,CA	0.050	0.506	10/05	0.400	10/06	0.035	11/07			0.000	0.956	
CAC2S	RCP	MCTSSA, CPndltn,CA	0.000	0.104	04/06							0.000	0.104	
CAC2S	MIPR	US ASSC	0.000	0.029	04/06							0.000	0.029	
CAC2S	MIPR	SLAMRAAM (Army)	0.976			0.789	01/06	0.789	01/07			0.000	1.765	
COC		MCOTEA TESTING	0.500	0.090	04/06							0.000	0.590	
TIER II	TBD	TBD						0.725	12/08	2.343	12/09	Cont	Cont	
TIER II	TBD	TBD												
BTID	WR	MCOTEA TESTING						1.400	01/08	1.476	01/09	Cont	Cont	
MACCS SUSTAINMENT	WR	NSWC, Crane, IN		0.030	04/06			0.168	01/08			0.000	0.030	
TBMCS		MCOTEA TESTING		0.125	02/06	0.077	01/07	0.075	01/08	0.077	01/09	Cont	Cont	
Subtotal T&E			**3.392**	**3.860**		**3.098**		**5.482**		**4.544**		**Cont**	**Cont**	

Remarks:

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.899	0.012	02/06							0.000	0.911	
TBMCS	FFP	L-3 Com, Stafford, VA				0.225	01/07	0.228	01/08	0.230	01/09	Cont	Cont	
CAC2S	IDIQ	NGIT, Stafford, VA	12.626	2.920	10/05	3.200	10/06	3.200	10/07	3.200	10/08	Cont	Cont	
CAC2S	RCP	MITRETEK	2.546	0.300	10/05	0.900	10/06	0.900	10/07	0.900	10/08	Cont	Cont	
CAC2S	RCP	KCI	0.403	0.092	01/06							0.000	0.495	
CAC2S	RCP	MT	0.000	0.189	02/06							0.000	0.189	
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	NAV				0.010	01/07	0.040	01/08	0.020	01/09	Cont	Cont	
CTN	IDIQ	NGMS, Stafford, VA	1.636	0.529	06/06	0.362	01/07	0.400	01/08	0.360	01/09	Cont	Cont	
TIER II	TBD	TBD						0.000	12/08	0.000	12/09	Cont	Cont	
TIER II	TBD	TBD						0.850	12/08	0.950	12/09	Cont	Cont	
COC	IDIQ	NGMS, Stafford, VA	3.532	0.061	02/06	0.408	01/07					0.000	4.001	
Subtotal Management			**21.642**	**4.103**		**5.513**		**6.371**		**6.180**		**Cont**	**Cont**	
Total Cost			**277.648**	**80.844**		**47.098**		**43.238**		**27.825**		**Cont**	**Cont**	

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Systems Devel	0206313M Marine Corps Communications Systems	C2273 Air Operations C2 Systems

CAC2S PROGRAM SCHEDULE



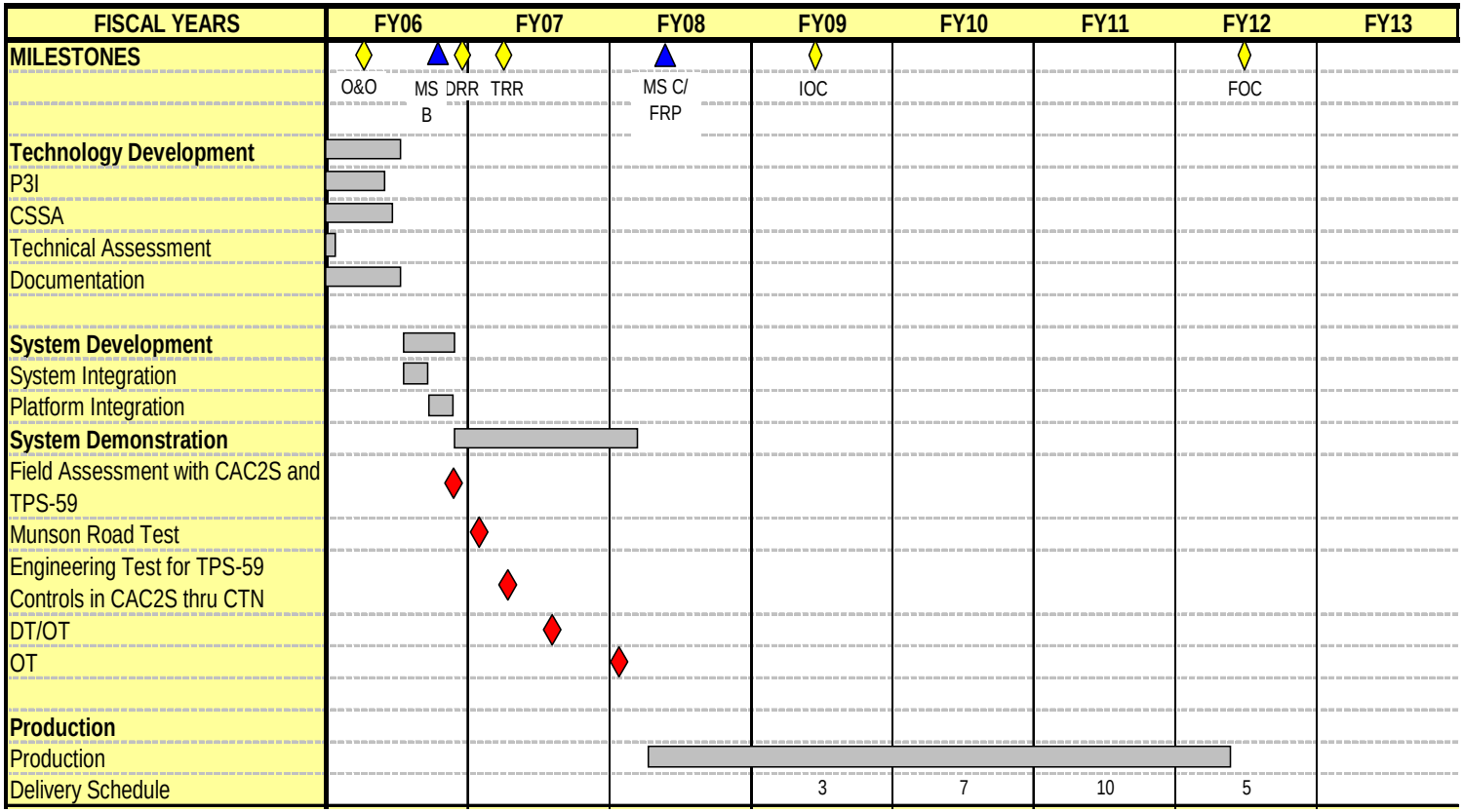
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N, C2273, CAC2S	46.360	23.771	17.231	9.399	0.337	0.000	0.000	0.000	Cont	Cont
(U) PMC, BLI #464000, CAC2S	3.759	38.531	20.690	20.878	35.451	48.810	49.973	15.160	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME	
RDT&E, N /BA 7 Operational Systems Devel	**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		2nd Qtr						
Milestone C		2nd Qtr						
OT		4th Qtr						
LRIP		4th Qtr	+++++++					
IOC			4yh Qtr					
Production				2nd Qtr ++++++++++++++++++++++				
FOC						4th Qtr		
Increment II of CAC2S Production						2nd Qtr ++++++++++++++++++++++		

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**

CTN PROGRAM SCHEDULE



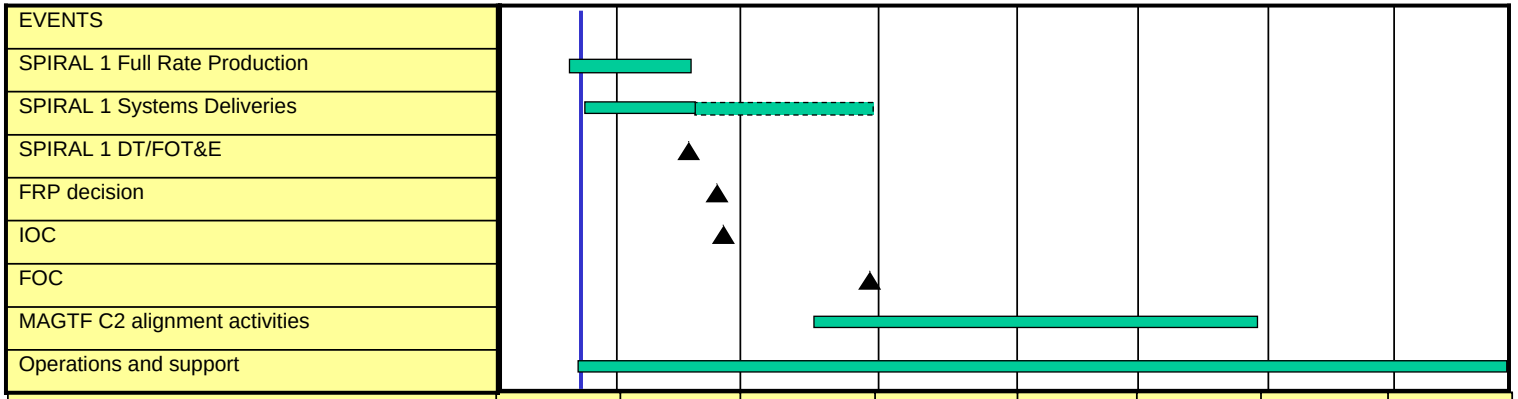
Program Funding Summary (APPN, BLI #,	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N, C2273, CTN (formally CEC)	4.679	2.249	5.426	1.513	1.514	1.413	1.007	0.502	Cont	Cont
(U) PMC, BLI #464000, CTN	0.000	0.000	5.780	15.784	20.982	18.127	0.531	0.000	0.000	60.809

Exhibit R-4/4a Schedule Profile/Detail			February 2007
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**	

CTN SCHEDULE DETAIL

CTN SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone A (1st Qtr FY02								
Concept & Technology Development								
Milestone B	4th Qtr							
System Development and Demonstration								
DT		2nd Qtr						
IOT&E			1st Qtr					
Miletone C			1st Qtr					
Production			2d Qtr**********					
Delivery				2d Qtr**********				
IOC				2d Qtr				
FOC							2d Qtr	

COC PROGRAM SCHEDULE



PRESBUD ($M)	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
R&D	3.6	3.7	2.7	1.5	1.1	1.2		
PMC	.9	7.8	2.3	8.9	9.3	9.8		
O&M	3.0	13.3	13.1	12.7	12.9	13.1		
PMC Supplemental	8.6*	0.0	0.0	0.0	0.0	0.0		
Totals	16.1	24.8	18.1	23.1	23.3	23.1		

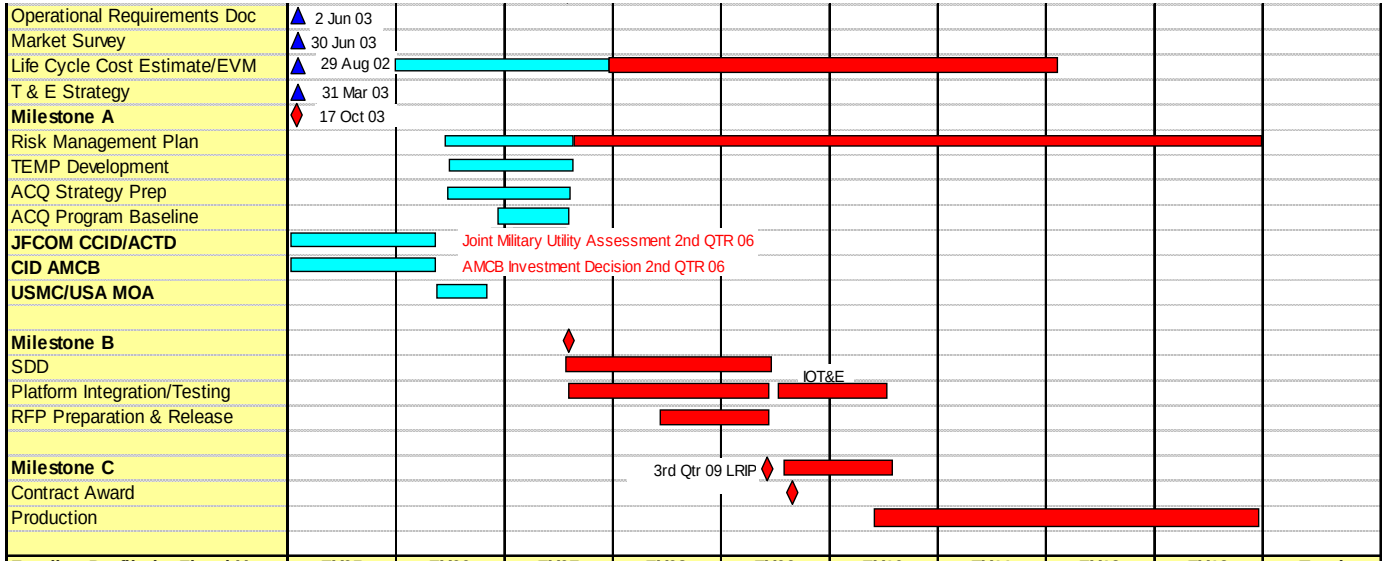
Program Funding Summary (APPN, BLI #,	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N, C2273, COC	3.628	3.763	3.938	2.290	7.287	1.275	0.360	0.360	Cont	Cont
(U) PMC, BLI #419000, COC	1.049	268.269	8.041	19.249	23.059	28.405	17.460	18.318	Cont	Cont

COC SCHEDULE DETAIL

COC SCHEDULE DETAIL	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 012	FY 2013
Milestone B (2nd Qtr FY 02)									
System Development and Demonstration									
IOT&E		2nd Qtr							
Milestone C									
LRIP Deliveries									
IOC		3rd Qtr							
Full Rate Production					TBD				
Production Deliveries		3rd Qtr++++++++++++++++++++++++++++++++++++++							
Hardware/Software Development	3rd Qtr++								
Engineering Support Services	3rd Qtr++								

Exhibit R-4/4a Schedule Profile/Detail		February 2007
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**

BTID Program Schedule



Funding Profile by Fiscal Year	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	Total
RDT&E	2,116	4,000	2,500	4,500	2,500	1,650	1,690	1,750	1,740	22,446
Foreign Comparative Test	420			0	0	0	0	0	0	420
PMC				0	6,324	9,054	7,368	8,090	8,217	39,053
PANMC				0	0	0	0	0	0	0
O&MMC				0	0	275	277	257	263	1,072
OTHER										
TOTAL	2,536	4,000	2,500	4,500	8,824	10,979	9,335	10,097	10,220	62,991

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, C2273C, BTID	0.000	0.000	4.522	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			February 2007
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**	

BATTLEFIELD TARGET IDENTIFICATION DEVICE

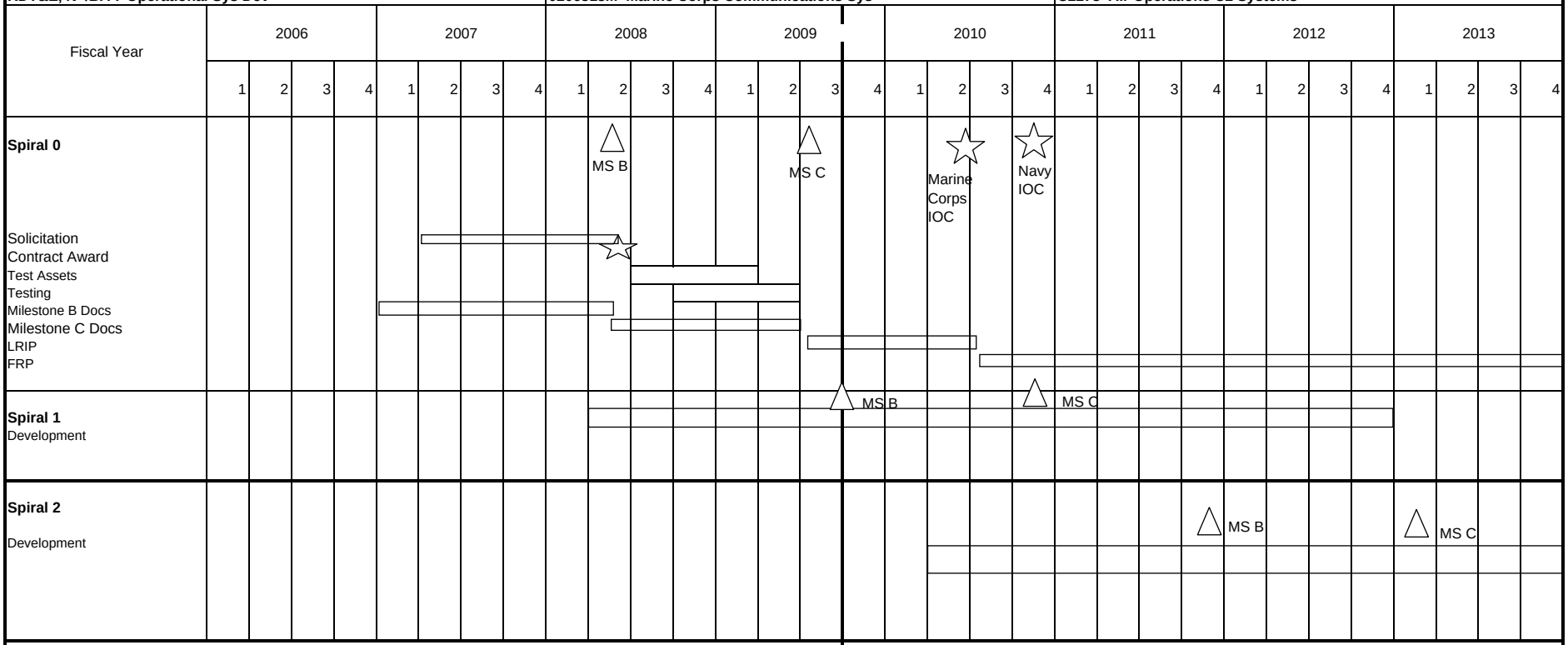
BTID SCHEDULE	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone A	1st Qtr									
Milestone B				3rd Qtr						
Integration Testing						2nd Qtr				

TIER II UAS PROGRAM SCHEDULE

EXHIBIT R4, Schedule Profile

DATE: **February 2007**

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**	**C2273 Air Operations C2 Systems**



Program Funding Summary	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
(APPN, BLI#, NOMEN)										
(U) PMC, BLI #464000, TIER II UAS	0.000	0.000	0.000	13.486	20.305	9.513	18.858	15.757	Cont	Cont
(U) RDT&E,N, C2273C, TIER II UAS	0.000	0.000	5.742	7.076	9.642	5.150	3.378	1.865	Cont	Cont

TIER II UAS PROGRAM SCHEDULE

Exhibit R-4a, Schedule Detail

DATE: **February 2007**

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**

Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Spiral 0								
MS B			2Q					
MS C				3Q				
Marine Corps IOC					2Q			
Navy IOC					4Q			
Solicitation		2Q-4Q	1Q-2Q					
Contract Award			2Q					
Test Assets			3Q-4Q	1Q				
Testing			4Q	1Q-2Q				
Milestone B Docs		1Q-4Q	1Q-2Q					
Milestone C Docs			2Q-4Q	1Q-2Q				
LRIP				3Q-4Q	1Q-3Q			
FRP					3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Spiral 1 Development			2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
MS B				3Q				
MS C					4Q			
Spiral 2 Development					2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
MS B						4Q		
MS C								1Q

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007						
APPROPRIATION/BUDGET ACTIVITY **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**						
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**5.901**	**3.827**	**11.320**	**8.835**	**8.952**	**9.747**	**10.445**	**10.945**
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:

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.

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.

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 inseerts the latest technology into the suite at it becomes mature. This enables the SS-3 to remain a current platform against emerging threats.

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 Warfar plan. The system will replace for 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.

Counter 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.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.104**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

CESAS - Perform integration efforts of AN/USQ-146(V) 5 and Spiral Development.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.250**	**0.080**	**0.000**	**0.000**
RDT&E Articles Qty				

CESAS - Research and Development Directed Energy and Directional Attack Antennas.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.400**	**0.500**	**0.138**	**0.420**
RDT&E Articles Qty				

CESAS - Research and Development of techniques, tactics and procedures.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY **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**			
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.407**	**0.250**	**0.000**	**0.000**
RDT&E Articles Qty					
CESAS - Testing Support					
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.174**	**0.196**	**0.000**	**0.000**
RDT&E Articles Qty					
CESAS - Testing for CESAS and Radio Threads					
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.030**	**0.023**	**0.000**	**0.000**
RDT&E Articles Qty					
CESAS - Program Management Support.					
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
CESAS - TTP Development and Operational Analysis.					
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.410**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
MEWSS PIP: Operational Readiness enhancements.					
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**1.200**	**0.702**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**2.090**	**1.050**	**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 Correlation).					
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.462**	**0.252**	**0.000**	**0.000**
RDT&E Articles Qty					
TERPES: Program Management Support					
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.374**	**0.574**	**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 2007			
APPROPRIATION/BUDGET ACTIVITY **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**			
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.000**	**0.200**	**0.534**	**0.919**
RDT&E Articles Qty					
RREP: Research and Development of next generation SIGINT Suite.					
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.000**	**0.000**	**1.208**	**1.496**
RDT&E Articles Qty					
RCIED: Engineering Analysis Support.					
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.000**	**0.000**	**6.237**	**4.000**
RDT&E Articles Qty					
RCIED: Hardware and Software Development.					
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.000**	**0.000**	**3.000**	**2.000**
RDT&E Articles Qty					
RCIED: Hardware and Software Integration and testing.					
(U) Total $		**5.901**	**3.827**	**11.320**	**8.835**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**5.896**	**3.847**	**3.616**	**4.189**
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings			8.435	4.537
(U) SBIR/STTR Transfer				
(U) Minor Affordability Adjustments	0.005	-0.020	-0.731	0.109
(U) FY 2008 President's Budget:	**5.901**	**3.827**	**11.320**	**8.835**

CHANGE SUMMARY EXPLANATION:
(U) Funding: See Above.
(U) Schedule: Not Applicable.
(U) Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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) C. OTHER PROGRAM FUNDING SUMMARY:

	Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U)	PMC BLI 465200 Modification Kits MEWSS	1.239	0.209	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.448
(U)	PMC BLI 465200 Mod Kit TERPES	2.154	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.154
(U)	PMC BLI 465200 Mod Kit FLAMES (CESAS)	5.227	4.421	1.334	1.366	0.000	0.177	0.000	0.000	0.000	12.525
(U)	PMC BLI 474700 Intel Suppt Eq RREP	3.923	3.234	2.007	6.698	1.083	1.301	1.389	1.427	Cont	Cont

(U) Related RDT&E:

(U) (U) PE 0305885G (Tactical Cryptologic Program)

(**U) D. ACQUISITION STRATEGY:**

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).

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.

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.

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 RADBN in Feb 04 for FUE, production will begin in FY05 meeting the IOC and FOC in FY07.

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.

(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

MOBILE ELECTRONIC WARFARE SUPPORT SYSTEM, PRODUCT IMPROVEMENT PROGRAM (MEWSS-PIP)

FY06 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Legacy MEWSS readiness enhancements.

COMMUNICATION EMMITTER SENSING AND ATTACKING SYSTEM (CESAS/FLAMES)

FY06 NAVSEA, Provide research and development of techniques, tactics and procedures
NSWC, Crane, Provide testing support
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)

FY06 NAVAL AIR WARFARE CENTER (NAWC), Pt Mugu CA. Provide funds for hardware, software and integration research.
LOCKHEED MARTIN, Denver CO. Provide funds for research on TERPES software applications to provide improvement in the interfaces and interoperability with the EA-6B and mission planning systems.
MARCORSYSCOM, (CEOSS), Titan Corporation, Reston, VA. Provide funds for software integration and testing.
NSMA, (MTC), ITsFAC, Stafford, VA. Provide integration facility and program management support.
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.

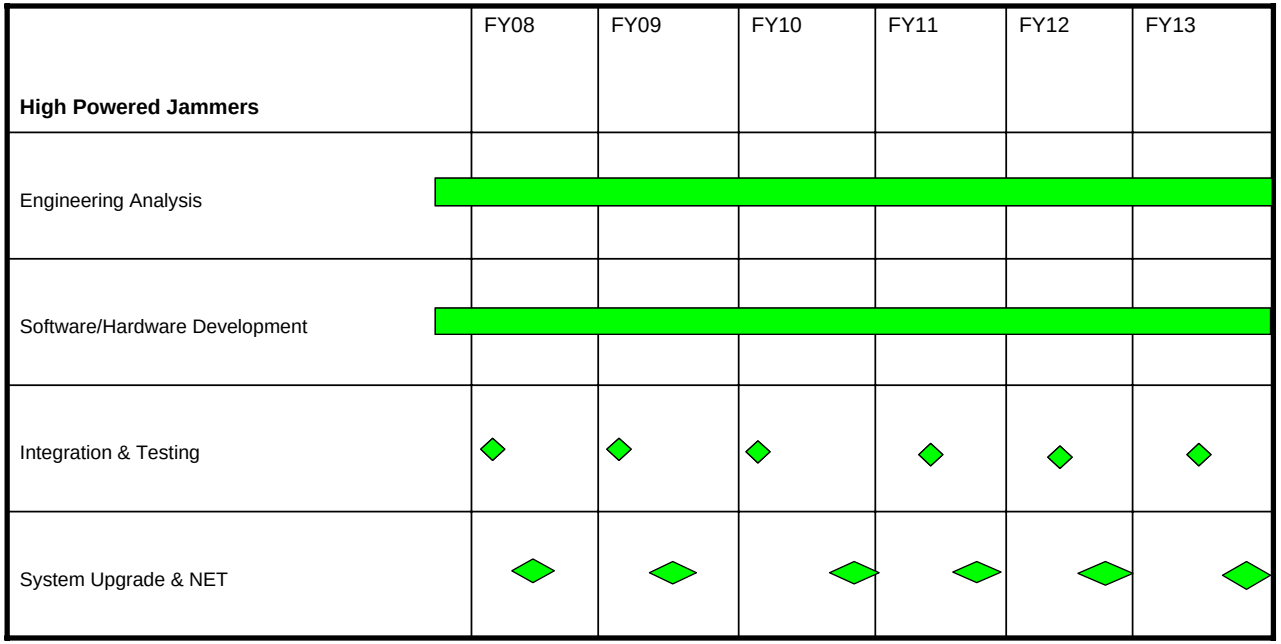
RADIO RECONNAISSANCE EQUIPMENT PROGRAM (RREP)

FY06 NSMA, (MTC), ITsFAC, Stafford, VA. Provide integration facility and program management support
NSWC, Crane, Provide System Engineering support, begin development of DAR S/W and H/W Solution
ARMY COMMUNICATIONS & ELECTRONICS COMMAND (CECOM). Provide integration facility.
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 RDT&E, N /BA 7 Operational Sys Dev		PROGRAM ELEMENT 0206313M Marine Corps Comm Systems				PROJECT NUMBER AND NAME C2274 Command & Control Warfare Systems								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	2.542	0.410	11/05							Cont	Cont	
TERPES	RCP	Lockheed Martin	4.249	2.103	02/06	0.763	12/06					Cont	Cont	
TERPES	MPR	NAWC, Pt. Mugu CA	4.708	0.500	11/05	0.300	10/06					Cont	Cont	
TERPES	RCP	NAWC, Pt. Mugu CA	0.320	0.356	05/06	0.000	01/07					Cont	Cont	
TERPES	RCP	NSMA (MTC)	0.650	0.243	03/06	0.489	12/06					Cont	Cont	
TERPES	RCP	NSMA (AIES)	0.463			0.200	11/06					Cont	Cont	
RREP	RCP	NSWC, Crane	0.756	0.096	04/06	0.200	01/07	0.203	01/08	0.350	01/09	Cont	Cont	
RREP	RCP	NSMA (MTC)	0.102	0.123	12/05	0.124	12/06	0.124	12/07	0.350	12/08	Cont	Cont	
RREP	MIPR	ARMY COMM ELEC	0.000	0.135	03/06	0.450	03/07	0.410	03/08	0.219	03/09	Cont	Cont	
CESAS	RCP	SPAWARSYSCEN	3.294	0.104	12/05			01/00				Cont	Cont	
CESAS	WR/MIPR	NSWC, Crane	0.395	0.407	12/05	0.250	12/06	0.000				Cont	Cont	
CESAS	RCP	MCLB	0.960	0.250	12/05	0.080	12/06	0.000				Cont	Cont	
CESAS	RCP	NAVSEA	1.100	0.400	12/05	0.500	12/06	0.138	12/07	0.420	12/08	Cont	Cont	
Subtotal Product Development				5.127		3.356		0.875		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 06 Cost	FY 06 Award Date	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	0.000	0.015	05/06	0.202						Cont	Cont	
CESAS	RCP	NSMA (MTC)	1.230	0.174	11/05	0.196	11/06					Cont	Cont	
RREP	RCP	MCSC	0.000	0.020	03/06							Cont	Cont	
RCIED	RCP	MCSC	0.000	0.000				7.445	12/07	5.496	12/08	Cont	Cont	
Subtotal Support				0.209		0.398		7.445		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 06 Cost	FY 06 Award Date	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	0.000	0.035	11/05	0.050	11/06					Cont	Cont	
TERPES	MPR	DIA	0.000	0.500	05/06							Cont	Cont	
RCIED	MPR	NSWC	0.000	0.000				3.000	12/07	2.000	12/08	Cont	Cont	
Subtotal T&E				0.535		0.050		3.000		2.000		0	0	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.808	0.030	12/05	0.023	12/06	0.000				Cont	Cont	
Subtotal Management				0.030		0.023		0.000				Cont	Cont	
Remarks:														
Total Cost				5.901		3.827		11.320		8.835		Cont	Cont	

Exhibit 4/4a Schedule Profile/Detail		DATE: February 2007
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



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	0.000	0.000	10.445	7.496	8.212	8.908	9.587	10.064	0.000	54.712
(U) PMC BLI 652000 COUNTER RDIED & EW	0.000	0.000	10.589	13.599	14.557	14.440	13.546	13.519	0.000	80.250

Exhibit 4/4a Schedule Profile/Detail		DATE: February 2007
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 & 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 2007
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

EVENT	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
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)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N	0.374	0.774	0.737	0.919	0.740	0.839	0.858	0.881	Cont	Cont
(U) PMC BLI 474700 Intelligence Support Equip RREP	3.923	3.234	2.007	6.698	1.083	1.301	1.389	1.427	Cont	Cont

Exhibit 4/4a Schedule Profile/Detail		DATE: February 2007
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 UPGRADE SCHEDULE	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
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 2007							
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication Systems**				PROJECT NUMBER AND NAME **C2275 Joint Tactical Radio Systems**				
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**11.843**	**14.557**	**10.259**	**10.208**	**6.302**	**5.548**	**4.099**	**4.180**
RDT&E Articles Qty									

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

(U) Integrated Intra-Squad Radio Systems (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 radio with one headset/microphone.

(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.

(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.

(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.

(U) Wireless: The following systems require SLEP/supportability upgrades: These are the AN/TRC-170 Troposhperic 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.

(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.

(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.

(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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication Systems**		PROJECT NUMBER AND NAME **C2275 Joint Tactical Radio Systems**		
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.472**	**0.000**	**0.000**	**0.000**	
RDT&E Articles Qty					
IISR: Operational Test and Evaluation					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**1.366**	**1.000**	**0.000**	**0.000**	
RDT&E Articles Qty					
SHF Wideband Replacement (HC3): USMC integration efforts.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**1.432**	**0.853**	**1.673**	**2.059**	
RDT&E Articles Qty					
SHF Wideband Replacement (HC3): Navy/MC Crypto Development					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.842**	**0.000**	**0.000**	**0.000**	
RDT&E Articles Qty					
SHF Wideband Replacement (HC3): Support					
Accomplishment/Effort Subtotal Cost	**0.000**	**0.380**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.515**	**0.320**	**0.051**	**0.044**	
RDT&E Articles Qty					
TSCT (LMST): Contract support costs.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.406**	**0.000**	**0.000**	**0.000**	
RDT&E Articles Qty					
TSCT (LMST): DISA Certification					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**1.407**	**5.029**	**2.964**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.270**	**0.270**	**0.320**	**0.312**	
RDT&E Articles Qty					
Legacy Comm/Elec (Networks): Develop and test component upgrades for integration into legacy network equipment (ULCS/DTC)					

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication Systems**		PROJECT NUMBER AND NAME **C2275 Joint Tactical Radio Systems**		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.381**	**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 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.750**	**0.400**	**0.250**	**0.500**	
RDT&E Articles Qty					
CONDOR: Spiral Development Studies and Integration Development					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.925**	**0.925**	**1.150**	**1.300**	
RDT&E Articles Qty					
CONDOR: Program Support, Logistics Support & Management, Technical Engineering Support					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**1.036**	**1.500**	**1.000**	**1.800**	
RDT&E Articles Qty					
CONDOR: Common Army Marine C2 Vehicle (CAMC2V) Development.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.250**	**0.250**	**0.300**	**0.300**	
RDT&E Articles Qty					
CONDOR: Technical, Engineering Support and Contract Advisory, Assistance Services (MITRE)					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.200**	**0.400**	**0.400**	**0.249**	
RDT&E Articles Qty					
CONDOR: Gateway and CAMC2V OT (MCOTEA)					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.200**	**0.000**	**0.000**	**0.000**	
RDT&E Articles Qty					
CONDOR: Integration of Condor Gateway capability into ITVs.					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**0.200**	**0.200**	**0.400**	**0.400**	
RDT&E Articles Qty					
CONDOR: Gateway and CAMC2V DT/02					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	
Accomplishment/Effort Subtotal Cost	**1.091**	**1.697**	**1.401**	**1.674**	
RDT&E Articles Qty					

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication Systems**	PROJECT NUMBER AND NAME **C2275 Joint Tactical Radio Systems**

CONDOR: Gateway and CAMC2V Materials

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.050**	**0.050**	**0.100**	**0.100**
RDT&E Articles Qty				

CONDOR: Marketing

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.050**	**0.050**	**0.100**	**0.100**
RDT&E Articles Qty				

CONDOR: Travel/TAD

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.810**	**0.000**	**0.000**
RDT&E Articles Qty				

WCR: Contractor Support

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.250**	**0.000**	**0.000**
RDT&E Articles Qty				

WCR: Operational Testing, MCOTEA

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.050**	**0.000**	**0.000**
RDT&E Articles Qty				

WCR: MCTSSA Integration Testing

(U) Total $	**11.843**	**14.557**	**10.259**	**10.208**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**7.838**	**14.612**	**13.870**	**12.158**
(U) Congressional Reductions	0.013			
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	3.987		-3.691	-2.029
(U) SBIR/STTR Transfer				
(U) Minor Affordability Adjustment	0.005	-0.055	0.080	0.079
(U) FY 2008 President's Budget	**11.843**	**14.557**	**10.259**	**10.208**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication Systems**		PROJECT NUMBER AND NAME **C2275 Joint Tactical Radio Systems**

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) PMC BLI# 463300 Radio Systems (LMST)	10.107	5.486	5.004	1.423	1.261	1.510	1.432	1.472	Cont	Cont
(U) PMC BLI# 463300 LEGACY RADIO SYS	6.736	0.000	3.993	4.044	4.089	3.839	0.277	0.284	Cont	Cont
(U) PMC BLI# 463300 CONDOR	3.583	0.000	8.545	8.365	5.993	0.000	0.000	0.000	0.000	26.486
(U) PMC BLI# 463300 TCM	0.000	417.779	34.277	61.295	106.887	43.614	0.078	0.916	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).

(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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication Systems**	PROJECT NUMBER AND NAME **C2275 Joint Tactical Radio Systems**

(U) E. MAJOR PERFORMERS:

FY06 TSCT (LMST) HARRIS COMM SYS, Melbourne, FL KA-BAND DISA Certification and Support, FEB - 06.

FY07 TSCT (LMST) HARRIS COMM SYS, Melbourne, FL KA-BAND INTEGRATION & UPGRADE, JAN 07.

FY08 TSCT (LMST) HARRIS COMM SYS, Melbourne, FL KA-BAND INTEGRATION & UPGRADE, JAN 08

FY09 TSCT (LMST) HARRIS COMM SYS, Melbourne, FL KA-BAND INTEGRATION & UPGRADE JAN 09

FY06 SHF WIDEBAND REPLACEMENT (HC3) General Dynamics C4 Systems, Inc. Needham MA, Integration efforts JUN 06 and Crypto Development MAR 06

FY07 SHF WIDEBAND REPLACEMENT (HC3) General Dynamics C4 Systems, Inc. Needham MA, Crypto Development MAR 07

FY08 SHF WIDEBAND REPLACEMENT (HC3) General Dynamics C4 Systems, Inc. Needham MA, Crypto Development MAR 08

FY09 SHF WIDEBAND REPLACEMENT (HC3) General Dynamics C4 Systems, Inc. Needham MA, Crypto Development MAR 09

FY06 LEGACY: SPAWAR, Charleston, SC, Develop and Test component upgrades for Integration. JUN 06

FY07 LEGACY: SPAWAR, Charleston, SC, Develop and Test component upgrades for Integration. FEB 07

FY08 LEGACY: SPAWAR, Charleston, SC, Develop and Test component upgrades for Integration. DEC 07

FY09 LEGACY: SPAWAR, Charleston, SC, Develop and Test component upgrades for Integration. DEC 08

FY06 CONDOR: SPAWAR, Charleston, SC CAMC2V Development and Support Jan 06

FY07 CONDOR: SPAWAR, Charleston, SC CAMC2V Development and Support Jan 07

FY08 CONDOR: SPAWAR, Charleston, SC CAMC2V Development and Support NOV 07

FY09 CONDOR: SPAWAR, Charleston, SC CAMC2V Development and Support NOV 08

FY07 WCR: Robbins AFB, Georgia, Integration Testing and Support Jan 07

Exhibit R-3 Cost Analysis					DATE: February 2007								
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**		PROGRAM ELEMENT **0206313M Marine Corps Communication Systems**						PROJECT NUMBER AND NAME **C2275 Joint Tactical Radio Systems**					
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.000		0.380	01/07	0.150	01/08	0.160	01/09	Cont	Cont	
LMST DISA Certification	MIPR	PM WIN-T, CECOM	0.045	0.406	02/06	0.000		0.000		0.000		Cont	Cont	
SHF Wideband Replacement (USMC)	MIPR	PM WIN-T, CECOM	0.125	1.366	06/06	1.000	01/07	0.000		0.000		Cont	Cont	
SHF Wideband Replacement (Navy/USMC)	MIPR	PM WIN-T, CECOM	0.000	1.432	03/06	0.853	03/07	1.673	03/08	2.059	03/09	Cont	Cont	
IISR Concept and Technical Development	WR	SPAWAR Charleston	0.000	0.325	03/06	0.000		0.000		0.000		Cont	Cont	
LCE (Networks) Development	FFP	SPAWAR Charleston	0.000	1.935	06/06	5.152	02/07	2.964	12/07	1.210	12/08	Cont	Cont	
CONDOR Integ GW ITV's	FFP	SPAWAR Charleston	0.000	0.200	02/06	0.000		0.000		0.000		0.000	0.200	
CONDOR Development	SOW	SPAWAR Charleston	0.000	3.377	01/06	4.097	01/07	3.301	11/07	4.823	11/08	Cont	Cont	
Subtotal Product Development			**0.170**	**9.041**		**11.482**		**8.088**		**8.252**		**Cont**	**Cont**	
Remarks:														

Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY06 Cost	FY 06 Award Date	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	0.000	0.050	10/05	0.050	11/06	0.100	11/07	0.100	11/08	Cont	Cont	
SHF Wideband Replacement	FFP	Titan, Stafford, VA	0.000	0.842	02/06	0.000		0.000		0.000		Cont	Cont	
LMST Contractor Support	FFP	NGIT, Stafford, VA	0.000	0.515	10/05	0.320	01/07	0.051	10/07	0.044	10/08	Cont	Cont	
LCE (Networks) Development	FFP	Titan, Stafford, VA	0.000	0.270	02/06	0.270	01/07	0.320	10/07	0.312	10/08	Cont	Cont	
WCR Program Support	FFP	NGIT, Stafford, VA	0.118	0.000		0.440	01/07	0.000	.			Cont	Cont	
WCR Contract Adv & Asst	FFP	Titan, Stafford, VA	0.000	0.000		0.370	01/07	0.000				Cont	Cont	
Subtotal Support			**0.118**	**1.677**		**1.450**		**0.471**		**0.456**		**Cont**	**Cont**	
Remarks:														

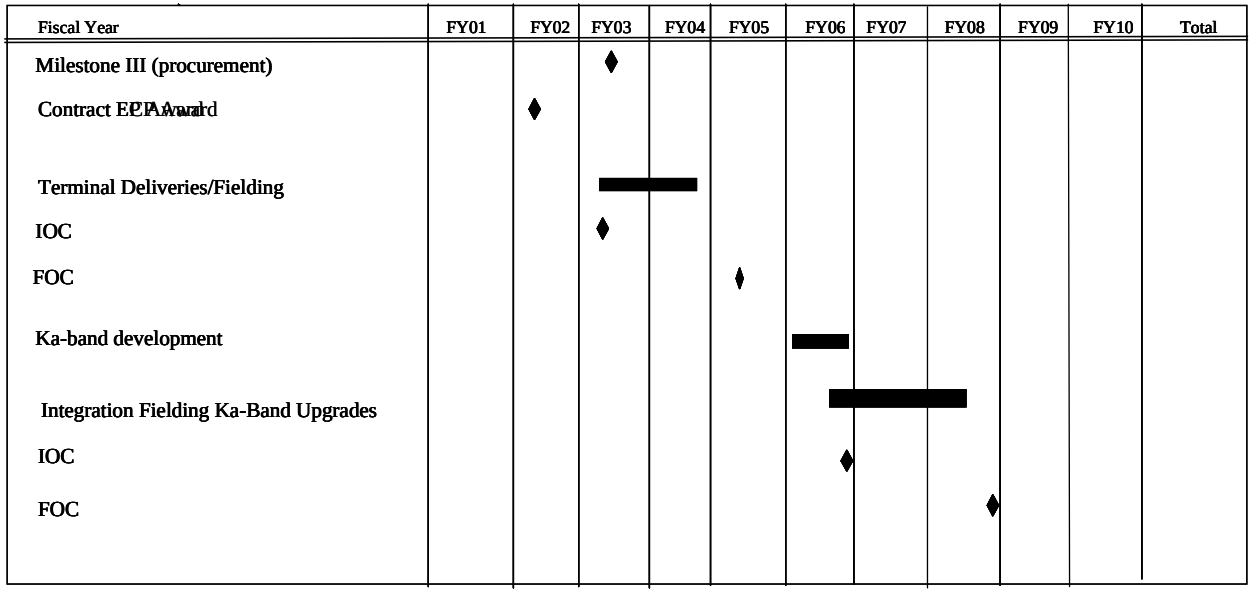
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CONDOR IOT&E	WR	MCOTEA	0.000	0.200	05/06	0.400	02/07	0.400	11/07	0.200	11/08	Cont	Cont	
WCR Integrqation Testing	FFP	MCTSSA, CA/TBD	0.000	0.000		0.050	02/07	0.000				Cont	Cont	
WCR MOT&E	FFP	MCOTEA	0.000	0.000		0.250	01/07	0.000				Cont	Cont	
Subtotal T&E			**0.000**	**0.200**		**0.700**		**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 06 Cost	FY 06 Award Date	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	0.000	0.925	10/05	0.925	01/07	1.300	11/07	1.300	11/08	Cont	Cont	
Subtotal Management			**0.000**	**0.925**		**0.925**		**1.300**		**1.300**		**Cont**	**Cont**	
Remarks:														

Total Cost			**0.288**	**11.843**		**14.557**		**10.259**		**10.208**		**Cont**	**Cont**	

Exhibit 4/4a, Schedule Profile/Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 O	**0206313M Marine Corps Communication Systems**	**C2275 Joint Tactical Radio Systems**

TACTICAL SATELLITE COMMUNICATION TERMINAL (LMST)



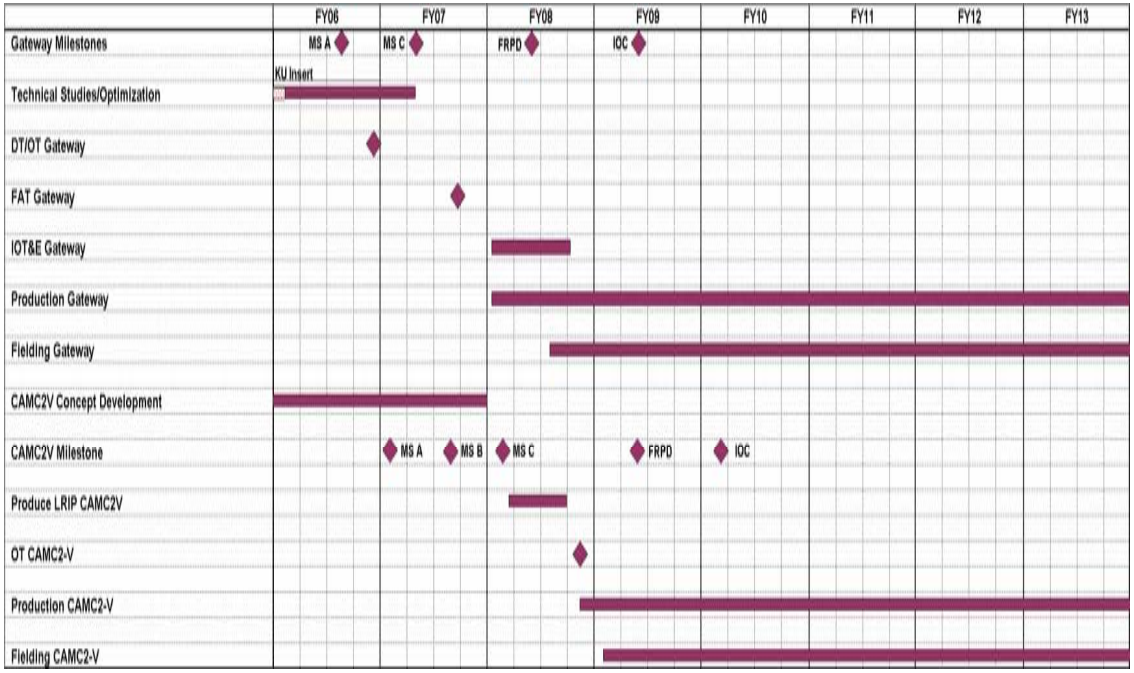
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N	0.921	0.700	0.201	0.204	0.302	0.304	0.312	0.321	Cont	Cont
(U) PMC BLI# 463300 Radio Systems (LMST)	10.107	5.486	5.004	1.423	1.261	1.510	1.432	1.472	Cont	Cont

Exhibit 4/4a, Schedule Profile/Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 O	**0206313M Marine Corps Communication Systems**	**C2275 Joint Tactical Radio Systems**

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	

Exhibit 4/4a, Schedule Profile/Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 O	**0206313M Marine Corps Communication Systems**	**C2275 Joint Tactical Radio Systems**

Command & Control On-the-move Network, Digital Over-the-horizon Relay (CONDOR)



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	4.752	5.472	5.101	6.423	1.780	0.916	0.922	0.947	Cont	Cont
(U) PMC BLI# 463300 CONDOR	3.583	0.000	8.545	8.365	5.993	0.000	0.000	0.000	0.000	26.486

Exhibit 4/4a, Schedule Profile/Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 O	**0206313M Marine Corps Communication Systems**	**C2275 Joint Tactical Radio Systems**

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 2007					
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**				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost	**3.497**	**4.477**	**4.783**	**2.574**	**0.811**	**0.826**	**0.326**	**0.335**
RDT&E Articles Qty								

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

(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

(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 element

(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,

(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

(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

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.224**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
JNMS: Program Management and Support				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.527**	**1.803**	**2.190**	**0.000**
RDT&E Articles Qty				
NPM: Develop unique USMC models for JNMS and Developmental work for SPEED Net Centric enhancements.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.714**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
TSM: Integration Testing and Training Device Engineering				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.931**	**0.000**
RDT&E Articles Qty				
TSM: Development CBT for TSM training				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.000**	**0.941**
RDT&E Articles Qty				
TSM: Development of Global Satellite Mobile Telephone.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.096**	**1.500**	**1.510**	**1.008**
RDT&E Articles Qty				
ECCS: Analysis of alternatives life cycle mode				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.381**	**1.174**	**0.000**	**0.000**
RDT&E Articles Qty				
FICCS: Development Lab Modification at Darlingtor				

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007	
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**	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
FICCS: Development of SPEED Mobile Training				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.555**	**0.000**	**0.152**	**0.625**
RDT&E Articles Qty				
TDN: Test and Evaluate integrated software requirements				
(U) Total $	**3.497**	**4.477**	**4.783**	**2.574**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**6.127**	**4.494**	**4.298**	**3.499**
(U) Adjustments from the President's Budget:				
(U) Congressional/OSD Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	-2.489		0.455	-0.945
(U) SBIR/STTR Transfer	-0.145			
(U) Minor Affordability Adjustment	0.004	-0.017	0.030	0.020
(U) FY 2008 President's Budget:	**3.497**	**4.477**	**4.783**	**2.574**

CHANGE SUMMARY EXPLANATION:
(U) Funding: See Above.
(U) Schedule: Not Applicable.
(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U)PMC BLI 463400 Communications Switching and Control Systems										
NPM (JNMS)	6.412	11.327	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.739
ECCS	0.000	0.000	0.000	6.950	10.069	8.545	0.000	0.000	0.000	25.564
FICCS	11.430	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.430
TSM	99.965	89.707	12.415	18.919	61.382	1.903	0.000	0.000	0.000	284.291
TACTICAL DATA NETWORK (TDN)	102.735	111.439	13.203	12.839	35.419	15.234	20.473	3.506	Cont	Cont

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

(U) Related RDT&E: Not Applicable.

(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 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.

(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.

(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.

(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.

(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 an 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.

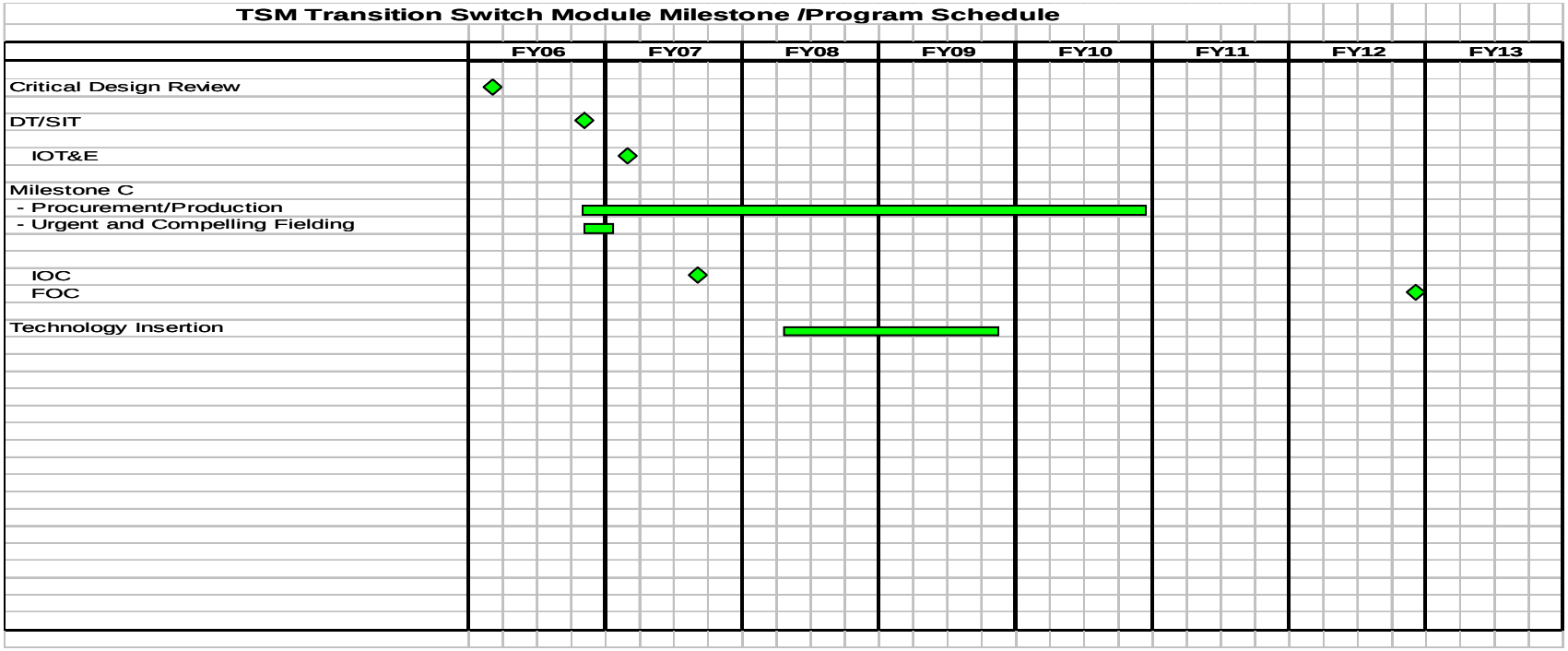
(U) E. Major Performers:

FY06 - (NPM) NGIT, Winterpark, FL. CECOM, Momouth, System Version 1.4 development variant ECP JUN 06
FY 06/08/09 - (TSM) EDO/Darlington, Wando, SC. Develop training documentation and test package, MAR 06/FEB 08/DEC 08
FY06 - (ECCS) - Tecolote Research, Goleta CA. Analysis of alternatives MAR 06
FY07/08 (ECCS) - Contractor TBD. Develop and test miniaturized components that provide DISN services while On-The-Move/Enroute. NOV 06/NOV 07
FY06 - (FICCS) EDO/Darlington, Inc., Wando, SC. Lab modification JUN 06
FY07 (FICCS) - EDO/Darlington, Inc., Wando, SC. Integration of VoIP, Secure Wireless, and ATM Technologies, FEB 07
FY06/08/09 (TDN) - Cornerstone Building Group, San Diego CA, New equipment testing and support. APR 06/ JAN 08/ JAN 09

Exhibit R-3 Cost Analysis				DATE: **February 2007**											
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**								
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.2650	0.332	06/06	0.550	01/07	0.000		0.000		Cont	Cont	
NPM (SPEED)	FFP	MCSC, Quantico, Va	1.9980	0.195	06/06	0.850	01/07	2.190	01/08	0.000		Cont	Cont	
ECCS	FFP	Tecolote Research, CA	0.0000	0.096	03/06	0.600	01/07	0.600	11/07	0.400	11/08	Cont	Cont	
FICCS	CPFF	EDO/Darlington, Inc. SC	0.0000	0.381	06/06	0.735	02/07	0.000		0.000	02/09	Cont	Cont	
TSM	FFP	EDO/Darlington, Inc. SC	6.4660	1.151	03/06	0.000		0.931	02/08	0.941	12/08	Cont	Cont	
Subtotal Product Dev			**9.1310**	**2.155**		**2.735**		**3.721**		**1.341**		**Cont**	**Cont**	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.3140	0.224	06/06	0.150	01/07	0.000		0.000		Cont	Cont	
NPM (Support Contractor)	FP	OSEC, Stafford, Va	1.0310	0.000		0.253	01/07	0.000		0.000		Cont	Cont	
TSM (Support Contractor)	RC	TITAN, Stafford, Va		0.563	01/06									
ECCS	FFP	Tecolote Research, CA	0.0000	0.000		0.600	01/07	0.609	11/07	0.308	11/08	Cont	Cont	
FICCS	CPFF	Support Contractor	0.4500	0.000		0.418	01/07	0.000		0.000		Cont	Cont	
Subtotal Support			**1.7950**	**0.787**		**1.421**		**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 06 Cost	FY 06 Award Date	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	WR	MCOTEA	0.0000	0.000		0.300	01/07	0.301	12/07	0.300	12/08	Cont	Cont	
FICCS	WR	MCTSSA	0.2570	0.000	11/05	0.021	03/07	0.000		0.000		Cont	Cont	
TDN	FFP	MCTSSA	0.0000	0.555	04/06	0.000		0.152	01/08	0.625	01/09	Cont	Cont	
Subtotal T&E			**0.2570**	**0.555**		**0.321**		**0.453**		**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 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 07 Cost	FY 07 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Subtotal Management			**0.0000**	**0.000**		**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	
Remarks:														
Total Cost			**11.1830**	**3.497**		**4.477**		**4.783**		**2.574**		**Cont**	**Cont**	

Exhibit R-4/4a Schedule Profile/Detail		DATE: **February 2007**
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



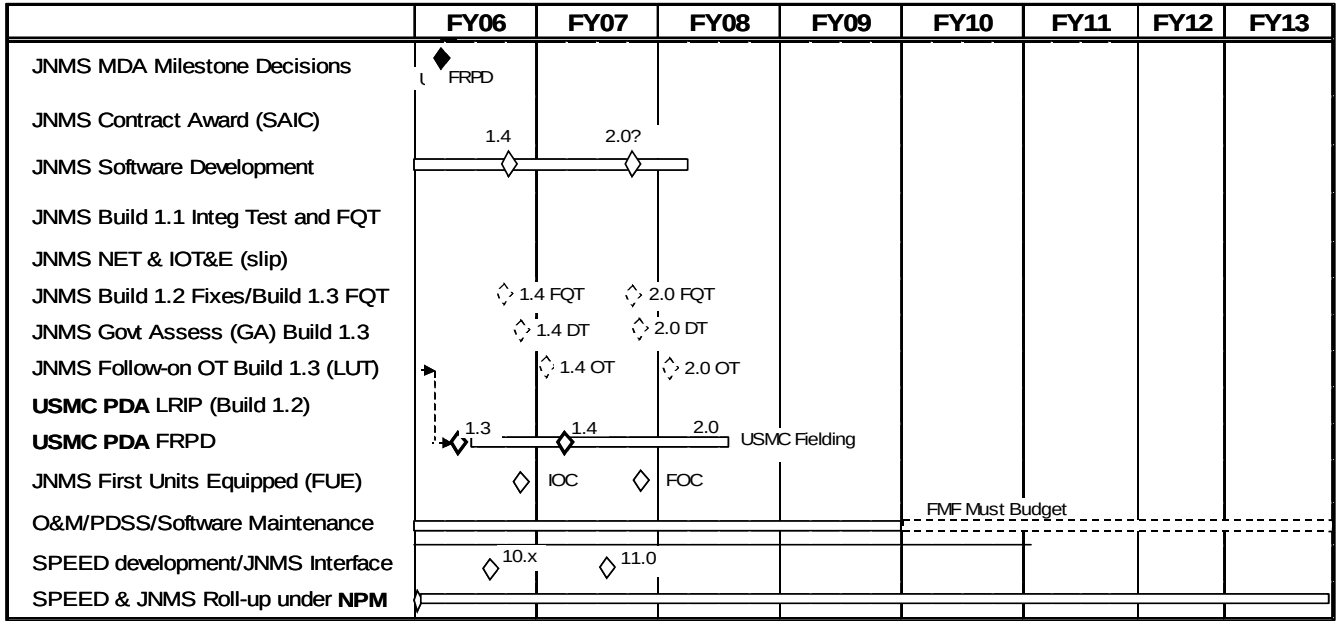
Program Funding Summary	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(APPN, BLI #,										
(U) RDT&E,N	1.714	0.000	0.931	0.941	0.307	0.322	0.326	0.335	Cont	Cont
(U) PMC BLI# 463400 Comm Switch & Control Sys TSM	99.965	89.707	12.415	18.919	61.382	1.903	0.000	0.000	0.000	284.291

Exhibit R-4/4a Schedule Profile/Detail		DATE: **February 2007**
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**

TSM SCHEDULE DETAIL	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Critical Design Review			1Q							
DT/SIT			4Q							
IOTE				1Q						
Milestone C										
Procurement/Production			4Q----------				----------4Q			
Fielding Begins			4Q							
Initial Operational Capability				3Q						
Fielding Ends/Full Operational Capability									4Q	
Technology Insertion					2Q----------	----------4Q				

Exhibit R-4/4a Schedule Profile/Detail		DATE: **February 2007**
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**

NPM (JNMS)



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	0.751	1.803	2.190	0.000	0.000	0.000	0.000	0.000	Cont	Cont
(U) PMC BLI# 463400 CommSwitch& Ctl Sys -NPM (JNMS)	6.412	11.327	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.739

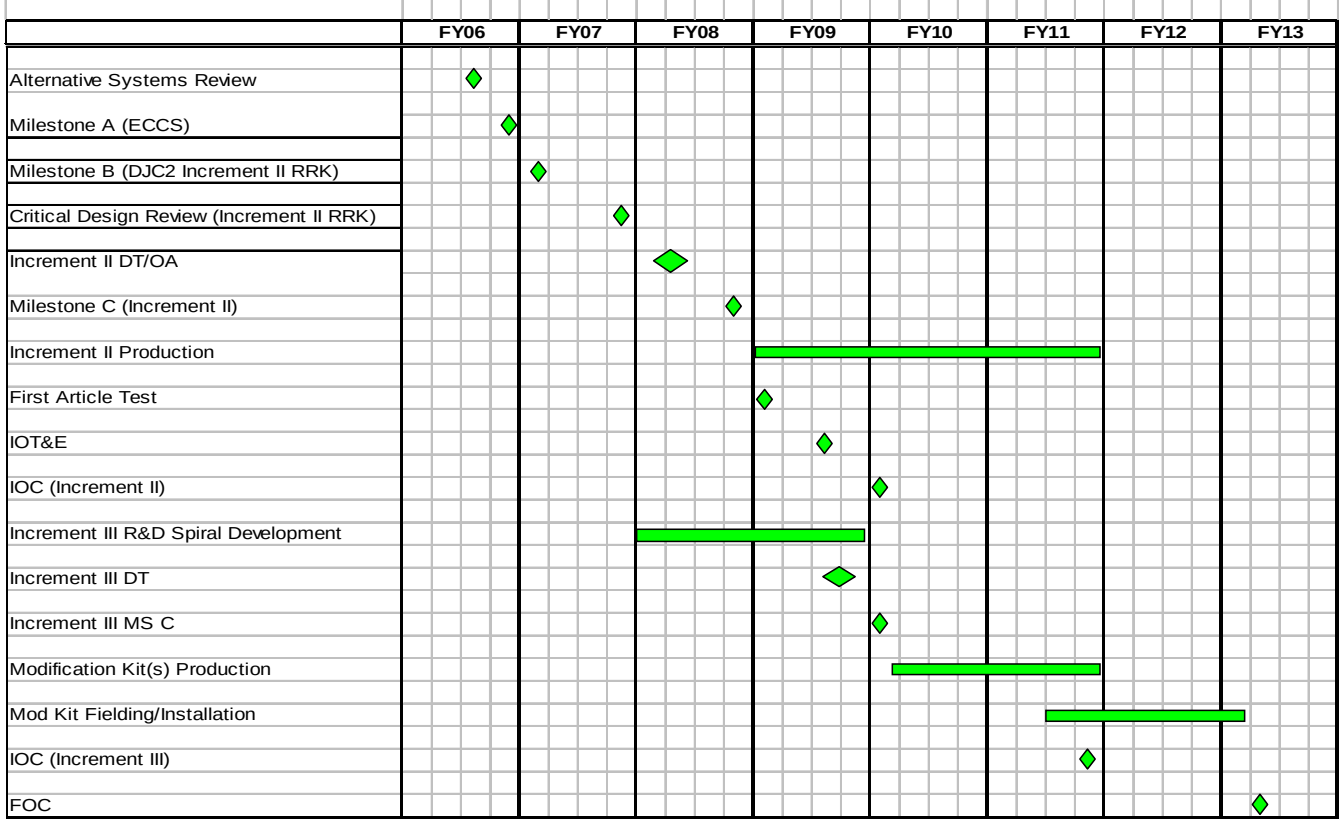
Exhibit R-4/4a Schedule Profile/Detail		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**	PROGRAM ELEMENT **0206313M Marine Corps Communications Sys**	PROJECT NUMBER AND NAME **C2276 Communications Switching & Control Systems**

NPM (JNMS) SCHEDULE DETAIL	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MDA Full Rate Production (FRP) Decision			1Q							
JNMS Initial Build 1.2 Post IOT&E Assessment		1Q								
JNMS Enhanced Initial Build 1.3 OT&E		3Q								
MDA Updates MS C (LRIP) Decision		3Q								
JNMS First Units Equipped (FUE)										
IOC			4Q							
FOC				4Q						
USMC JNMS FRPD Fielding										
1.3			2Q							
1.4				2Q						
2.0					3Q					
PDSS/Software/Subsequent Releases		3Q----------				----------4Q				
SPEED Next Major Release 11.0		3Q		2Q						

Exhibit R-4/4a Schedule Profile/Detail		DATE: **February 2007**
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

ECCS Milestone Schedule / Total Resource Summary



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	0.096	1.500	1.510	1.008	0.504	0.504	0.000	0.000	0.000	5.122
(U) PMC, BLI#463400 Comm Switch & Control Sys (ECCS)	0.000	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 2007**
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 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						
Critcial Design Review (DJC2RRK)				4Q						
DT/OA					1Q-2Q					
Milestone C (Increment II)					4Q					
Increment II Production, Delivery & Fielding						1Q----------4Q				
First Article Testing						1Q				
Intinal 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

EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2007	
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**10.613**	**8.855**	**6.833**	**6.988**	**7.197**	**7.409**	**8.851**	**9.095**
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) directly supports the DoD mandated directive, CJCSI 6212.01D, to evaluate the interoperability of the Federation of Systems (FedOS) Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) configurations that support joint forces, evaluate interoperability of new and fielded acquisition system, and provide an environment for engineering analysis to correct systems deficiencies and develop new capabilities that can operate in the 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) 6610.01B 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 anual 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 inclu 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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.292**	**1.465**	**1.500**	**1.533**
RDT&E Articles Qty				

JDEP: Conducted FedOS assessment, submitted 30 ICTO requests, and identified and fixed interoperability issues. Plans are to conduct FedOS with involvement from the USA's Army Software Block 2 participate in JFCOM's JCAS #2 test event and continue to add

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.423**	**1.542**	**1.586**	**1.625**
RDT&E Articles Qty				

JINTACCS: Joint development, implementation, and testing of data links under the direction of the DISA and OASD/N11.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007			
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**1.603**	**1.251**	**1.291**	**1.322**
RDT&E Articles Qty					

CWID: to deter, prevent, and defeat threats and aggressions aimed at the US.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**6.295**	**4.597**	**2.456**	**2.508**
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 $	**10.613**	**8.855**	**6.833**	**6.988**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**9.537**	**8.919**	**9.237**	**9.417**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	0.546		-2.442	-2.488
(U) SBIR/STTR Transfer				
(U) Minor Affordability Adjustment	0.007			
(U) FY 2008 President's Budget:	**10.090**	**8.919**	**6.795**	**6.929**

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: FY02-FY05 Northrup Grumman, Stafford VA - Level of effort contract for logistics support, engineering, analytical, acquisition and program management for C4I programs in the areas of systems architectures, configuration manageme

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 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 06 Cost	FY 06 Award Date	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	3.223	0.755	12/05	0.752	12/06	0.750	12/07	0.750	12/08	Cont	Cont
CWID	WR	MCSC Quantico, VA	0.136	0.013	12/05	0.032	12/06	0.039	12/07	0.050	12/08	Cont	Cont
CWID	MIPR	JTIC -INDIAN HEAD	0.156	0.033	12/05	0.045	12/06	0.045	12/07	0.050	12/08	Cont	Cont
Subtotal Product Dev			**3.515**	**0.801**		**0.829**		**0.834**		**0.850**		**Cont**	**Cont**
Remarks:													
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Cost	Cost to Complete	Total Cost
CWID	C/FFP	NGIT, Stafford VA	2.021	0.279	12/05	0.422	12/06	0.450	12/07	0.461	12/08	Cont	Cont
MAGTF SEI&C	C/FFP	NGIT, Stafford VA	6.847	2.813	10/05	1.695	10/06	1.401	10/07	1.508	10/08	Cont	Cont
MAGTF SEI&C	WR	MCSC, Quantico, VA	0.846	0.094	10/05	0.145	10/06	0.145	10/07	0.145	10/08	Cont	Cont
MAGTF SEI&C	WR	MCTSSA, Cp Pndltn, CA	1.423	1.042	10/05	1.083	10/06	0.850	10/07	0.850	10/08	Cont	Cont
MAGTF SEI&C	C/FFP	GD-AIS,Stafford VA	0.000	1.015	08/06	0.000		0.000		0.000			
JDEP	T&M	SENSIS Syracuse NY	0.662	0.052	05/06	0.072	05/07	0.000		0.000		Cont	Cont
JDEP	MPR	NSWC - Crane	0.464	0.182	02/06	0.329	05/07	0.151	12/07	0.151	12/08	Cont	Cont
JINTACCS	C/FFP	NGIT, Stafford VA	1.265	0.823	10/05	0.901	10/06	0.401	10/07	0.401	10/08	Cont	Cont
JINTACCS	WR	MCTSSA, Cp Pndltn, CA	1.525	0.600	10/05	0.641	10/06	0.641	10/07	0.641	10/08	Cont	Cont
Subtotal Support			**15.053**	**6.900**		**5.288**		**4.039**		**4.157**		**Cont**	**Cont**
Remarks:													
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
JDEP	WR	MCTSSA, Cp Pndltn, CA	1.832	1.058	10/05	1.064	10/06	1.065	10/07	1.065	10/08	Cont	Cont
MAGTF SEI&C	MIPR	MITRE	3.389	1.521	10/05	1.381	10/06	0.500	10/07	0.500	10/08	Cont	Cont
Subtotal T&E			**5.221**	**2.579**		**2.445**		**1.565**		**1.565**		**Cont**	**Cont**
Remarks:													
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.733	0.333	10/05	0.293	10/06	0.395	10/07	0.416	10/08	Cont	Cont
Subtotal Management			**0.733**	**0.333**		**0.293**		**0.395**		**0.416**		**Cont**	**Cont**
Remarks:													
Total Cost			**24.522**	**10.613**		**8.855**		**6.833**		**6.988**		**Cont**	**Cont**

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2007			
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**14.443**	**6.399**	**1.859**	**4.587**	**3.967**	**3.723**	**3.823**	**3.910**
RDT&E Articles Qty								

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

(U) This project encompasses two sub-element programs which are part of the Integrated Air Defense System for the Marine Corps.

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 Aeri 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 while awaiting formal program termination notification.**

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 obsolesence 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 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 unsupportable 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. The PAS-13 provides twice the range and wei

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 friend 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.

The **Joint Combat Identification Evaluation Team (JCIET)** is a superb 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 JCIE program resides in C2273 in FY06 within the same P.E.

(U) B. ACCOMPLISHMENTS/ PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**3.111**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
CLAWS: Complete Increment 0 Developmental Testing (DT), Operational Testing (OT), and develop a capability with the CLAWS Increment I launcher.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.720**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
CLAWS: Interim Contract Support for Pre-Fielding Increment I assets.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.514**	**2.418**	**0.000**	**0.000**
RDT&E Articles Qty				
CLAWS: Program Management Support.				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.772**	**0.647**	**1.135**
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.089**	**0.015**	**0.015**
RDT&E Articles Qty				
JCIET: Program management support Funding prior to FY07 is found in Project C2273 within this PE.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.780**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
GBAD TRANSFORMATION: Program Management Services				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**3.440**	**0.000**	**0.697**	**0.000**
RDT&E Articles Qty				
GBAD TRANSFORMATION: Product Development (CAC2S Integration)				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.046**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
GBAD TRANSFORMATION: Product Development (Remote Terminal Unit Replacement)				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.620**	**0.000**	**0.000**
RDT&E Articles Qty				
GBAD TRANSFORMATION: Integration development/test (PAS-13 Integration)				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.440**	**0.000**	**0.500**	**0.000**
RDT&E Articles Qty				
GBAD TRANSFORMATION: Support Costs (MCTSSA/MCCDC/Crane support)				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.000**	**3.437**
RDT&E Articles Qty				
GBAD TRANSFORMATION: Product Development (Multi Mission Missile)				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.000**	**0.275**	**0.000**	**0.000**
RDT&E Articles Qty				
BTIS: Program Management Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.000**	**1.000**	**0.000**	**0.000**
RDT&E Articles Qty				
BTIS: Test and evaluation as part of the coalition CID ACTD analysis				

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.060**	**1.145**	**0.000**	**0.000**
RDT&E Articles Qty				
BTIS: Engineer Design Model				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.080**	**0.000**	**0.000**
RDT&E Articles Qty				
BTIS: Life Cycle Cost Estimate				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.332**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
MCTIS (BTID): Support software development				
(U) Total $	**14.443**	**6.399**	**1.859**	**4.587**

(U) PROJECT CHANGE SUMMARY:	**FY2006**	**FY2007**	**FY2008**	**FY2009**
(U) FY 2007 President's Budget:	**16.001**	**6.423**	**10.940**	**6.374**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions	0.009			
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	-1.281		-8.339	-1.836
(U) SBIR/STTR Transfer	-0.290			
(U) Minor Affordability Adjustment	0.004	-0.024	-0.742	0.049
(U) FY 2008 President's Budget:	**14.443**	**6.399**	**1.859**	**4.587**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule: Not Applicable

(U) Technical: CLAWS program was suspended prior to fielding while awaiting a formal program termination decision from MCCDC.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) PMC LINE BLI 305100 CLAWS	0.366	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0.366
(U) PMC LINE BLI 300600 GBAD-T	2.212	6.801	1.988	12.516	11.625	14.443	14.743	15.081	Cont	Cont

(U) Related RDT&E:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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:

(U) CLAWS: CLAWS integrates government furnished equipment (GFE), non-developmental items (NDI) and new technology to develop a surfaced launched Anti-Air launcher. CLAWS will utilize the AMRAAM (current inventory DoD missile), existing High Mobility Multi-purpose Wheeled Vehicle (HMMWV) and contractor developed missile launch platform. CLAWS completed Developmental Test (DT) in FY05 and completed Operational Test (OT) during 1st Qtr FY06.

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 leverages off existing contracts and is principally comprised of integrating Government Off The Shelf (GOTS) equipment and Non-developmental Items (NDI).

(U) MCTIS (BTID): Economy of scales dictate a strategy that highly leverages Joint/coalition evolutionary development and acquisition efforts 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 activitey the Marine Corps will resource unique Marine Corps integration and Programmatic requirements through the System Develpoment 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.

(U) E. MAJOR PERFORMERS

CLAWS:

FY06 Raytheon, Tewksbury, MA. Fielding/sustainment for CLAWS Increment 0 Launchers. SLAMRAAM Increment I System Development; CLAWS Increment I Launcher DT.
FY07 Raytheon, Tewksbury, MA. Program closeout.

GBAD Transformation:

FY06 Raytheon, Tewksbury, MA RTU Replacement, S/W Integration
FY06 Raytheon, Tewksbury, MA. GBAD/CLAWS Integration.
FY07 NSWC, Crane, IN. Technical Engineering Services.
FY08 Raytheon, Tewksbury, MA CAC2S Integration
FY08 NSWC, Crane, IN. Technical Engineering Services
FY09 TBD, Product Development (Multi Mission Missile)

MCTIS:

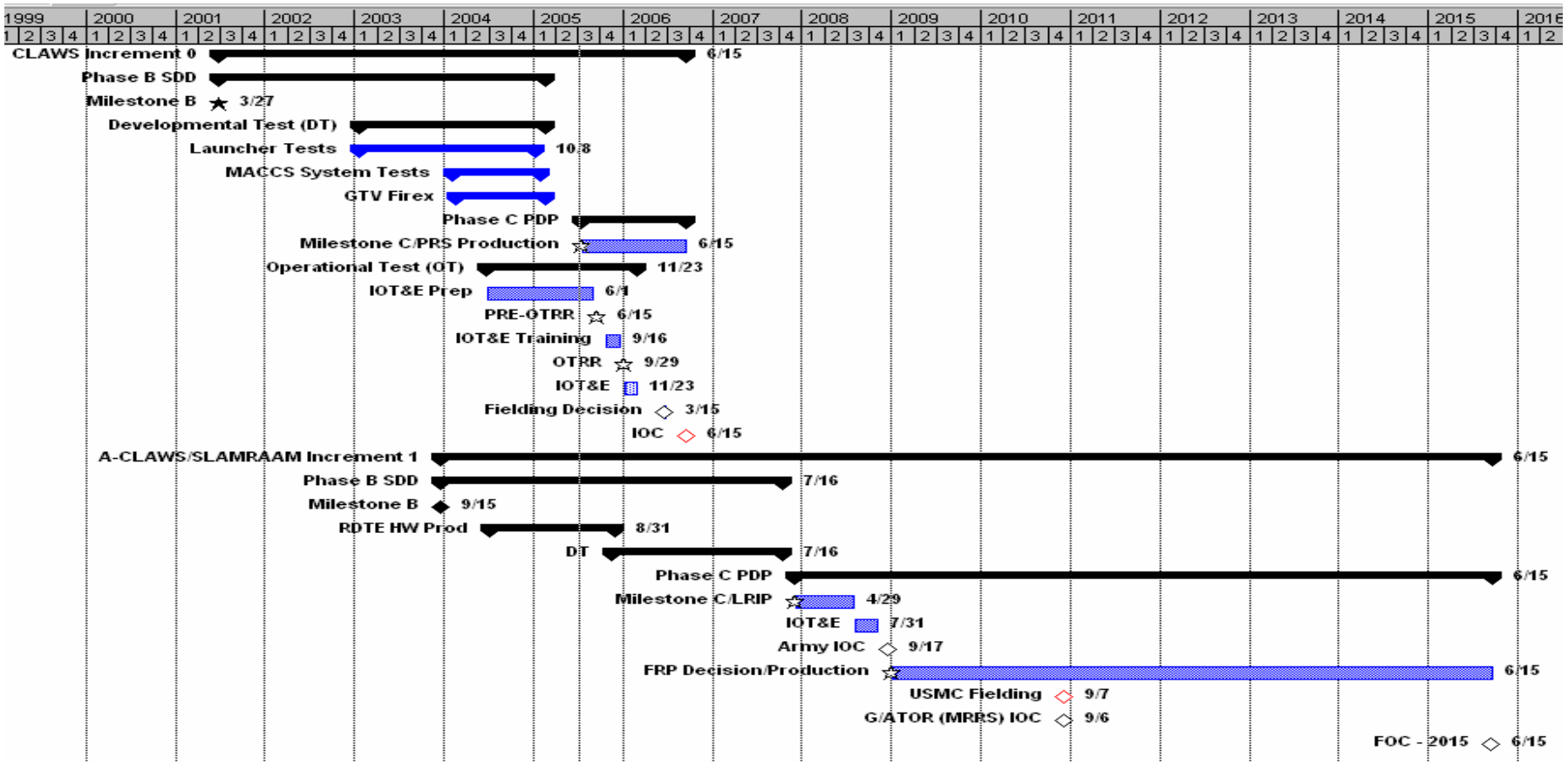
FY05-FY07 NSWC, Crane, IN Engineering Services.
FY05-FY07 MarCorSysCom (PA&E) LCCE Effort. Contractor Techolote
FY05-FY07 MarCorSysCom CEOSS support contract recompeted in Sep 04. Contractor Anteon

Exhibit R-3 Cost Analysis															February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**		PROGRAM ELEMENT **0206313M Marine Corps Communication Sys**							PROJECT NUMBER AND NAME **C2278 Air Defense Weapons Systems**						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contrac Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
CLAWS	RCP	Raytheon, Andover, MA	17.743	0.430	01/06							Cont	Cont	
CLAWS	RCP	Redstone Arsenal, AL	0.000	1.095	07/06							Cont	Cont	
GBAD TRANSFORMATION	WR	NSWC, Crane, IN(PAS-13 HW)	0.772	0.697	06/06							Cont	Cont	
GBAD TRANSFORMATION	RCP	EG&G, Stafford, VA	0.188	0.301	12/05							Cont	Cont	
GBAD TRANSFORMATION	RCP	DRS Tech, Palm Bay FL (PAS-13 SW)	0.000	0.120	05/06									
GBAD TRANSFORMATION	RCP	Raytheon, SanDiego,CA (CAC2S)	0.000	3.440	09/06							0.000	1.500	1.000
GBAD TRANSFORMATION	RCP	MCSC, QUANTICO, VA	0.000	0.464	01/06									
GBAD TRANSFORMATION	RCP	Raytheon, Tewksbury, MA	0.000					0.687	11/07					
GBAD TRANSFORMATION	RCP	TBD (MMM)	0.000							3.330	10/08			
BTID (MCTIS)	WR	NSWC, Crane, IN	1.968	2.118	03/06	1.900	01/07					Cont	Cont	
JCIET	WR	NSWC, Crane, IN	0.000			0.335	01/07	0.522	10/07	1.010	10/08	Cont	Cont	
JCIET	RCP	Anteon, Stafford, VA	0.000			0.111	01/07	0.100	10/07	0.100	10/08	Cont	Cont	
JCIET	MIPR	CECOM, Ft Monmouth	0.000			0.025	01/07	0.025	12/07	0.025	12/08	Cont	Cont	
Subtotal Product Dev			**20.671**	**8.665**		**2.371**		**1.334**		**4.465**		**Cont**	**Cont**	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contrac Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
CLAWS	WR	MCSC, Quantico, Va	0.426	0.110		0.270	12/06					Cont	Cont	
CLAWS	RCP	NGIT, Stafford, Va	0.000	1.558	10/05	1.648	12/06							
CLAWS	RCP	Raytheon,Andover, MA	0.000			0.500	12/06							
CLAWS	RCP	MCTSSA Cp Pendleton CA	0.000	0.200	10/05									
CLAWS	WR	MCCDC, Quantico, VA	0.290									Cont	Cont	
GBAD TRANSFORMATION	WR	NSWC, Crane, IN(ADCP GBDL-E)	0.130	0.396	01/06			0.250	10/07					
GBAD TRANSFORMATION	RCP	MCCDC, Quantico, VA	0.798	0.137	10/05							0.000	1.298	1.298
GBAD TRANSFORMATION	WR	MCTSSA Camp Pendleton, CA	0.000	0.120	10/05			0.250	10/07					
JCIET	WR	MCSC, Quantico, VA	0.000			0.390	01/07	0.015	10/07	0.015	10/08	Cont	Cont	
Subtotal Support			**1.644**	**2.521**		**2.808**		**0.515**		**0.015**		**Cont**	**Cont**	
Remarks:														

Exhibit R-3 Cost Analysis															February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**			PROGRAM ELEMENT **0206313M Marine Corps Communication Sys**									PROJECT NUMBER AND NAME **C2278 Air Defense Weapons Systems**				
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contrac Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	
CLAWS	RCP	Raytheon, Andover, MA	6.073	0.153	01/06							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	1.762	0.586	01/06							Cont	Cont		
CLAWS	MIPR	JSPO, Eglin, AFB, FL	4.882	0.171	10/05							Cont	Cont		
CLAWS	MIPR	Pt. Mugu, CA	2.492									Cont	Cont		
CLAWS	MIPR	PEO ASMD	1.906									Cont	Cont		
CLAWS	MIPR	SHORAD	1.274	0.220	03/06							Cont	Cont		
CLAWS	MIPR	Aberdeen, Maryland	0.142												
GBAD TRANSFORMATION	MIPR	WSMR, NM (PAS-13/ RTU Testing)	0.138			0.611	03/07					0.000	0.138		
GBAD TRANSFORMATION	MIPR	Aberdeen, MD	0.047									0.000	0.047		
GBAD TRANSFORMATION	WR	MCOTEA, Quantico, VA	0.000							0.083	11/08				
BTID (MCTIS)	WR	MCOTEA, Quantico, VA	0.000	0.160	10/05										
Subtotal T&E			**24.762**	**1.290**		**0.611**		**0.000**		**0.083**		**Cont**	**Cont**		
Remarks:															
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contrac Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	
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	1.253	0.822	02/06							Cont	Cont		
CLAWS	WR	MCSC, Quantico	0.922									Cont	Cont		
GBAD TRAANSFORMATION	WR	MCSC,QUANTICO, VA	0.000	0.031	10/05	0.009	12/06	0.010	10/07	0.024	10/08	Cont	Cont		
BTID (MCTIS)	RCP	Anteon, Stafford, VA	2.191	1.020	01/06	0.500	01/07					Cont	Cont		
BTID (MCTIS)	WR	MCSC, Quantico, VA	0.087	0.013	10/05	0.030	01/07					Cont	Cont		
BTID (MCTIS)	RCP	Tecolote, Goleta, CA	0.074	0.081	03/06	0.070	03/07					0.000	0.075		
BTID (MCTIS)	RCP	CACI, Chantilly, VA	0.033												
Subtotal Management			**12.177**	**1.967**		**0.609**		**0.010**		**0.024**		**Cont**	**Cont**		
Remarks:															
Total Costs			**59.254**	**14.443**		**6.399**		**1.859**		**4.587**		**Cont**	**Cont**		

Exhibit R-4/4a Project Schedule/Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**	PROGRAM ELEMENT **0206313M Marine Corps Communication Sys**	PROJECT NUMBER AND NAME **C2278 Air Defense Weapons Systems**

CLAWS



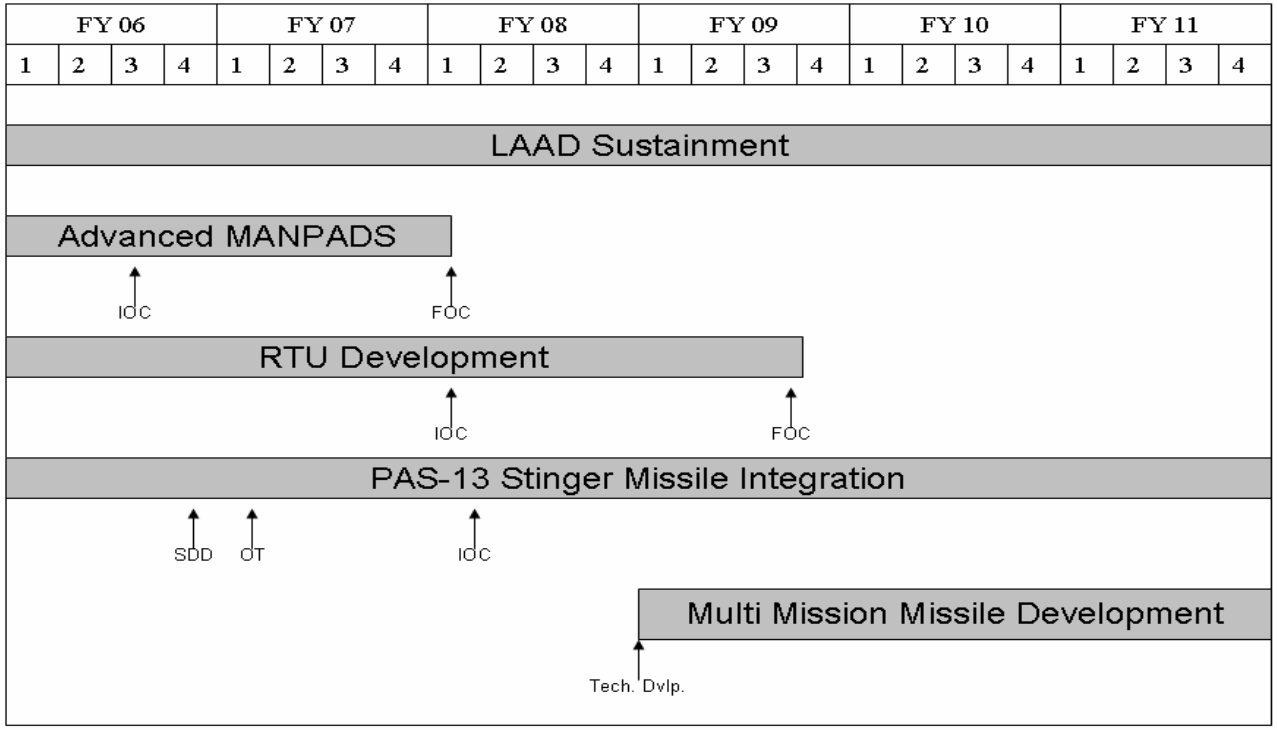
Program Funding Summary	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(APPN, BLI #, NOMEN)										
(U) RDTEN C2278	5.345	2.418	0.000	0.000	0.000	0.000	0.000	0.000		7.763
(U) PMC LINE BLI 305100 CLAWS	0.366	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.366

Exhibit R-4/4a Project Schedule/Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**	PROGRAM ELEMENT **0206313M Marine Corps Communication Sys**	PROJECT NUMBER AND NAME **C2278 Air Defense Weapons Systems**

CLAWS SCHEDULE DETAIL	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Increment 0-On Hold Pending MROC Decision									
Development Testing	2nd Qtr								
LRIP Decision	3rd Qtr								
Operational Testing		1st Qtr							

Exhibit R-4/4a Project Schedule/Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**	PROGRAM ELEMENT **0206313M Marine Corps Communication Sys**	PROJECT NUMBER AND NAME **C2278 Air Defense Weapons Systems**

Project Schedule
GBAD-T



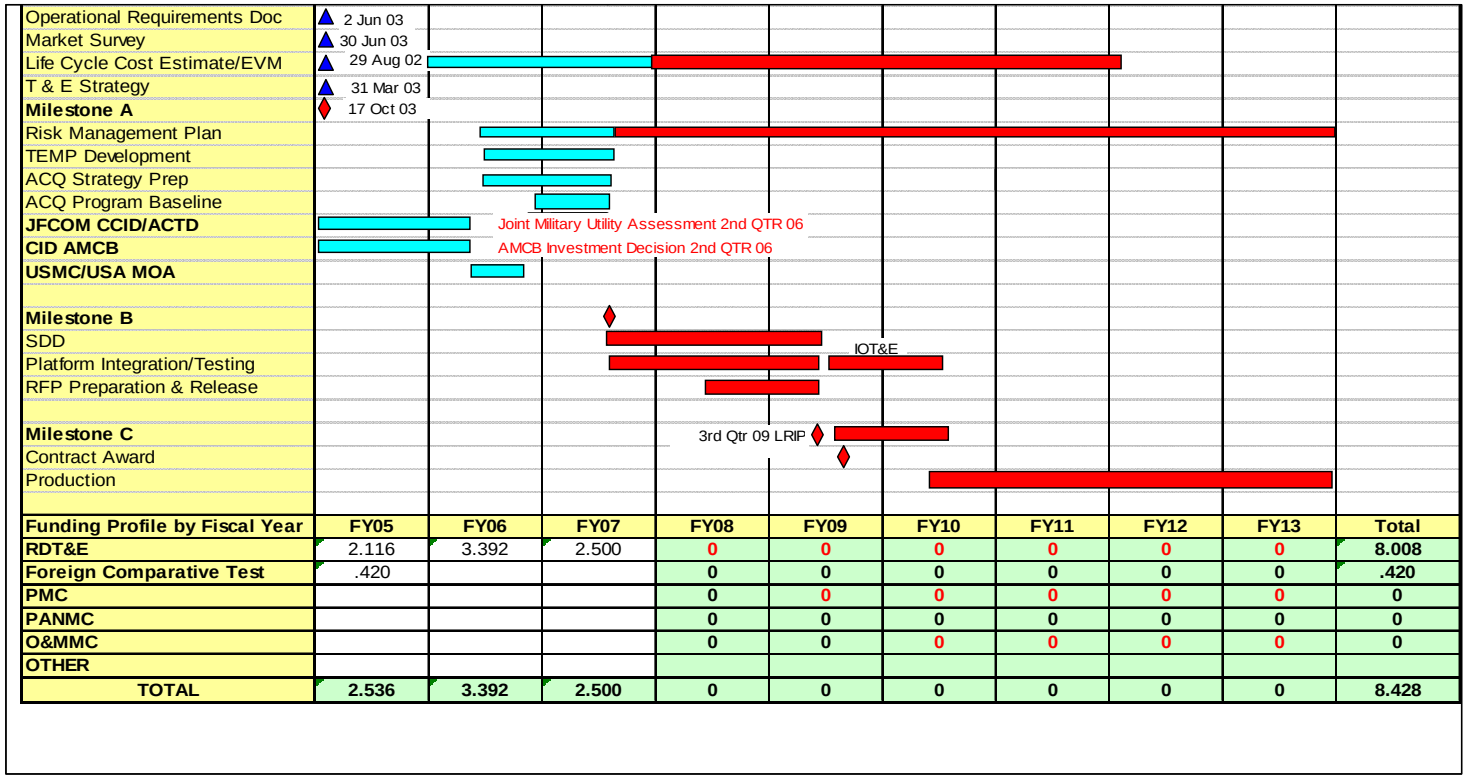
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDTEN C2278	5.966	0.620	1.197	3.437	2.837	3.303	3.384	3.460	Cont	Cont
(U) PMC LINE BLI 300600 GBAD-T	2.212	6.801	1.988	12.516	11.625	14.443	14.743	15.081	Cont	Cont

Exhibit R-4/4a Project Schedule/Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**	PROGRAM ELEMENT **0206313M Marine Corps Communication Sys**	PROJECT NUMBER AND NAME **C2278 Air Defense Weapons Systems**

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						
Remote Terminal Unit (RTU Replacement)								
IOC			1st Qtr					
FOC				3rd Qtr				
PAS-13 Thermal Sight (Stinger Reticule)								
System Development and Demonstration	4th Qtr							
Operational Testing/FUE		1st Qtr						
IOC			1st Qtr					
Multi Mission Missle								
Technology Development				1st Qtr				

Exhibit R-4/4a Project Schedule/Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**	PROGRAM ELEMENT **0206313M Marine Corps Communication Sys**	PROJECT NUMBER AND NAME **C2278 Air Defense Weapons Systems**

BTID Program Schedule



Funding Profile by Fiscal Year	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	Total
RDT&E	2.116	3.392	2.500	0	0	0	0	0	0	8.008
Foreign Comparative Test	.420			0	0	0	0	0	0	.420
PMC				0	0	0	0	0	0	0
PANMC				0	0	0	0	0	0	0
O&MMC				0	0	0	0	0	0	0
OTHER										
TOTAL	2.536	3.392	2.500	0	0	0	0	0	0	8.428

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) R&D Air Def Weaps Sys (BTIS)	3.392	2.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.892

Exhibit R-4/4a Project Schedule/Detail		DATE: February 2007
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**

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				3rd Qtr						

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication Systems**					PROJECT NUMBER AND NAME **C2315 Training Devices/Simulators**			
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost		**8.513**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty									

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

(U) Training simulators supported by this program element include Joint Simulation System (JSIMS), Closed Loop Artillery Simulation System (CLASS), Multiple Integrated Laser Engagement System (MILES 2000), Special Effect Small Arms Marking System (SESAMS), Combined Arms Command & Control Training Upgrade System (CACCTUS), MAGTF Tactical Warfare Simulation (MTWS) Enhancements, Combat Team Decision, and Range Modernization/Transformation (RMT). These training systems provide tactical weapons and decision-making skill training from entry level through Marine Air-Ground Task Force (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: Funding for this project in FY07 and beyond is found in PE 0206623M.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**5.757**	**0.000**	**0.000**	**0.000**
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.379**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

MILES: Develop Dry Fire Trigger capability, develop extended service capability for the Automatic Small Arms Alignment Fixtures (ASAAF), develop Wireless RF Detectors belt, and integrate MK19 40 mm machine gun capability into existing MILES 2000 inventory.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.377**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

MTWS Enhancements: The MTWS support initiative includes software and system developement support, training network infrastructure support, and hardware support to include: develop an HLA 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 computer 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 upgrade.

(U) Total $	**8.513**	**0.000**	**0.000**	**0.000**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication Systems**	PROJECT NUMBER AND NAME **C2315 Training Devices/Simulators**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**8.806**			
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions	0.005			
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	-0.055			
(U) SBIR/STTR Transfer	-0.245			
(U) Minor Affordability Adjustments	0.002			
(U) FY 2008 NAVCOMPT Budget:	**8.513**	**0.000**	**0.000**	**0.000**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule:

(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
RDT&E, PE 26623M C2315	0.000	7.369	15.112	14.028	10.786	10.853	11.063	11.401	Cont	Cont
PMC BLI #653200 Training Devices Simulators	118.703	13.797	30.871	56.565	18.499	19.266	20.233	20.973	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) E. MAJOR PERFORMERS:

Not Applicable for any programs with Training Devices/Simulators, C2315.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2007			
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**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost	**15.901**	**35.178**	**36.647**	**38.841**	**29.806**	**29.660**	**34.502**	**16.509**
RDT&E Articles Qty								

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

(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.

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.

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.

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.

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 Octob 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

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).

- 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 carg 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 U 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.

Joint Forces Requirment 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 impor 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.

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.

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.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.842**	**0.950**	**0.968**	**0.972**
RDT&E Articles Qty				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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**	
MCHS: Environmental testing of CISC/RISC workstations.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.396**	**0.517**	**0.534**	**0.565**
RDT&E Articles Qty				
MCHS: Environmental testing of CISC/RISC servers.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**9.185**	**31.446**	**32.898**	**32.330**
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**3.341**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				
GCSS-MC Logistics Command and Control: Program/Engineering support, analysis, integration, development, testing, and enhancements for blocks one (1) through three (3).				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.694**	**0.488**	**0.552**	**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 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)				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.443**	**1.527**	**1.629**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**2.159**	**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 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 address the mitigation of identified risks with PKI. There are 13 functional and five assurance enhancements. Additionally, PKI functionality will be expanded to the SIPRNet				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.250**	**0.101**	**0.101**
RDT&E Articles Qty				
AIT: Development of software with AIT capabilities in conjunction with the DOD AIT implementation plan.				
(U) Total $	**15.901**	**35.178**	**38.841**	**38.155**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**17.453**	**35.311**	**20.874**	**26.271**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions	0.009			
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	-1.107		15.525	12.227
(U) SBIR/STTR Transfer	-0.458			
(U) Minor Affordability Adjustments	0.004	-0.133	0.248	0.343
(U) FY 2008 President's Budget:	**15.901**	**35.178**	**36.647**	**38.841**

CHANGE SUMMARY EXPLANATION:

(U) Funding:

(U) Schedule: As a result of technical and contractual problems with the Systems Integrator which resulted in contract termination, the GCSS-MC Program has been delayed one year. The revised schedule is reflected in the updated acquisition strategy. The program is currently on schedule as revised.

(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
PMC BLI 463000 CCR: MCHS Svrs/Wkstns	48.107	65.137	64.397	64.887	64.829	38.449	40.771	59.969	Cont	Cont
PMC BLI 461700 COMBAT SPT SYS: GCSS	13.969	0.000	0.000	3.310	3.212	9.403	10.536	7.302	Cont	Cont
PMC BLI 463500 COMM & ELEC INFRA SPT: PKI	1.262	0.386	0.720	0.802	0.969	1.140	1.340	1.532	Cont	Cont
PMC BLI 461700 COMBAT SPT SYS: AIT	4.292	9.680	12.953	13.383	12.029	14.665	16.585	16.758	Cont	Cont
PMC BLI 461700 COMBAT SPT SYS: MANPOWER PLANNING SYSTEMS	0.000	0.221	0.258	0.289	0.293	0.292	0.298	0.306	Cont	Cont
PMC BLI 461700 COMBAT SPT SYS: MANPOWER OPERATIONS SYSTEMS	0.814	0.847	0.577	0.769	0.858	0.563	0.654	0.674	Cont	Cont
PMC BLI 461700 COMBAT SPT SYS: TSP	3.593	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.593

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

(U) Related RDT&E: Not Applicable.

(U) D. ACQUISITION STRATEGY:

Marine Corps Hardware Suites (MCHS): To insure computer hardware in the operating forces keeps pace with industry computer hardware technical improvements.

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 to 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 commun 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 1st quarter FY07 and MS C during the 4th quarter FY08, with fielding to begin in the 1st quarter FY09 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 II+, ATLASS I, MIMMS, and PC MIMMS.

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.

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.

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 I 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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) E. MAJOR PERFORMERS:

MCHS:

FY06 - SPAWAR, Charleston, SC Environmental testing of servers and workstations Jan 06
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

GCSS:

FY06 - Oracle, Reston, VA - Software, Training and Consulting; Northrop Grumman, Stafford, Va - Consulting and Engineering Support; SI Jan 06
Marine Corps Operational Testing & Evaluation Activity (MCOTEA) - Testing & Evaluation - Feb/Mar 06
FY07 - Oracle, Reston, VA - Software, Training and Consulting; Northrop Grumman, Stafford, Va - Consulting and Engineering Support; SI Oct 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

Transportation Systems Portfolio:

FY06 - SAVI Technology, Global Services Corp, (MDSS II/ICODES), Army (AALPS), SDDC (ICODES), ANTEON (AMS-TAC and CMOS) Dec 05
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

Joint Forces Requirement Generation II (JFRG II) :

FY06 CSC/BBN Tech (Software Developers) May 06
FY07 TBD (Software Developers) Oct 06
FY08 TBD (Software Developers) Oct 07
FY09 TBD (Software Developers) Oct 08

Public Key Infrastructure (PKI):

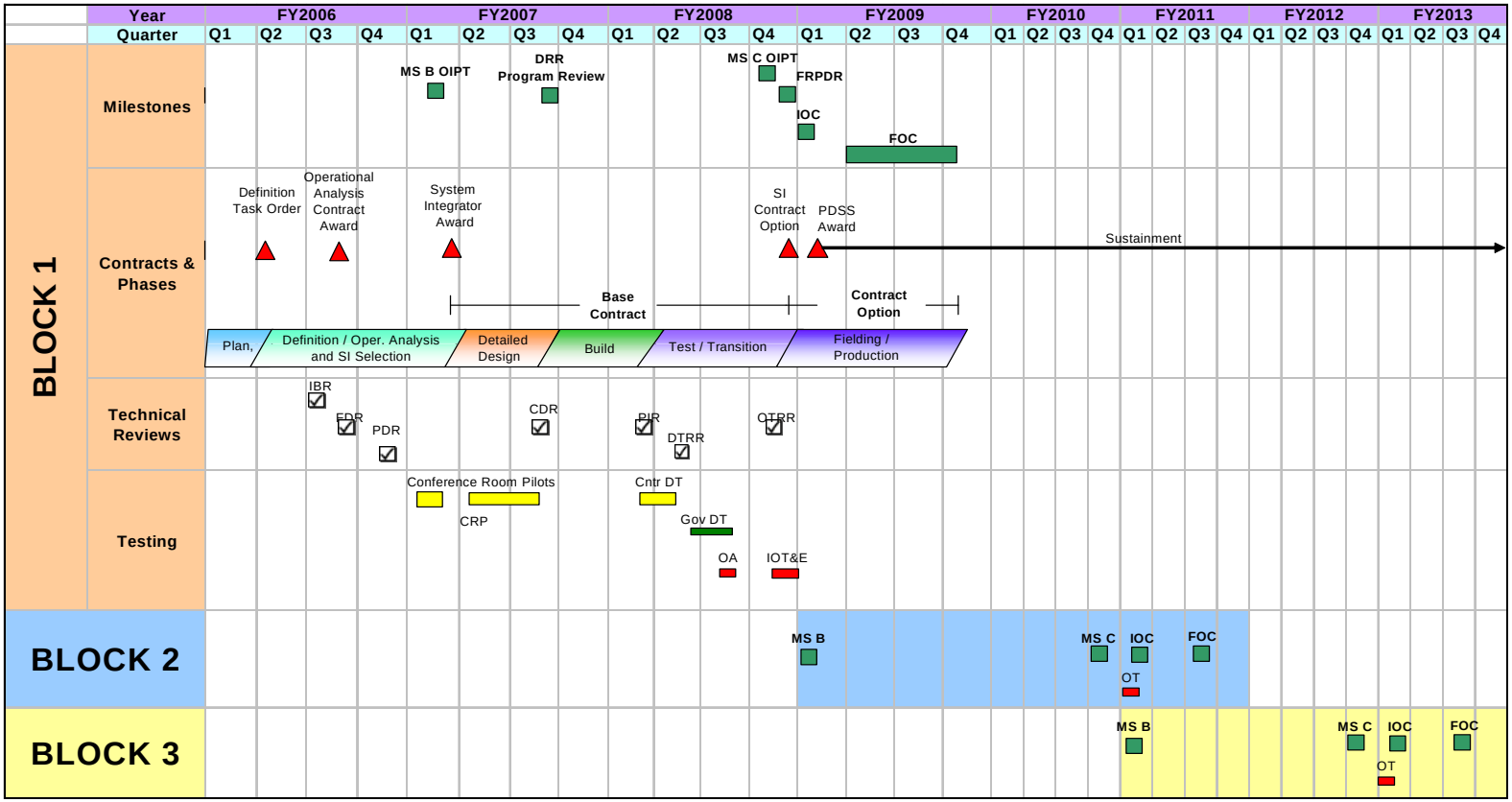
FY08 - DoD PKI PMO, Joint Interoperability Test Command, Common Criteria Test Laboratories, Independent contractor test & development laboratories Oct 07
FY09 - DoD PKI PMO, Joint Interoperability Test Command, Common Criteria Test Laboratories, Independent contractor test & development laboratories Oct 08

Automated Information Technology (AIT):

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

Exhibit R-3 Cost Analysis							DATE: February 2007							
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Dev**		PROGRAM ELEMENT **0206313M Marine Corps Communications Systems**						PROJECT NUMBER AND NAME **C2510 MAGTF CSSE SE**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.516	0.199	12/05	0.340	12/06	0.138	12/07	0.149	12/08	Cont	Cont	
GCSS Logistics Chain Man	FFP/C	MCSC, Quantico, VA	18.593	6.004	06/06	24.243	12/06	17.475	11/07	23.693	11/08	Cont	Cont	
GCSS Log C2 Systems	C/FFP	EDO Corp	2.062	2.004	10/05								4.066	
JFRG II	RCP	MCSC, Quantico, VA	0.000	1.443	10/05	1.527	10/06	1.629	06/08	0.500	10/08	Cont	Cont	
PKI	FFP	MCSC, Quantico, VA	0.000					2.159	TBD	1.873	TBD	Cont	Cont	
Subtotal Product Dev			**21.171**	**9.650**		**26.110**		**21.401**		**26.215**				
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	TBD	Various	0.000			4.200	10/06	5.028	10/07	6.347	10/08	Cont	Cont	
AIT	TBD	TBD	0.000			0.250	01/07	0.101	01/08	0.101	01/09	Cont	Cont	
Subtotal Support			**0.000**	**0.000**		**4.450**		**5.129**		**6.448**				
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	2.981	1.238	01/06	1.467	01/07	1.502	01/08	1.537	01/09	Cont	Cont	
Transportation System Portfolio	MIPR	SDDC	0.300	0.205	12/05			0.138	12/07	0.150	12/08	Cont	Cont	
Transportation System Portfolio	MIPR	ARMY	0.200	0.150	12/05			0.138	12/07	0.150	12/08	Cont	Cont	
Transportation System Portfolio	RCP	ANTEON	0.131	0.140	12/05	0.148	12/06	0.138	12/07	0.151	12/08	Cont	Cont	
GCSS Logistics Chain Man	WR	MCOTEA, Quantico,VA	4.200	2.181	02/06	1.228	01/07	6.701	10/07	1.476	10/08	Cont	Cont	
GCSS Log C2 Systems	WR	MCOTEA, Quantico,VA	0.433	1.003	03/06								1.436	
JFRG II	RCP	MCSC, Quantico, VA								1.214	01/09	Cont	Cont	
Subtotal T&E			**8.245**	**4.917**		**2.843**		**8.617**		**4.678**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	Northrop, Stafford VA	1.400	1.000	01/06	1.775	10/06	1.500	10/07	1.500	10/08	Cont	Cont	
GCSS Log C2 Systems	C/FFP	Northrop, Stafford VA	0.144	0.334	01/06								0.478	
Subtotal Management			**1.544**	**1.334**		**1.775**		**1.500**		**1.500**		**Cont**	**Cont**	
Remarks:														
Total Cost				**15.901**		**35.178**		**36.647**		**38.841**		**Cont**	**Cont**	

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Program
(U) RDT&E,N	13.194	31.446	30.704	33.016	22.022	21.958	25.908	9.145	Cont	Cont
(U) PMC BLI 461700 COMBAT SPT SYS: GCSS	13.969	0.000	0.000	3.310	3.212	9.403	10.536	7.302	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail			DATE: February 2007
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

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2007			
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**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**25.354**	**55.527**	**112.005**	**92.552**	**59.214**	**64.080**	**43.747**	**45.009**
RDT&E Articles Qty								

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

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) is the modernization initiative to replace the AN-TPS 59 Radar.

Ground Weapons Locating Radar (GWLR): The GWLR 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.

The Multi-Role Radar System (MRRS) is also known programmatically as Ground/Air Task Oriented Radar (G/ATOR). G/ATOR is a single material solution to fill the MRRS's and Ground Weapons Locating Radar's (GWLR) A160 requirements. It is an Evolutionary Acquisition/Incremental Development Program designed to reduce the Total Ownership Costs associated with the MRRS and GWLR systems. Increment I will fi the MRRS's Short Range Air Defense (SHORAD) mission and medium range Air Surveillance mission. Increment II will fill the GWLR's Counter Fire/Counter Battery missions. Increment III will develop tactical enhancements to Increment I's design. Lastly, Increment IV will fill the Air Traffic Control mission. Programmatically, MRRS and GWLR will merge into a single requirement (G/ATOR) as the requirement documents transition from the Op Requirement Document (ORD) format to the Capability Development Document (CDD) format.

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 surveillanc 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.

T**PS-59 HELRASR Ballistic Missile Defense FY06 Supplemental Title IV** - 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. Supplemental funding will be used to develop an Engineering Change Proposal to incorporate National Systems Cueing to improve TBM detection capability.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.476**	**7.832**	**4.463**	**4.419**
RDT&E Articles Qty				

AN/TPS-59 (Sustainment): Develop Engineering Change Proposals for software improvements and Diminishing Manufacturing Sources issues.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.750**	**0.750**	**0.750**	**0.750**
RDT&E Articles Qty				

AN/TPS-59 (Sustainment): Contractor service support.

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2007	
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**	
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**4.503**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
AN/TPS-59 HELRASR SUP BALLISTIC: Develop Engineering, Technical Development.					
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.100**	**0.200**	**0.000**	**0.000**
RDT&E Articles Qty					
HELRASR (Modernization): Perform Risk Mitigation analysis.					
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.000**	**0.300**	**0.000**	**0.000**
RDT&E Articles Qty					
HELRASR (Modernization): Develop Life Cycle Cost Estimate, System Test Plan..					
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.100**	**0.500**	**0.000**	**0.000**
RDT&E Articles Qty					
HELRASR (Modernization): Acquisition Support.					
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.000**	**2.524**	**0.000**	**0.000**
RDT&E Articles Qty					
HELRASR (Modernization): System development and demonstration for Risk Mitigation.					
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**1.494**	**0.774**	**0.000**	**0.000**
RDT&E Articles Qty					
GWLR: Radar Processor Redesign.					
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.293**	**1.207**	**0.000**	**0.000**
RDT&E Articles Qty					
GWLR: AN/TPQ-46A Recap/Upgrade.					
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.099**	**0.050**	**0.050**	**0.050**
RDT&E Articles Qty					
GWLR: Program office management/travel.					
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.389**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
GWLR: Contractor Technical, Programmatic, Engineering and Logistics Support					

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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**	
COST ($ in Millions)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.808**	**0.763**
RDT&E Articles Qty				
GWLR: Software/Hardware ECP's				
COST ($ in Millions)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.944**	**0.990**
RDT&E Articles Qty				
GWLR: System Diminishing Manufacturing Sources (DMS)				
COST ($ in Millions)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost	**8.288**	**33.025**	**96.687**	**65.425**
RDT&E Articles Qty				
G/ATOR: Contractor Technical, Development Engineering/EDM				
COST ($ in Millions)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.00**	**12.000**
RDT&E Articles Qty				
G/ATOR: Test and Evaluation				
COST ($ in Millions)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost	**0.625**	**0.625**	**0.625**	**0.675**
RDT&E Articles Qty				
G/ATOR: In-house Program Management (Govt Salaries)				
COST ($ in Millions)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost	**0.150**	**0.150**	**0.200**	**0.225**
RDT&E Articles Qty				
G/ATOR: Program Office Management & Travel Costs				
COST ($ in Millions)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost	**0.925**	**0.930**	**0.600**	**0.600**
RDT&E Articles Qty				
G/ATOR: Gov't Tech Support				
COST ($ in Millions)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost	**0.600**	**0.225**	**0.225**	**0.000**
RDT&E Articles Qty				
G/ATOR: Government Furnished Equipment (GFE)				
COST ($ in Millions)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost	**5.250**	**6.181**	**6.400**	**6.400**
RDT&E Articles Qty				
G/ATOR: Engineering, Management, & Logistics Support				

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2007	
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**	
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.034**	**0.134**	**0.133**	**0.135**
RDT&E Articles Qty					
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Program Management Support					
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.000**	**0.120**	**0.120**	**0.120**
RDT&E Articles Qty					
SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Engineering and technical support					
COST ($ in Millions)		**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.078**	**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 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.200**	**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)		**25.354**	**55.527**	**112.005**	**92.552**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**29.818**	**55.746**	**56.418**	**169.604**
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	-3.802		54.864	-77.717
(U) SBIR/STTR Transfer	-0.689			
(U) Minor Affordability Adjustment	0.027	-0.219	0.723	0.665
(U) Minor Affordability Adjustment				
(U) FY 2008 President's Budget:	**25.354**	**55.527**	**112.005**	**92.552**

CHANGE SUMMARY EXPLANATION:
(U) Funding: See Above.
(U) Schedule: Not Applicable.
(U) Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Comp	Total Cost
(U) PMC, BLI#465000, AN/TPS-59 Sustainment	20.716	4.576	6.302	6.505	6.935	7.362	2.909	2.990	Cont	**Cont**
(U) PMC, BLI#465000, Grnd Weapons Locating Radar	5.308	9.720	9.308	2.149	2.566	2.868	2.163	2.160	Cont	**Cont**
(U) PMC, BLI#465000, Short/Medium Range Radar	0.490	0.436	0.451	0.456	0.410	0.342	0.702	0.561	Cont	**Cont**
(U) PMC, BLI#465000,Title IX Radar Set, Firefinder	18.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**18.000**
(U) PMC, BLI#465000,Title IX Short/Medium range Radar	0.000	3.893	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**3.893**
(U) PMC, BLI#465000,Title IX AN/TPS-59 Mods	0.000	17.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**Cont**
(U) PMC, BLI#465000, Grnd/Air Task Oriented Radar	0.000	0.000	0.000	17.125	105.179	114.440	127.711	130.977	Cont	**Cont**

(U) Related RDT&E:

(U) PE 0206313M (Marine Corps Communication Systems) PROJECT C9639A PROJECT C9860A

(U) D. ACQUISITION STRATEGY:

(U) Highly Expeditionary Long Range Air Surveillance Radar (HELRASR): The program office started R&D efforts, to include risk mitigation, contract support and document preparation, that will support development of a 3-D Expeditionary Long Range Radar (3DELRR) capability. The risk mitigation efforts will be applied to the AN/TPS-59 to close the capability gap between the AN/TPS-59 and the 3DELRR requirement.

(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 utilitized 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. A single Engineering Development Model (EDM) will be developed during Increment I's SDD phase 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.

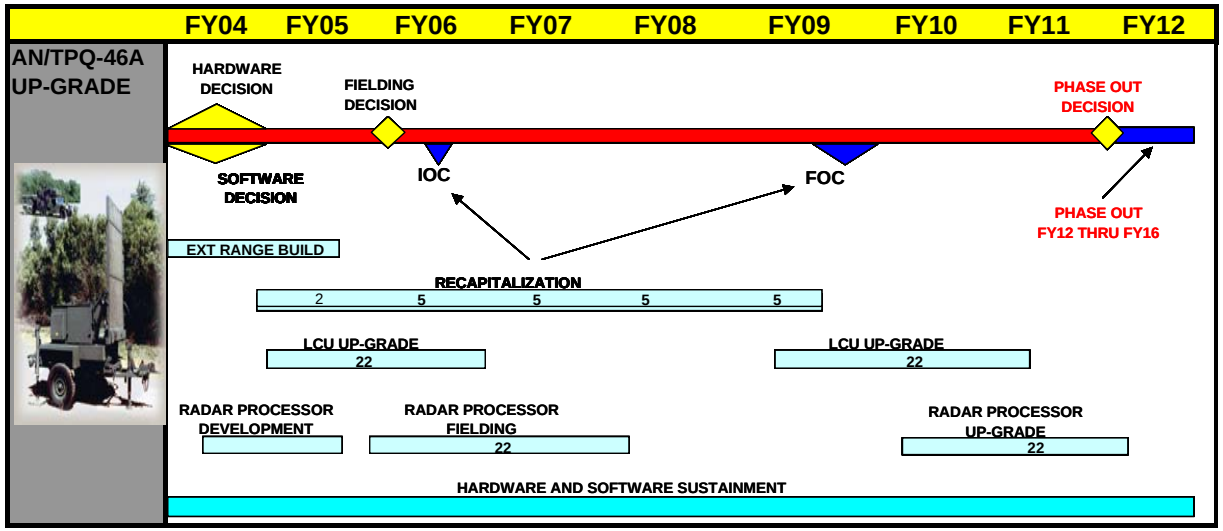
(U) Sensis Corp was awarded the contract in 2006 to support risk mitigation efforts for the 3DELRR requirement (AN/TPS-59 system development risk mitigation).
(u) Lockheed Martin Corp, Syracuse, NY, Sensis Corp and Anteon Corp. are G/ATOR prime contractors

Exhibit R-3 Cost Analysis										DATE: February 2007					
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 OPERATIONAL SYS DEV**		PROGRAM ELEMENT **0206313M Marine Corps Communication Systems**								PROJECT NUMBER AND NAME **C3099 RADAR SYSTEMS**					
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	9.071	1.476	01/06	7.832	01/07	4.463	01/08	4.419	01/09	Cont	Cont	
AN/TPS-59 HELRASR	C/CPFF	Lockheed, Syracuse NY	0.000	4.503	06/06		NA	0.000	NA	0.000	NA		2.820	
AN/TPS-59 HELRASR	C/CPFF	FT MONMOUTH NJ	0.000	0.100	06/06	0.000	NA	0.000	NA	0.000	NA		0.150	
SHORT/MEDIUM RANGE	RCP	Northrop Grumman	1.084	0.278	07/06	0.000	N/A	0.000	N/A	0.000	N/A	Cont	Cont	
G/ATOR	CPIF	Contractor TBD	13.388	8.288	08/06	33.025	10/06	96.687	11/07	65.425	11/08	Cont	Cont	
G/ATOR (GFE)	MIPR	FT MONMOUTH NJ	0.000	0.800	04/06	0.200	N/A	0.200	11/07	0.000	N/A	Cont	Cont	
Subtotal Product Dev			**23.543**	**15.445**		**41.057**		**101.350**		**69.844**		**Cont**	**Cont**	
Remarks:														
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	1.878	1.787	11/05	0.305	11/06	0.614	11/07	0.640	11/08	Cont	Cont	
GWLR	MIPR	US Army CECOM	0.912	0.000	N/A	0.774	11/06	0.400	11/07	0.350	11/08	Cont	Cont	
GWLR	WR	MCLB Barstow	0.298	0.000	N/A	0.902	11/06	0.330	11/07	0.350	11/08	Cont	Cont	
GWLR	WR	NSCW, Crane, IN	0.215	0.350	11/05	0.000	N/A	0.408	11/07	0.413	11/08	Cont	Cont	
HELRASR (Modernization)	WR	MCSC, Quantico, VA	0.000	0.000	N/A	0.200	03/06	0.000	N/A	0.000	N/A	0.000		
SHORT/MEDIUM RANGE	WR	NSWC, Crane, IN	0.289	0.000	N/A	0.120	01/07	0.120	01/08	0.120	01/09	Cont	Cont	
G/ATOR (PBL)	C/FFP	EG&G Tech, Dumfries, VA	0.400	0.200	01/06	0.900	10/06	0.900	11/07	0.900	11/08	Cont	Cont	
G/ATOR (RADAR ENGINEER)	WR	NRL, Washington, DC	0.424	0.200	12/05	0.200	10/06	0.200	11/07	0.200	11/08	Cont	Cont	
G/ATOR	MIPR	MITRE, Boston, MA	0.350	0.350	01/06	0.350	11/06	0.350	11/07	0.350	11/08	Cont	Cont	
G/ATOR (RADAR ENGINEER)	WR	NAVAIR-John Lee	0.105	0.200	01/06	0.200	10/06	0.200	11/07	0.200	11/08	Cont	Cont	
G/ATOR	RCP	MCR Federal, MCSC	0.007	0.200	12/05	0.100	10/06	0.000	11/07	0.000	11/08	Cont	Cont	
G/ATOR	WR	NSWC-CRANE	0.520	0.200	01/06	0.200	10/06	0.200	11/07	0.200	11/08	Cont	Cont	
G/ATOR	C/FFP	TBD (Models & Sym)	3.550	0.000	N/A	0.480	10/06	0.450	11/07	0.475	11/08	Cont	Cont	
G/ATOR	C/FFP	TBD (RFP DEV)	4.006	0.000	N/A	0.200	10/06	0.200	11/07	0.200	11/08	Cont	Cont	
Subtotal Support			**12.954**	**3.487**		**4.931**		**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 06 Cost	FY 06 Award Date	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	0.000	0.325	01/06	0.000	01/07	0.000		12.000		Cont	Cont	
Subtotal T&E			**0.000**	**0.325**		**0.000**		**0.000**		**12.000**		**Cont**	**Cont**	
Remarks:														

Exhibit R-3 Cost Analysis									DATE: February 2007					
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 OPERATIONAL SYS DEV**		PROGRAM ELEMENT **0206313M Marine Corps Communication Systems**							PROJECT NUMBER AND NAME **C3099 RADAR SYSTEMS**					
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	Anteon, Stafford, VA	3.941	0.750	01/06	0.750	10/06	0.750	01/08	0.750	01/09	Cont	Cont	
HELRASR (Modernization)	C/CPFF	Anteon, Stafford, VA	0.000	0.00	N/A	0.500	10/06	0.000	N/A	0.000	N/A			
HELRASR (Modernization)	WR	MCSC, Quantico, VA	2.095	0.100	09/06	2.824	10/06	0.000	N/A	0.000	N/A	Cont	Cont	
SHORT/MEDIUM RANGE	C/CPFF	Anteon, Stafford, VA	0.202	0.000	N/A	0.110	10/06	0.107	10/07	0.112	10/08	Cont	Cont	
SHORT/MEDIUM RANGE	WR	MCSC, Quantico, VA	0.030	0.034	12/05	0.024	12/06	0.026	12/07	0.023	12/08	Cont	Cont	
GWLR	WR	MCSC, Quantico, VA	0.186	0.138	10/05	0.050	10/06	0.050	10/07	0.050	10/08	Cont	Cont	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 OPERATIONAL SYS DEV**		PROGRAM ELEMENT **0206313M Marine Corps Communication Systems**							PROJECT NUMBER AND NAME **C3099 RADAR SYSTEMS**					
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	RCP	Anteon, Stafford, VA	3.848	4.000	10/05	3.981	10/06	4.200	10/07	4.200	10/08	Cont	Cont	
G/ATOR (CAPDEV)	RCP	MCCDC, Quantico, VA	0.130	0.200	02/06	0.200	10/06	0.000	N/A	0.000	N/A	Cont	Cont	
G/ATOR (SALARIES)	MIPR	MCSC, Quantico, VA	0.220	0.525	01/06	0.650	01/07	0.650	10/07	0.650	10/08	Cont	Cont	
G/ATOR (TAD)	RCP	MCSC, Quantico, VA	0.141	0.150	10/05	0.150	10/06	0.200	10/07	0.225	10/08	Cont	Cont	
G/ATOR	C/CPFF	TBD (Risk Management)	0.000	0.200	03/06	0.300	10/06	0.300	10/07	0.300	10/08	Cont	Cont	
Subtotal Management			**10.793**	**6.097**		**9.539**		**6.283**		**6.310**		**Cont**	**Cont**	
Remarks:														
Total Cost			**47.290**	**25.354**		**55.527**		**112.005**		**92.552**			**Cont**	**Cont**

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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



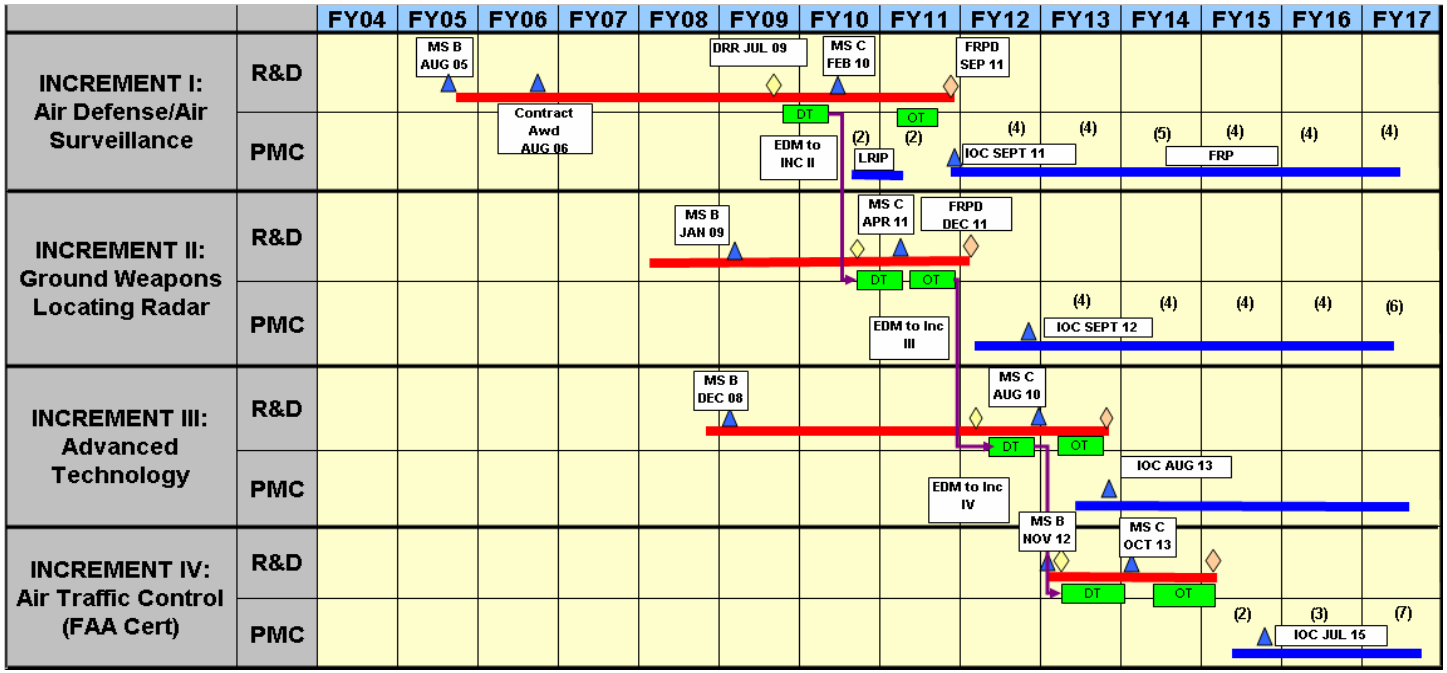
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N, C3099, GWLR	2.275	2.031	1.802	1.803	1.847	1.890	0.551	0.609	Cont	Cont
(U) PMC, BLI#465000, GWLR	5.308	9.720	9.308	2.149	2.566	2.868	2.163	2.160	Cont	Cont
(U) PMC, BLI#465000,FIRE FINDER	18.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.000

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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**

GWLR SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Extended Range Software Build		2nd Q----------4th Q							
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----------						
IOC Upgrade ECPs				3rd Q					
FOC Upgrade ECPs							3rd Q		

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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*



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, C3099, G/ATOR	15.838	41.136	104.737	85.325	51.571	59.669	40.621	41.753	Cont	Cont
(U) PMC, BLI#465000, G/ATOR	0.000	0.000	0.000	17.125	105.179	114.440	127.711	130.977	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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					1st Q--------1st Q			
Milestone B						2nd Q		
System Development and Demonstration Phase						1st Q----------2nd Q		
System Demonstration (DT)								3rd Q-2nd Q
Long Lead Items							4th Q	
Milestone C								4th Q
Increment III								
Concept & Technology Developmental Phase					1st Q--------1st Q			
Milestone B						1st Q		
System Development and Demonstration Phase						1st Q----------4th Q FY12		
System Demonstration (DT)							3rd Q FY12	
Milestone C							4th Q FY12	
Production Phase							4th Q FY12	
IOT&E								1-2ndQFY13

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007							
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Dev**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication**	**C9999 CONGRESSIONAL ADDS**							
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**19.510**	**16.189**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty									

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

MetaData C9276 - Metadata technology incorporates the first data language. It serves as the "brain" and is the enabling component of the Metadata products.. The technology array solves the above-identified problems by commonly defining and modeling data meanings, functions, and relations; creating an intelligent database with pre-loaded data conditions and automatically merging new real-time data; enabling all data structures to be stored using a finite set of data relations; preparing data for a variety of mission specific tool sets; delivering a database that can search itself; enabling users to access data in a common way; and providing A single database design for all applications.

Improved Ground Based Transportable Radar C9639(IGBTR) – Expeditionary radars will require a smaller antenna than the current AN/TPS-59. Radar antenna size is dependent on the power level of the transmitters used. Funding will support a risk mitigation effort to develop high power transmitter/receiver assemblies.

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.

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-mounted 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.

Marine Corps Composite Tracking Network Engineering Development (CTN) – 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).

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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Dev	**0206313M Marine Corps Communication**	**C9999 CONGRESSIONAL ADDS**

Training System Modification is Radio Battalion Information Operators Training C9863N - will consist of technical training and support of Marine Air Ground Task Force (MAGTF) information operations cells through specialized classroom instruction, practical application, testing and evaluation of Electronic Warfare units supporting them.

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 SINCGARS ASIIIP VHF transponder and satellite communications.

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.

Battlefield Management System (BMS)/Advanced Situational Awareness System (AS2) C9A87 - This add supports the Battlefield Management System (BMS)/Advanced Situational Awareness System (AS2)

Foliage Penetrating Synthetic Aperture Radar C9A88 - This add will support the development of the Foliage Penetrating Synthetic Aperture Radar

Improved Marine Communications C9A89 - This add will support the development of Improved Marine Communications

Trident - Soldier Training C9A90 - This add provides funding for Trident - Soldier Training

Wireless Tactical Remote Video/Sensor Surveillance System C9A91 - Funding for Development of Wireless Tactical Remote Video/Sensor Surveillance System

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.438**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

MetaData C9276 - Research and development of a multi-phase effort in support of MetaData.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**3.031**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

IGBTR: Develop, Build and Test transmit/receiver line replaceable units

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.225**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

IGBTR: Engineering and technical support for transmit/receive line replaceable uni

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007			
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)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**1.438**	**1.345**	**0.000**	**0.000**
RDT&E Articles Qty					
USMC Battlefield Fusion - C9640 Development and Integration of Electronic Warfare Scenario Simulator (EWSS).					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**1.348**	**2.740**	**0.000**	**0.000**
RDT&E Articles Qty					
Ground/AirTask Oriented Radar G/ATOR C9860: Analytical, Acquisition, Sdmin Sup for Increment II					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.376**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
Ground/AirTask Oriented Radar G/ATOR C9860: Logistics and Program Support for Increment II					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.120**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
Composite Tracking Network C9861: Administrative Support on contract					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.250**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
Composite Tracking Network C9861: Program Management Support					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.120**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
Composite Tracking Network C9861: Salary for Intergovernmental Personnel Act					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**2.062**	**2.192**	**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)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.930**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
Radio BN Info OPS training C9863 - Development of tactics, techniques, and procedures for Radio Bn Operators training.					

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Dev**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication**	**C9999 CONGRESSIONAL ADDS**			
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.832**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
Tac Veh Recon Surveillance Target Acq Capability (RSTV) C9864 - Maturation for RSTV Phase I					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.183**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
Tac Veh Recon Surveillance Target Acq Capability (RSTV) C9864 - Contract support for RSTV					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**2.749**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
Tac Veh Recon Surveillance Target Acq Capability (RSTV) C9864 - RSTV Technology Transfer to on board Vehicle Power					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.980**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
Tac Veh Recon Surveillance Target Acq Capability (RSTV) C9864 - RSTV C2 On the Move Integration					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**1.800**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty					
Tac Veh Recon Surveillance Target Acq Capability (RSTV) C9864 - RSTV Platform Demonstration					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**1.628**	**2.391**	**0.000**	**0.000**
RDT&E Articles Qty					
Remote Tactical Collection and Transmission System C9865- Field User Evaluation of prototypes.					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.000**	**3.238**	**0.000**	**0.000**
RDT&E Articles Qty					
Battlefield Management System (BMS)/Advanced Situational Awareness System (AS2) C9A87 - This add supports the Battlefield Management System (BMS)/Advanced Situational Awareness System (AS2)					

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Dev**	PROGRAM ELEMENT NUMBER AND NAME **0206313M Marine Corps Communication**	**C9999 CONGRESSIONAL ADDS**			
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.000**	**0.996**	**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)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.000**	**1.295**	**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)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.000**	**0.996**	**0.000**	**0.000**
RDT&E Articles Qty					
Trident - Soldier Training C9A90 - This add provides funding for Trident - Soldier Training					
COST ($ in Millions)		**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishment/Effort Subtotal Cost		**0.000**	**0.996**	**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					
(U) Total $		**19.510**	**16.189**	**0.000**	**0.000**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget	**21.300**	**0.000**	**0.000**	**0.000**
(U) Congressional Reductions	-0.203			
(U) Congressional Rescissions				
(U) Congressional Increases		16.250		
(U) Reprogrammings				
(U) Reprogramming for Execution	-1.000			
(U) SBIR/STTR Transfer	-0.501			
(U) Minor Affordability Adjustment	-0.086	-0.061		
(U) FY 2008 President's Budget:	**19.510**	**16.189**	**0.000**	**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.

EXHIBIT R-2, RDT&E Budget Item Justification				DATE:			February 2007	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational System Development**	PROGRAM ELEMENT (PE) NAME AND NO. **0206623M Marine Corps Ground Combat/Supporting Arms Systems**							
COST ($ in Millions)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
Total PE Cost	**73.816**	**65.486**	**57.177**	**60.857**	**51.243**	**43.098**	**44.646**	**46.082**
C0021 Assault Amphibious Vehicle 7A1 (AAV7A1)	**0.820**	**0.804**	**0.842**	**0.865**	**0.890**	**0.905**	**0.925**	**0.950**
C1555 Light Armored Vehicle (LAV) PIP	**11.839**	**5.487**	**11.440**	**8.460**	**7.486**	**1.460**	**1.491**	**1.533**
C1901 Marine Corps Ground Weaponry PIP	**6.078**	**6.434**	**6.235**	**7.258**	**7.416**	**7.045**	**7.202**	**7.391**
C2086 Marine Enhanced Program (MEP)	**2.412**	**2.573**	**3.686**	**3.763**	**3.846**	**3.917**	**3.999**	**4.099**
B2237 Amphibious Vehicle Test Branch (AVTB)	**0.811**	**0.856**	**0.895**	**0.915**	**0.942**	**0.959**	**0.977**	**0.984**
* C2315 Training Devices/Simulators	**0.0**	**7.341**	**15.197**	**14.144**	**10.881**	**10.936**	**11.122**	**11.435**
C2503 Family of Combat Equip Support & Services	**7.583**	**9.388**	**10.186**	**14.195**	**11.571**	**11.708**	**8.794**	**9.042**
C2928 EIFGSWS (HIMARS)	**3.669**	**6.156**	**1.191**	**2.432**	**0.525**	**0.545**	**2.150**	**2.447**
C3098 Fire Support Systems	**14.359**	**7.688**	**6.494**	**8.825**	**7.686**	**5.623**	**7.558**	**7.762**
C4002 Family of Raid Reconnaissance	**1.698**	**0.677**	**1.011**	**0.0**	**0.0**	**0.0**	**0.428**	**0.439**
C9999 Congressional Adds	**24.547**	**18.082**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Quantity of RDT&E Articles								

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

This PE provides modification to Marine Corps Expeditionary Ground Force Weapon Systems to increase lethality, range, survivability and operational effectiveness. It also provides for the development of AAV7A1 reliability, maintainability, operational and safety modifications, improvements in command and control 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.

Note:

* Funds for Project C2315 were realigned from PE 0206313M starting in FY07.

B. PROGRAM CHANGE SUMMARY

	FY 2006	FY 2007	FY 2008	FY 2009
(U) FY 2007 President's Budget:	**72.982**	**47.592**	**50.157**	**50.233**
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions	-0.228			
(U) Congressional Rescissions				
(U) Congressional Increases		18.150		
(U) Reprogrammings	2.392		6.761	10.050
(U) SBIR/STTR Transfer	-1.231			
(U) Minor Affordability Adjustment	-0.099	-0.256	0.259	0.574
(U) FY 2008 President's Budget:	**73.816**	**65.486**	**57.177**	**60.857**

CHANGE SUMMARY EXPLANATION:
(U) Funding: See Above.
(U) Schedule:
(U) Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Dev**	PROGRAM ELEMENT NUMBER AND NAME **0206623M Marine Corps Ground Combat/Supporting Arms Systems**				PROJECT NUMBER AND NAME **C1555 Light Armored Vehicle (LAV) PIP**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost	**11.839**	**5.487**	**11.440**	**8.460**	**7.486**	**1.460**	**1.491**	**1.533**
RDT&E Articles Qty								

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

The Light Armored Vehicle Family of Vehicles (LAV FOV) consists of six fielded LAV configurations, and one communications/intelligence-configured asset on a LAV chassis. The LAV FOV provides a logistically self-contained, highly mobile, and lethal combined arms combat system to the Marine Air-Ground Task Force (MAGTF). The LAV Product Improvement Program funds the development and testing of modifications of four programs; the LAV-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.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**10.031**	**7.054**
RDT&E Articles Qty				

MARINE-PC: Develop Marine-PC swim capabilities with Applique Armor, fabricate prototypes, PMO & matrix support, PMO travel, and conduct DT/OT of Marine-PC prototypes.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.995**	**1.332**	**1.409**	**1.406**
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**9.844**	**2.772**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**1.383**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.000**	**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 $	**11.839**	**5.487**	**11.440**	**8.460**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Dev**	PROGRAM ELEMENT NUMBER AND NAME **0206623M Marine Corps Ground Combat/Supporting Arms Systems**	PROJECT NUMBER AND NAME **C1555 Light Armored Vehicle (LAV) PIP**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2008 OSD Budget:	**11.947**	**5.508**	**1.400**	**8.395**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases	0.006			
(U) Reprogrammings	0.092		10.000	7.000
(U) SBIR/STTR Transfer	-0.258			
(U) Minor Affordability Adjustments	0.002	-0.021	0.040	0.065
(U) FY 2008 President's Budget:	**11.789**	**5.487**	**11.440**	**15.460**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule:

(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) PMC, 203800, LAV PIP	197.884	87.693	30.883	230.831	57.249	102.215	137.325	146.189	Cont	Cont
									0	0

(U) Related RDT&E:

C9870 Solid State Laminate	2.020								0	2.020
C9871 Embedded Sensors	2.886								0	2.886
C9A95 Particulate Matter Sys		0.498							0	0.498
C9A97 LAV IDE		2.192							0	2.192

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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) D. ACQUISITION STRATEGY: The Marine Personnel Carrier Program (Marine-PC) will provide mobility for 6 Infantry Battalions with LAV FOV based infantry carriers to support Marine Corp Operations and Irregular Warfare Operations, compliant with Strategic Planning Guidance. RDT&E phase to achieve maximum component commonality and C4, survivability and swim capabilities equal to or better than the current LAV fleet. Procurement strategy could be competitive or sole source for 6 General Support LAV Companies of roughly 600 LAV FOV (Marine-PC's, and limited numbers of Command & Controls, Logistics and Recoveries) is planned.

(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.

(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.

(U) D. ACQUISITION STRATEGY: The LAV Lethality upgrade will increase the lethality of the LAV-25's M242 machine 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.

(U) E. MAJOR PERFORMERS:

Marine-PC

FY08-FY09 TBD

LAV RAM

FY06-FY09 Various

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. Jan 07.

LAV LETHALITY

FY07 Raytheon Company, McKinney, TX. Integration of Depleted Uranium firing tables into Improved Thermal Sight System (ITSS). Jan 07.

Exhibit R-3 Cost Analysis								DATE: February 2007						
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**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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 (Marine-PC)	Various	TBD						9.031	Various	4.554	Various	Cont	Cont	
Product Development (RAM)	Various	Various	3.087	0.299	Various	1.002	Various	1.009	Various	1.011	Various	Cont	Cont	
Product Development (C2-GFE)	Various	Various	1.858	1.540	3Q06							0.000	3.398	
Product Development (C2)	Various	Lockheed-Martin, Owego, NY	8.100	6.384	3Q06	1.081	1Q07					0.000	15.565	
Product Development (S&R)	Various	TBD		0.546	3Q06									
CAAS	MIPR	SURVICE, Bellcamp, MD	0.693	0.145	1Q06							0.000	0.838	
Subtotal Product Dev			**13.738**	**8.914**		**2.083**		**10.040**		**5.565**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.233	0.147	1Q06							0.000	0.380	
Technical Eng Services (S&R)	MIPR	TACOM, Warren, MI		0.394	3Q06									
Subtotal Support			**0.233**	**0.541**		**0.000**		**0.000**		**0.000**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 10.766 Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Compl	Total Cost	Target Value of Contract
Devl/Oper Test & Eval (RAM)	MIPR	Aberdeen Proving Ground, MD	2.631	0.100	Various	0.100	Various	0.100	Various	0.100	Various	Cont	Cont	
Devl/Oper Test & Eval (S&R)	MIPR	TBD		0.060	3Q06							0.000	0.060	
Devl/Oper Test & Eval (C2)	MIPR	MCOTEA, Quantico, VA	0.237	1.056	Various	1.437	1Q07					0.000	2.730	
Devl/Oper Test & Eval (C2)	MIPR	YPG/EPG/JITC		0.107	4Q06							0.000	0.107	
Devl/Oper Test & Eval (PC)	MIPR	TBD								1.500		2.500		
Devl/Oper Test & Eval (Lethality)	MIPR	TBD				0.736	2Q07					0.000	0.736	
Subtotal T&E			**2.868**	**1.323**		**2.273**		**0.100**		**1.600**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	Various	TACOM, Warren, MI	3.989	0.911	Various	1.036	Various	1.200	Various	1.195	Various	Cont	Cont	
Matrix Support	MIPR	TACOM, Warren, MI	1.128	0.150	Various	0.095	Various	0.100	Various	0.100	Various	Cont	Cont	
Subtotal Management			**5.117**	**1.061**		**1.131**		**1.300**		**1.295**		**Cont**	**Cont**	
Remarks:														
Total Cost			**21.956**	**11.839**		**5.487**		**11.440**		**8.460**		**Cont**	**Cont**	

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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:

MARINE PC

Milestone A:	4th Qtr, FY 2007	Contract Award:	1st Qtr, FY 2011
Milestone B:	2nd Qtr, FY 2008	IOC:	4th Qtr, FY 2013
DT / OT:	4th Qtr, FY 2009	FOC:	3rd Qtr, FY 2018
Milestone C:	4th Qtr, FY 2010		

LAV C2

Milestone A:	2nd Qtr, FY2000	Contract Award:	1st Qtr, FY 2008
Milestone B:	2nd Qtr, FY2005	IOC:	1st Qtr, FY 2010
DT / OT:	4th Qtr, FY 2006	FOC:	TBD (Program not fully funded)
Milestone C:	1st Qtr, FY 2008		

LAV LETHALITY

Milestone A:	Not Required	Contract Award:	4th Qtr, FY 2007
Milestone B:	1st Qtr, FY 2007	IOC:	4th Qtr, FY 2008
DT / OT:	2rd Qtr, FY2007	FOC:	2nd Qtr, FY 2010
Milestone C:	4th Qtr, FY2007		

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	11.947	5.487	11.440	8.460	7.486	1.460	1.491	1.533	Cont	Cont
(U) RDT&E, N #C9641 LAV IDE	2.502	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.502
(U) RDT&E, N #C9870Solid State Laminate	2.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.020
(U) RDT&E, N #C9871 Embedded Sensors	2.886	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.886
(U) RDT&E, N #C9A95 Particulate Matter	0.000	0.498	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.498
(U) RDT&E, N #C9A97 LAV IDE	0.000	2.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.192
(U) PMC, BLI# 203800 LAV	196.715	87.693	30.883	230.831	61.103	106.120	139.902	147.306	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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**

LAV SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MARINE PC								
Milestone A:		4Q						
Milestone B:			2Q					
DT/OT				4Q				
Milestone C:					4Q			
Contract Award:						1Q		
IOC:								4Q
FOC:								
LAV C2								
DT / OT:	4Q							
Milestone C:			1Q					
Contract Award:			1Q					
IOC:					1Q			
FOC:								
LAV LETHALITY								
Milestone B:		1Q						
DT / OT:		2Q						
Milestone C:		4Q						
Contract Award:		4Q						
IOC:			4Q					
FOC:					2Q			

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2007			
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 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost	**6.078**	**6.434**	**6.235**	**7.258**	**7.416**	**7.045**	**7.202**	**7.391**
RDT&E Articles Qty								

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

(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.

(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.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	1.123	0.360	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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.662	1.161	1.013	1.015
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.000	1.592	1.780	2.486
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.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.938	0.861	1.108	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				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	1.071	0.480	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 m				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	2.017	1.672	2.334	2.333
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. Provides for In-Service Engineering Agent (ISEA) support at Naval Surface				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.267	0.308	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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	0.000	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 $	**6.078**	**6.434**	**6.235**	**7.258**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**6.827**	**6.466**	**6.676**	**7.750**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases	**0.004**			
(U) Reprogrammings	**-0.599**		**-0.479**	**-0.549**
(U) SBIR/STTR Transfer	**-0.156**			
(U) Minor Affordability Adjustments	**0.002**	**-0.032**	**0.038**	**0.057**
(U) FY 2008 President's Budget:	**6.078**	**6.434**	**6.235**	**7.258**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule:

(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
PMC BLI #206100 Mod Kits IWS	2.987	2.963	...Moved to BLI 222000 FY08 and out...						0.000	5.950
PMC BLI #206100 MK 19 Mod Kits	1.000	0.000	0.000	0.000	0.000				0.000	1.000
PMC BLI #206100 Close Quarter Battle Weapon	1.900	0.000	0.000	0.000	0.000					1.900
PMC BLI #206100 M16 Charging Handles	3.700	0.000	0.000	0.000	0.000					3.700
PMC BLI #206100 M249 Squad Automatic Weapon	1.800	0.000	0.000	0.000	0.000					1.800
PMC BLI #206100 MK 11 Conversion	5.500	0.000	0.000	0.000	0.000					5.500
PMC BLI #222000 Under $5 Million	115.347	125.937	15.779	20.755	15.512	13.681	12.853	13.125	Cont	Cont
PMC BLI #233400 Modular Weapon System	39.116	51.590	0.000	0.000	0.000	0.000			0.000	90.706
PMC BLI #493000 Night Vision Equipment	317.525	218.292	8.991	24.573	22.858	23.034	14.891	16.843	Cont	Cont
PMC BLI #464000 SURSS	0.000	0.000	10.369	15.075	4.804	4.470	5.619	3.713	0.000	44.050
PMC BLI #474700 Intel SP EQP SURSS	6.954	3.817	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.771

NOTE: Intel SP EQP SURSS has been moved to BLI #464000 in FY08 and out.

(U) Related RDT&E: Not Applicable.

(U) All Ground Weapons and Ground Ammunition Systems: Army, Navy, Air Force, Coast Guard, and Special Operations Command

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

(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 - 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

Exhibit R-3 Cost Analysis								DATE: February 2007						
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**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.867	0.060	2Q06	0.051	1Q07	0.060	1Q08	0.070	1Q09	Cont	Cont	
Inf Wpns Mods	WR	WTBN, Quantico, VA	0.184	0.050	2Q06	0.225	1Q07	0.050	1Q08	0.050	1Q09	Cont	Cont	
Inf Wpns Mods	MILSTRIP	MCSC, Quantico, VA	0.024	0.000	2Q06	0.290	2Q07	0.050	1Q08	0.050	1Q09	Cont	Cont	
Inf Wpns Mods	RCP	MCSC, Quantico, VA	0.000	0.143	3Q06			0.218	1Q08	0.220	1Q09	Cont	Cont	
Inf Wpns Mods	RCP	NSWC, Crane, IN	0.000	0.200	3Q06			0.200	2Q08	0.153	2Q09	Cont	Cont	
SURSS	RCP	AeroVironment, Simi Valley, (	0.616	0.077	3Q06	0.115	1Q07					Cont	Cont	
SURSS	MIPR	UAVS, Redstone Arsenal, AL	0.030	0.100	4Q06							Cont	Cont	
SURSS	MIPR	Natick, MA		0.250	2Q06	0.200	2Q07					Cont	Cont	
SURSS	MIPR	MITRE, Ft. Monmouth, N.J		0.244	3Q06									
Automatic Rifle	RCP	TBD		0.000	4Q06	0.010	1Q07					Cont	Cont	
Automatic Rifle	RCP	ARDEC, Picatinny, NJ		0.687	3Q06	0.000						Cont	Cont	
Automatic Rifle	WR	PM Ammo, Quantico, VA		0.080	3Q06	0.000						Cont	Cont	
Company/Battalion Mortar	RCP	ONR, Arlington, VA		0.105	2Q06	0.200	1Q07	0.213	1Q08	0.200	1Q09	Cont	Cont	
Company/Battalion Mortar	Var	TBD, Various		0.000		0.611	1Q07	0.200	1Q08	0.215	1Q09	Cont	Cont	
Family of Individual Optics	WR/RCP	NSWC, Dahlgren, VA				1.037	1Q07	1.050	1Q08	2.050	1Q09	Cont	Cont	
Nt Vision Mod	WR/RCP	NSWC, Dahlgren, VA	1.198	1.166	1Q06	1.245	1Q07	1.739	1Q08	1.619	1Q09	Cont	Cont	
Nt Vision Mod	MIPR	Night Vision Lab, Ft Belvoir, V	0.687	0.110	1Q06	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 Belvoir, V	0.317											
TUV	MIPR	Redstone Arsenal, AL	1.738	0.267	1Q06	0.308	1Q07					Cont	Cont	
MCAGCC Range Inst	RCP(FFP)	SRI Int'l, Menlo Park, CA	3.675									Cont	Cont	
Subtotal Product Dev			**9.336**	**3.539**		**4.407**		**4.030**		**5.124**		**Cont**	**Cont**	

Remarks:

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.924	0.100	1Q06	0.100	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	2Q06	0.195	1Q07	0.100	1Q08	0.130	1Q09	Cont	Cont	
Inf Wpns Mods	RCP	MCSC, Quantico, VA	0.181	0.170	1Q06			0.150	1Q08	0.150	1Q09	Cont	Cont	
SURSS	RCP	BAEST, Stafford, VA	0.537									Cont	Cont	
SURSS	WR	NSWC, Dahlgren, VA (Civ Sa	0.320	0.320	1Q06	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	AeroVironment, Simi Valley, (	0.094									Cont	Cont	
SURSS	MIPR	Joint Spectrum Ctr, Annapolis	0.081	0.000								Cont	Cont	
Automatic Rifle	RCP	CEOSS		0.180	2Q06	0.200	1Q07					Cont	Cont	

Exhibit R-3 Cost Analysis								DATE: February 2007						
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**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
Company/Battalion Mortar	RCP	CEOSS		0.360	2Q06	0.100	1Q07	0.250	1Q08	0.250	1Q09	Cont	Cont	
Nt Vision Mod	WR	MCSC, Quantico, VA	0.482	0.148	1Q06	0.159	1Q07	0.200	1Q08	0.200	1Q09	Cont	Cont	
Nt Vision Mod	RCP	CRC, Quantico, VA	0.865	0.150	1Q06	0.128	1Q07	0.000	1Q08	0.000	1Q09	Cont	Cont	
Family of Individual Optics	WR	MCSC, Quantico, VA				0.300	1Q07	0.500	1Q08	0.250	1Q09	Cont	Cont	
Scout Sniper Cap Sets	RCP	CRC, Quantico, VA							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			**5.175**	**1.608**		**1.347**		**1.300**		**1.125**		**Cont**	**Cont**	
Remarks:														

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.140	0.035	2Q06	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, Wate	0.300			0.000		0.070		0.080				
Inf Wpns Mods	WR	PM Ammo, Quantico, VA	0.057			0.000		0.040		0.040				
Automatic Rifle	WR	MCOTEA, Quantico, VA	0.000	0.176	2Q06	0.150	1Q07							
Company/Battalion Mortar	WR	MCOTEA, Quantico, VA	0.000	0.030	1Q06	0.100	1Q07	0.150	2Q08	0.150	2Q09			
Company/Battalion Mortar	MIPR	Watervliet Arsenal, Wate	0.000	0.167	1Q06	0.150	1Q07	0.200	2Q08	0.200	2Q09			
SURSS	WR	MCOTEA, Quantico, VA	0.127	0.080	2Q06									
SURSS	WR	NSWC, Carderock, MD	0.036									Cont	Cont	
Family of Individual Optics	WR	MCOTEA, Quantico, VA				0.255	2Q07	0.230	1Q08	0.186	1Q09	Cont	Cont	
Scout Sniper Cap Sets	RCP	MCOTEA, Quantico, VA								0.009	1Q09			
TWS	RCP	NSWC, Crane, IN	0.052									Cont	Cont	
Nt Vision Mod	WR	MCOTEA, Quantico, VA	0.202	0.443	2Q06	0.025	2Q07	0.145	1Q08	0.264	1Q09	Cont	Cont	
Subtotal T&E			**1.199**	**0.931**		**0.680**		**0.905**		**1.009**		**Cont**	**Cont**	
Remarks:														

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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 F	1.491									0.000	1.491	
Subtotal Management			**1.491**	**0.000**		**0.000**		**0.000**		**0.000**		**Cont**	**Cont**	
Remarks:														
Total Cost			**17.201**	**6.078**		**6.434**		**6.235**		**7.258**		**Cont**	**Cont**	

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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 A (FY09 1st Qtr)											Oct-Dec 08		

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, 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	4.694	0.000	0.000	3.165	1.433	1.127	1.158	1.191	0.000	34.326

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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**

Scout Sniper Capability Set	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SSDS Fusion Capability				1Q				

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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**

FAMILY OF INDIVIDUAL OPTICS

Fiscal Year	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total
Individual Marine Infantry Weapons Sights:								
IMIWS MS B (FY07)					OCT 06 - SEP 07			
IMIWS MS C (FY08 3rd Qtr)						APR 07 - JUN 07		
Marine Handheld/Helmet Mounted Optic:								
MHHMO MS B (FY07)					OCT 06 - SEP 07			
MHHMO MS C (FY08 4th Qtr)						APR 07 - JUN 07		

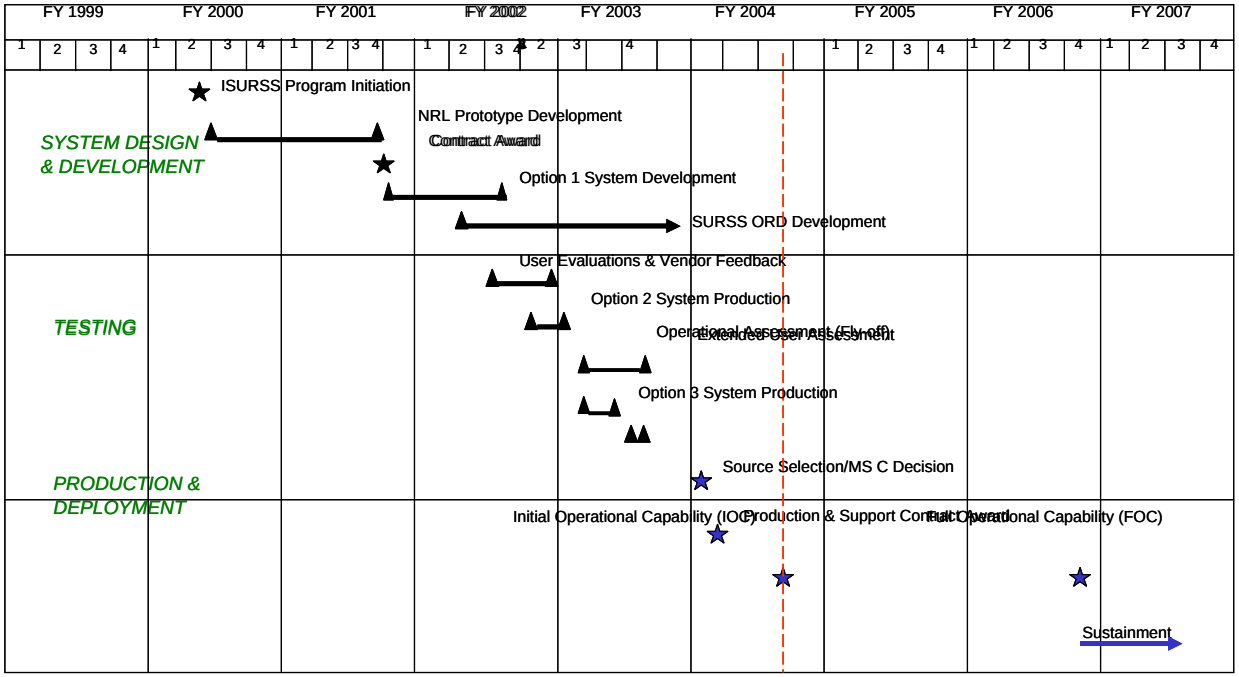
Program Funding Summary (APPN, BLI #, NOMEN)	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**To Compl**	**Total Cost**
(U) RDT&E,N, C1901, Family of Individual Optics		1.592	1.780	2.486	2.533	2.569	2.640	2.713	Cont	Cont
(U) PMC, BLI 493000, Family of Individual Optics	88.565	96.249	5.640	11.329	13.193	13.522	4.319	4.439	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail			DATE: February 2007
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**	

FAMILY OF INDIVIDUAL OPTICS	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IMIWS								
MS B		1Q						
MS C			3Q					
MHHMO								
MS B		1Q						
MS C			4Q					

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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**

SURSS



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, C1901, Small Unit Recon & Surveillance Sys	1.071	0.480	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.551
(U) PMC, BLI 464000, SURSS	0.000	0.000	10.369	15.075	4.804	4.470	5.619	3.713	0.000	44.050
(U) PMC, BLI 474700, INTEL SPT EQP SURSS	6.954	3.817	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.771

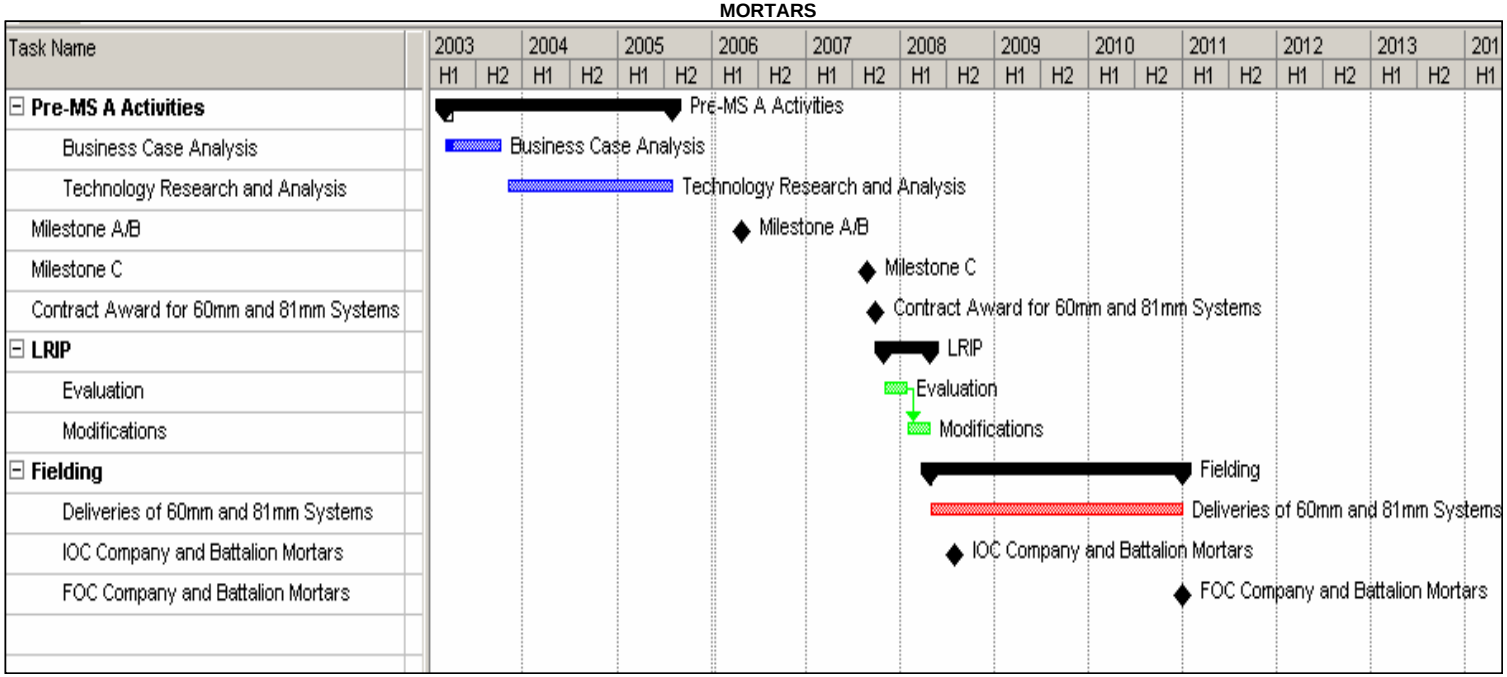
NOTE: SURSS has been moved to BLI # 464000 in FY08 and out.

Exhibit R-4-4a Project Schedule/Detail			DATE: February 2007
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**	

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: February 2007
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**

MORTARS



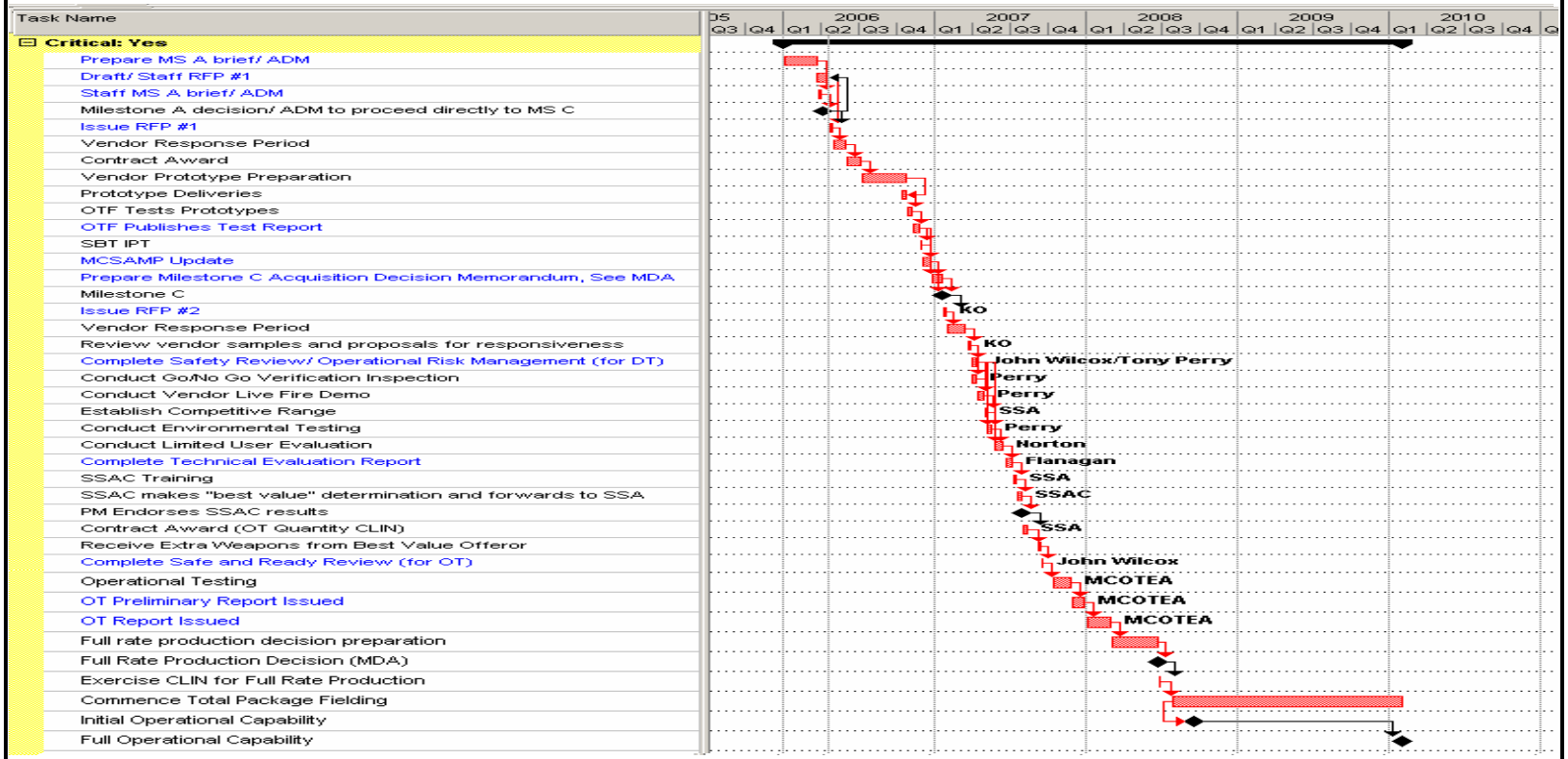
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N, C1901, Company and Battalion Mortars	0.662	1.161	1.013	1.015	1.015	0.510	0.524	0.539	Cont	Cont
(U) PMC, BLI 222000, Company and Battalion Mortars	1.007	45.705	2.880	3.234	2.237	2.234	3.329	3.423	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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**

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 2007
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**

AUTOMATIC RIFLE



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, C1901, Automatic Rifle	1.123	0.360	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.483
(U) PMC, BLI 222000, Automatic Rifle	1.177	1.401	3.840	7.768	3.222	0.000	0.000	0.000	0.000	17.408

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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**

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 2007			
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)**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**2.412**	**2.573**	**3.686**	**3.763**	**3.846**	**3.917**	**3.999**	**4.099**
RDT&E Articles Qty								

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

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.

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 evoloved 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 meodernization 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.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.616**	**0.844**	**0.867**	**0.886**
RDT&E Articles Qty				

MEP - Explored NDI equipment that would improve the combat effectiveness and enhance safety and survivability of the Individual Marine. As well as investigate integration efforts.

COST ($ in Millions)	FY 2006	FY 2007	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.821**	**0.904**	**0.949**	**0.956**
RDT&E Articles Qty				

MEP - Explored clothing and individual equipment that would improve the combat effectiveness and enhance safety and survivability of the individual Marine. As well as investigate integration issues.

COST ($ in Millions)	FY 2006	FY 2007	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.975**	**0.825**	**0.865**	**0.892**
RDT&E Articles Qty				

MEP - Explored ground weapons, communications and command and control equipment that would improve the combat effectiveness and enhance safety and survivability of the individual Marine. As well as investigate integration issues.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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)**

COST ($ in Millions)	FY 2006	FY 2007	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**1.005**	**1.029**
RDT&E Articles Qty				

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.

(U) Total $	**2.412**	**2.573**	**3.686**	**3.763**

(U) Project Change Summary:	**FY2006**	**FY2007**	**FY2008**	**FY2009**
(U) FY 2007 President's Budget:	**2.671**	**2.583**	**2.686**	**2.724**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases	0.001			
(U) Reprogrammings	-0.244		0.998	1.019
(U) SBIR/STTR Transfer	-0.016			
(U) Minor Affordability Adjustment		-0.010	0.002	0.02
(U) FY 2008 President's Budget:	**2.412**	**2.573**	**3.686**	**3.763**

CHANGE SUMMARY EXPLANATION:

(U) Funding: Funding for the Marine Expeditionary Rifle Program (MERS) (formerly 63635M C2256) program has been moved to this project.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	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 Enhancement Pgm	42.172	19.681	14.994	23.832	22.761	23.090	6.249	6.389	Cont	Cont

(U) Related RDT&E: N/A

(U) D. ACQUISITION STRATEGY: NDI/COTS

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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:

Performer	Effort	FY	Award Date	($000) Amt
RDECOM, Natick MA	Product Development	2006	Dec-05	173
RDECOM, Natick MA	DT&E	2006	Dec-05	367
NRL, Wash, DC	Product Development	2006	Various	253
NRL, Wash DC	DT&E	2006	Various	929
Operating Forces	OT&E	2006	Mar-06	316
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	Dec-08	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 2007**							
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**		PROGRAM ELEMENT **0206623M Marine Corps Ground Combat Arms Systems**					PROJECT NUMBER AND NAME **C2086 Marine Enhanced Program (MEP)**							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	5.905	0.273	Various	0.247	Various	0.516	Various	0.519	Various	Cont	Cont	
Product Development	MIPR	RDECOM, Natick, Mass	4.105	0.147	1Q06	0.176	1Q07	0.183	1Q08	0.190	1Q09	Cont	Cont	
Product Development	WR	NFEC, Pt Hueneme, CA	1.202	0.031	2Q06	0.051	2Q07	0.053	2Q08	0.055	2Q09	Cont	Cont	
Product Development	WR	NSWC, Crane, IN	1.587	0.047	1Q06	0.081	1Q07	0.084	1Q08	0.087	1Q09	Cont	Cont	
Subtotal Product Dev			**12.799**	**0.498**		**0.555**		**0.836**		**0.851**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	7.525	0.286	2Q06	0.321	2Q07	0.334	2Q08	0.337	2Q09	Cont	Cont	
Subtotal Support			**7.525**	**0.286**		**0.321**		**0.334**		**0.337**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	14.888	0.899	Various	0.864	Various	1.150	Various	1.204	Various	Cont	Cont	
Developmental Test & Eval	MIPR	RDECOM, Natick, Mass	9.708	0.347	1Q06	0.373	2Q07	0.388	1Q08	0.403	1Q09	Cont	Cont	
Developmental Test & Eval	WR	NFEC, Pt Hueneme, CA	3.552	0.088	2Q06	0.109	2Q07	0.113	2Q08	0.108	2Q09	Cont	Cont	
Developmental Test & Eval	WR	NSWC, Crane, IN	4.364	0.123	1Q06	0.146	1Q07	0.152	1Q08	0.148	1Q09	Cont	Cont	
Subtotal T&E			**32.512**	**1.457**		**1.492**		**1.803**		**1.863**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.300	0.171	1Q06	0.205	1Q07	0.713	1Q08	0.712	1Q09	Cont	Cont	
Subtotal Management			**0.300**	**0.171**		**0.205**		**0.713**		**0.712**		**Cont**	**Cont**	
Remarks:														
Total Cost			**53.136**	**2.412**		**2.573**		**3.686**		**3.763**		**Cont**	**Cont**	

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206623M Marine Corps Ground Combat/Supporting Arms**				PROJECT NUMBER AND NAME **C2315 Training Devices/Simulators**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
	0.000	**7.341**	**15.197**	**14.144**	**10.881**	**10.936**	**11.122**	**11.435**
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), MAGTF Tactical Warfare Simulation (MTWS) Enhancements, and Range Modernization/Transformation (RMT) and Military Operations in Urban Terrain (MOUT). These training systems provide tactical weapons and decision-making skill training from entry level through Marine Air-Ground Task Force (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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**3.018**	**5.558**	**6.063**
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**1.720**	**0.747**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**2.603**	**3.835**	**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 HLA 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 computer 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 upgrade.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206623M Marine Corps Ground Combat/Supporting Arms**		PROJECT NUMBER AND NAME **C2315 Training Devices/Simulators**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**5.057**	**5.076**
RDT&E Articles Qty				

Range Modernization/Transformation (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 Military Operations in Urban Terrain (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.

(U) Total $	**0.000**	**7.341**	**15.197**	**14.144**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**0.000**	**7.369**	**15.111**	**14.034**
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings				
(U) SBIR/STTR Transfer				
(U) Minor Affordability Adjustments		-0.028	0.086	0.110
(U) FY 2008 NAVCOMPT Budget:	**0.000**	**7.341**	**15.197**	**14.144**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule:

(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
RDT&E, N PE 26313M C2315	8.513	0	0	0	0	0	0	0	0	8.513
PMC BLI #653200 Training Devices Simulators	116.203	226.991	31.074	56.976	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) Range Modernization/Transformation - Competitively award RM/T LSI development contract.

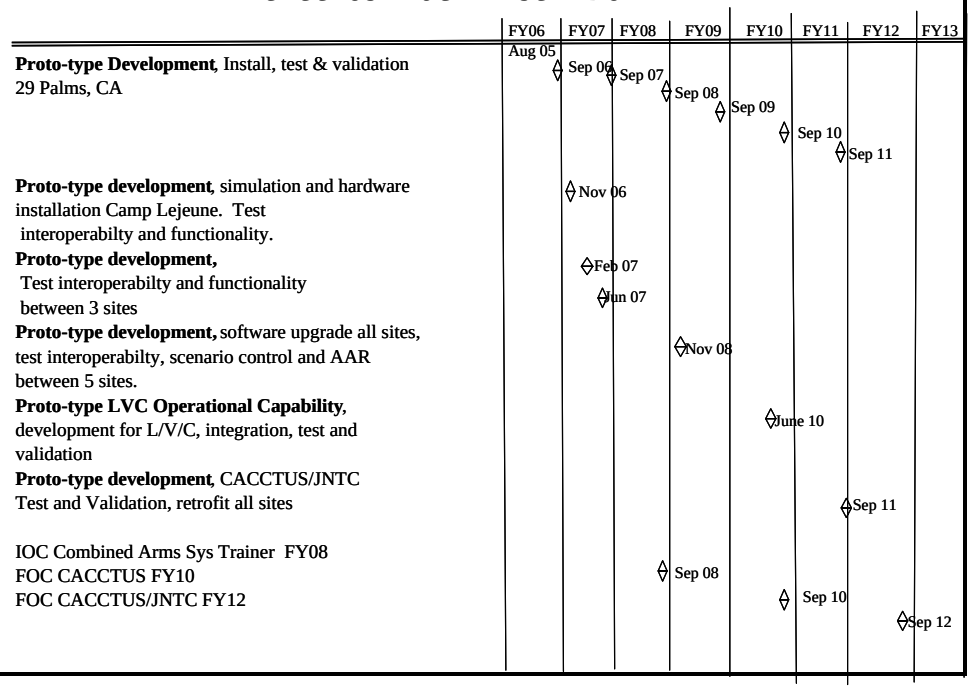
(U) E. MAJOR PERFORMERS:

Not Applicable for any programs with Training Devices/Simulators, C2315.

Exhibit R-3 Cost Analysis								DATE: February 2007						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Development**		PROGRAM ELEMENT **0206623M Marine Corps Ground Combat/Supporting Arms**						PROJECT NUMBER AND NAME **C2315 Training Devices/Simulators**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	01/08	2.145	01/09			
Product Dev - MILES	SS/FP	Saab, Orlando, FL (MITS)	0.000			0.331	12/06	0.185	11/07			Cont	Cont	
Product Dev - MILES	SS/FP	Saab, Orlando, FL (Wireless)	0.000			0.300	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			
Subtotal Product Dev			**0.000**	**0.000**		**0.631**		**2.007**		**2.448**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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						3.135	01/08	2.673	01/09			
SW Dev - Miles	SS/FP	Saab, Orlando, FL (Wireless)	0.000			0.331	12/06					Cont	Cont	
SW Dev - Miles	SS/FP	Saab, Orlando, FL (MTI)	0.000			0.300	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			2.851	10/06	4.558	10/07	5.063	10/08	Cont	Cont	
SW Dev, CACCTUS	C/IDIQ	NAWC, Orlando, FL	0.000			0.167	10/06	1.000	10/07	1.000	10/08	Cont	Cont	
Dev Support - MTWS	SS/T&M	PM TRASYS, Orlando, FL	0.000			2.353	10/06	3.265	10/07	2.221	10/08	Cont	Cont	
Subtotal Support			**0.000**	**0.000**		**6.002**		**12.270**		**10.957**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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**	**0.000**		**0.200**		**0.100**		**0.102**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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 - RM/T	WR	MCSC, Quantico/NAWC, Orlando						0.250	10/07	0.258	10/08	Cont	Cont	
Program Support - MTWS	SS/T&M	MCSC, Quantico, VA	0.000			0.250	10/06	0.570	10/07	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**	**0.000**		**0.508**		**0.820**		**0.637**		**Cont**	**Cont**	
Remarks:														
Total Cost			**0.000**	**0.000**		**7.341**		**15.197**		**14.144**		**Cont**	**Cont**	

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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

CACCTUS PROGRAM SCHEDULE



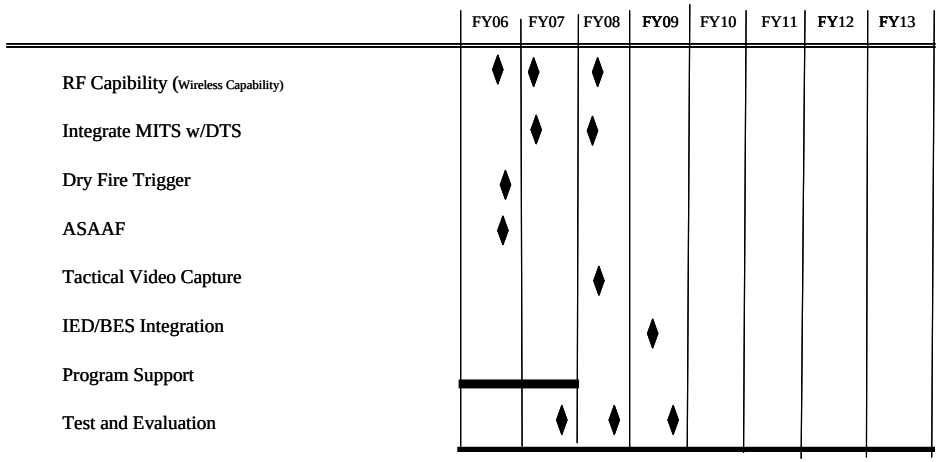
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N (CACCTUS) PE 26313M C2315	5.757								Cont	Cont
(U) RDT&E,N (CACCTUS) PE 26623M C2315		3.018	5.558	6.063	6.134	5.578	5.717	5.874	Cont	Cont
(U) PMC BLI 653200 Training Dev/Sim (CACCTUS)	4.879	3.540	4.840	4.817	4.943	4.939	5.374	5.638	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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**

CACCTUS SCHEDULE DETAIL	FY 2006	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	1Q/2Q/ 3Q/4Q
Protype Functionality Evaluation User, 29 Palms	2Q/4Q	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	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			2Q	
P3I Camp Lejeune		1Q			1Q			1Q
P31 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 2007
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

MILES PROGRAM SCHEDULE



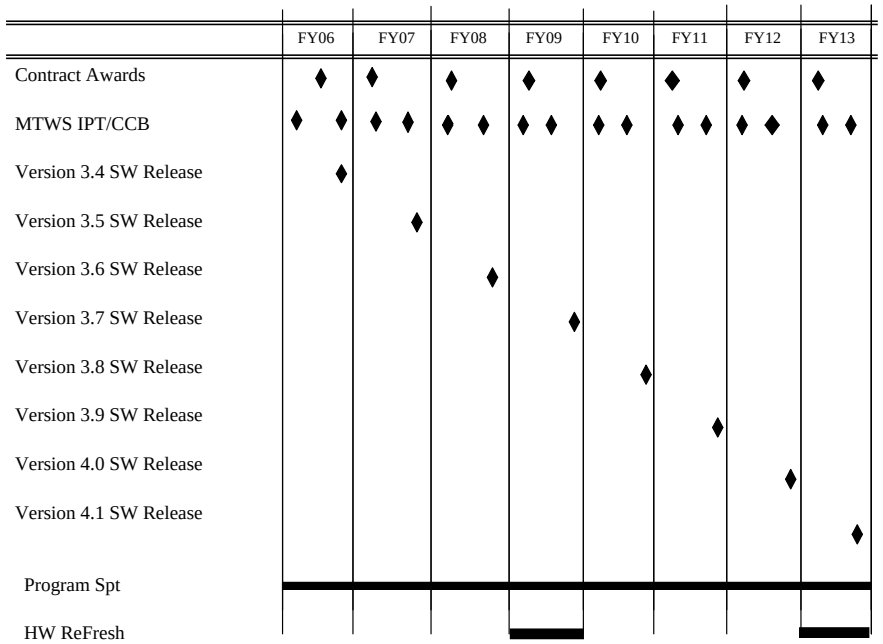
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N (MILES) PE 26313M C2315	1.379								Cont	Cont
(U) RDT&E,N (MILES) PE 26623M C2315		1.720	0.747	0.405	0.203	0.050	0.052	0.053	Cont	Cont
(U) PMC BLI 653200 Training Dev/Sim (MILES)	8.918	2.279	1.163	0.684	0.012	0.015	0.000	0.000	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail			DATE: February 2007
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**	

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 2007
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



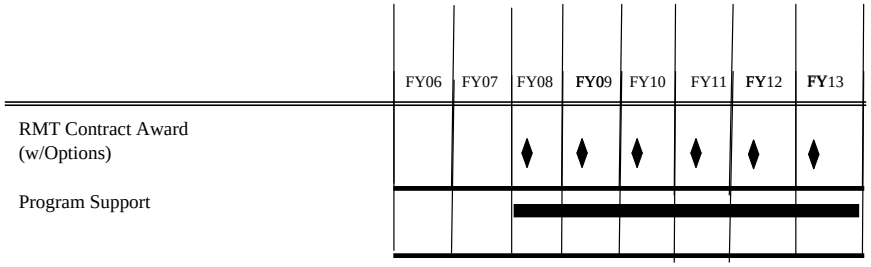
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N (MTWS) PE 26313M C2315	1.377								Cont	Cont
(U) RDT&E,N (MTWS) PE 26623M C2315		2.603	3.835	2.600	2.219	3.001	2.987	3.069	Cont	Cont

Exhibit R-4-4a Project Schedule/Detail			DATE: February 2007
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 41 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: February 2007
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**

RMT PROGRAM SCHEDULE



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 (RMT) PE 26623M C2315	0.000	0.000	5.057	5.076	2.325	2.307	2.366	2.439	Cont	Cont
(U) PMC BLI 653200 Training Dev/Sim (RMT)	42.772	80.700	20.478	48.106	11.400	12.292	12.586	12.939	Cont	Cont

RMT SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Contract Award			2Q	2Q	2Q	2Q	2Q	2Q
Program Support			1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206623M Marine Corps Ground Combat/Supporting Arms Systems**	PROJECT NUMBER AND NAME **C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES**	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**7.583**	**9.388**	**10.186**	**14.195**	**11.571**	**11.708**	**8.794**	**9.042**

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

The Family of Combat Equipment Support and Services provides research, development, test and evaluation on low cost items with emphasis on non-developmental/commercially available items. Much of the RDT&E is conducted in coordination/concert with other services and joint organizations, and in consideration of RDT&E efforts being pursued by the other services. Items approved for procurement will transition into Procurement Marine Corps and 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.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.035**	**0.242**	**0.555**	**1.100**
RDT&E Articles Qty				

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.

COST ($ in Millions)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**1.849**	**4.386**	**5.627**	**5.858**
RDT&E Articles Qty				

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.

COST ($ in Millions)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.203**	**0.117**	**0.444**	**0.505**
RDT&E Articles Qty				

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.

COST ($ in Millions)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.077**	**0.086**	**0.106**	**0.117**
RDT&E Articles Qty				

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.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.863**	**1.088**	**1.430**	**2.580**
RDT&E Articles Qty				

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.

COST ($ in Millions)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.356**	**0.305**	**0.241**	**0.339**
RDT&E Articles Qty				

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).

COST ($ in Millions)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.962**	**2.273**	**0.000**	**0.000**
RDT&E Articles Qty				

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.

COST ($ in Millions)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.600**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

Family of Field Medical Equipment: Testing of Commerical-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.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.708**	**0.818**	**1.235**	**3.148**
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)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**1.365**	**0.000**	**0.400**	**0.400**
RDT&E Articles Qty				

Family of Field Medical Equipment: Minimization of the Forward Resuscitative Surgery System to support transportation into one V-22B Osprey.

COST ($ in Millions)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.565**	**0.073**	**0.148**	**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 $	**7.583**	**9.388**	**10.186**	**14.195**

(U) PROJECT CHANGE SUMMARY

	FY2006	**FY2007**	**FY2008**	**FY2009**
(U) FY 2007 President's Budget:	**7.286**	**9.424**	**11.539**	**13.185**
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases	0.003			
(U) Reprogrammings	0.360		-1.395	0.84
(U) SBIR/STTR Transfer	-0.068			
(U) Minor Affordability Adjustment	0.002	-0.036	0.042	0.17
(U) FY 2008 President's Budget:	**7.583**	**9.388**	**10.186**	**14.195**

CHANGE SUMMARY EXPLANATION:
(U) Funding: See above.
(U) Schedule: Not Applicable.
(U) Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) PMC Line (BLI#652200) Field Med Equip & CBRN Incident	16.433	12.104	2.236	6.568	6.953	6.915	8.248	6.109	Cont	Cont
(U) PMC Line (BLI#661300) Combat Field Feeding System	5.370	7.724	1.109	2.765	1.826	2.681	3.769	3.869	Cont	Cont

(U) Related RDT&E: Not Applicable.

(U) D. ACQUISITION STRATEGY:

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.

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.

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.

(U) E. MAJOR PERFORMERS:

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.

Shelters: TBD based on current technologies.

Family of Field Medical Equipment: TBD based on current technologies.

(U) SCHEDULE PROFILE: **Not Applicable.**

Exhibit R-3 Cost Analysis															DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Development**			PROGRAM ELEMENT **0206623M Marine Corps Ground Combat/ Supporting Arms Systems**			PROJECT NUMBER AND NAME **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 06 Cost	FY 06 Award Date	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	0.988	1Q/06	1.486	1Q/07	2.080	1Q/08	2.700	1Q/09	Cont	Cont		
Development/Tech Insertion	MIPR	NRL, Washington DC	0.748	1.440	2Q/06	1.859	2Q/07	2.550	2Q/08	3.320	2Q/09	Cont	Cont		
Development/Tech Insertion	FFP	Various (Test Articles)	1.395	2.625	2Q/06	2.044	2Q/07	1.504	2Q/08	3.268	2Q/09	Cont	Cont		
Subtotal Product Dev			**5.958**	**5.053**		**5.389**		**6.134**		**9.288**		**Cont**	**Cont**		
Remarks:															
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.326	0.086	2Q/06	0.185	1Q/07	0.099	1Q/08	0.211	1Q/09	Cont	Cont		
Subtotal Support			**0.326**	**0.086**		**0.185**		**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 06 Cost	FY 06 Award Date	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	1.327	0.263	2Q/06	0.439	2Q/07	0.597	2Q/08	0.892	2Q/09	Cont	Cont		
Operational Test & Eval	WR	NEDU, PANAMA CITY, FL	0.618	0.147	2Q/06	0.800	2Q/07	0.000	2Q/08	0.000	2Q/09	Cont	Cont		
Field User Evaluations	WR	FMF	2.089	1.048	2Q/06	1.782	2Q/07	2.376	2Q/08	2.660	2Q/09	Cont	Cont		
Field User Evaluations	RCP	MCSC, Quantico VA	0.076	0.108	1Q/06	0.135	2Q/07	0.180	2Q/08	0.217	1Q/09	Cont	Cont		
Operational Test & Eval	MIPR	US ARMY MISSILE, NM	0	0.033	2Q/06	0.000		0.000		0.000		0.000			
Operational Test & Eval	MIPR	US ARMY,ABERDEEN, MD	0	0.432	2Q/06	0.000		0.000		0.000		0.000	0.000		
Subtotal T&E			**4.110**	**2.031**		**3.156**		**3.153**		**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 06 Cost	FY 06 Award Date	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	0.529	0.230	1Q/06	0.384	1Q/07	0.461	1Q/08	0.509	1Q/09	Cont	Cont		
Travel	DTS*	MCSC, Quantico VA	0.282	0.183	*	0.274	*	0.339	*	0.418	*	Cont	Cont		
Subtotal Management			**0.811**	**0.413**		**0.658**		**0.800**		**0.927**		**Cont**	**Cont**		
Remarks: *DTS (Defense Travel System) Obligates throughout the execution year															
Total Cost			**11.205**	**7.583**		**9.388**		**10.186**		**14.195**		**Cont**	**Cont**		

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007							
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Development**	PROGRAM ELEMENT NUMBER AND NAME **0206623M Marine Corps Ground Combat/Supt Arms**		PROJECT NUMBER AND NAME **C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)**						
COST ($ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**3.669**	**6.156**	**1.191**	**2.432**	**0.525**	**0.545**	**2.150**	**2.447**
RDT&E Articles Qty									

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

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.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**2.894**	**3.404**	**0.625**	**1.976**
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)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.000**	**0.150**	**0.000**	**0.000**
RDT&E Articles Qty				

Develop Support Equipment, Army program office support, contractor provided logistics support.

COST ($ in Millions)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.477**	**2.059**	**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)	FY06	FY07	FY08	FY09
Accomplishment/Effort Subtotal Cost	**0.298**	**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 $	**3.669**	**6.156**	**1.191**	**2.432**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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

	FY2006	FY2007	FY2008	FY2009
(U) FY 2007 President's Budget:	**4.083**	**6.179**	**2.388**	**0.492**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases	0.002			
(U) Reprogrammings	-0.346		-1.200	1.908
(U) SBIR/STTR Transfer	-0.071			
(U) Minor Affordability Adjustment	0.001	-0.023	0.003	0.032
(U) FY 2008 President's Budget:	**3.669**	**6.156**	**1.191**	**2.432**

CHANGE SUMMARY EXPLANATION:

(U) Funding: Minor Affordability Adjustments in FY2006 - FY2009. USMC Reprogramming in FY2006 & FY2008. Additional USMC testing required in FY2009 for P3I upgrades.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) PMC (BLI 221200) HIMARS SYSTEMS AND ROCKETS	158.019	220.850	30.650	88.785	97.820	81.274	50.390	37.794	Cont	Cont

(U) Related RDT&E: Not Applicable.

(U) D. ACQUISITION STRATEGY:

USMC HIMARS is procuring the Army rocket launcher, the current / future Multiple Launch Rocket System Family of Munitions (MFOM) and developing an Medium Tactical Vehicle Replacement (MTVR)-based Resupply System (truck(s) with associated trailer(s)). The Marine Corps launcher and ammo requirements closely match U.S. Army requirements. The US Army HIMARS program received increased funding so that it is now an Acquisition Category ACAT IC level program. Marine Corps Resupply System requirements are unique. Accordingly, the Marine Corps is an integrator and must ensure the required warfighting capability is fielded to the Marine Corps operating forces. The USMC has aligned funds to reflect an emphasis on not only hardware development, but also the integration of these principle end items while providing associated evaluation and oversight. Additionally, the Marine Corps program is establishing the training and support methodologies that will result in associated skill sets required within the Marine Corps. The Marine Corps strategy is incorporating Evolutionary Acquisition and capability upgrades to both the systems and rocket munitions. These improvements parallel the US Army's acquisition strategy.

(U) E. MAJOR PERFORMERS:

FY-06-07Lockheed Martin Missile, Dallas, TX. Modifications to Launcher, GMLRS Development

FY-06-07 Lockheed Martin Missile, Dallas, TX Systems Engineering Support for Development and testing

Exhibit R-3 Cost Analysis | DATE: February 2007

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N /BA-7 Operational Sys Development**

PROGRAM ELEMENT: **0206623M Marine Corps Ground Combat/Supt Arms**

PROJECT NUMBER AND NAME: **C2928 High Mobility Artillery Rocket System (HIMARS)**

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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, Dallas	11.291	1.444	05/06	0.085	04/07	0.075	12/08	1.650	12/08	Cont	Cont	
Ancillary Hardware Dev	MIPR	RTTC, Redstone, AL	0.000	0.070	02/06	2.484	12/06	0.240	12/08	0.120	12/08	Cont	Cont	
Systems Engineering	WR	NSWC-Dahlgren, VA	1.676	1.044	10/05	0.350	10/06	0.195	10/08	0.206	10/08	Cont	Cont	
Systems Engineering	WR	NSWC-Earle, NJ	0.521	0.100	10/05	0.275	10/06					0.000	0.896	
Systems Engineering	CPAF	Lockheed Martin, Dallas	0.320	0.075	12/05	0.210	12/06	0.115	12/08			0.000	0.720	
Subtotal Product Dev			**13.808**	**2.732**		**3.404**		**0.625**		**1.976**		**Cont**	**Cont**	

Remarks:

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	NSWCIHD, Earle NJ	0.000			0.150	12/06					0.000	0.150	
Subtotal Support			**0.000**	**0.000**		**0.150**		**0.000**		**0.000**		**Cont**	**Cont**	

Remarks:

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	1.398	0.000	10/05	1.305	10/06	0.213	10/07	0.180	10/08	Cont	Cont	
Dev Test & Eval	WR	Redstone Test Ctr,Hunts	0.408	0.470	12/05	0.410	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, VA	0.946	0.088	12/05	0.175	12/06					0.000	1.209	
Subtotal T&E			**2.822**	**0.558**		**2.059**		**0.413**		**0.303**		**Cont**	**Cont**	

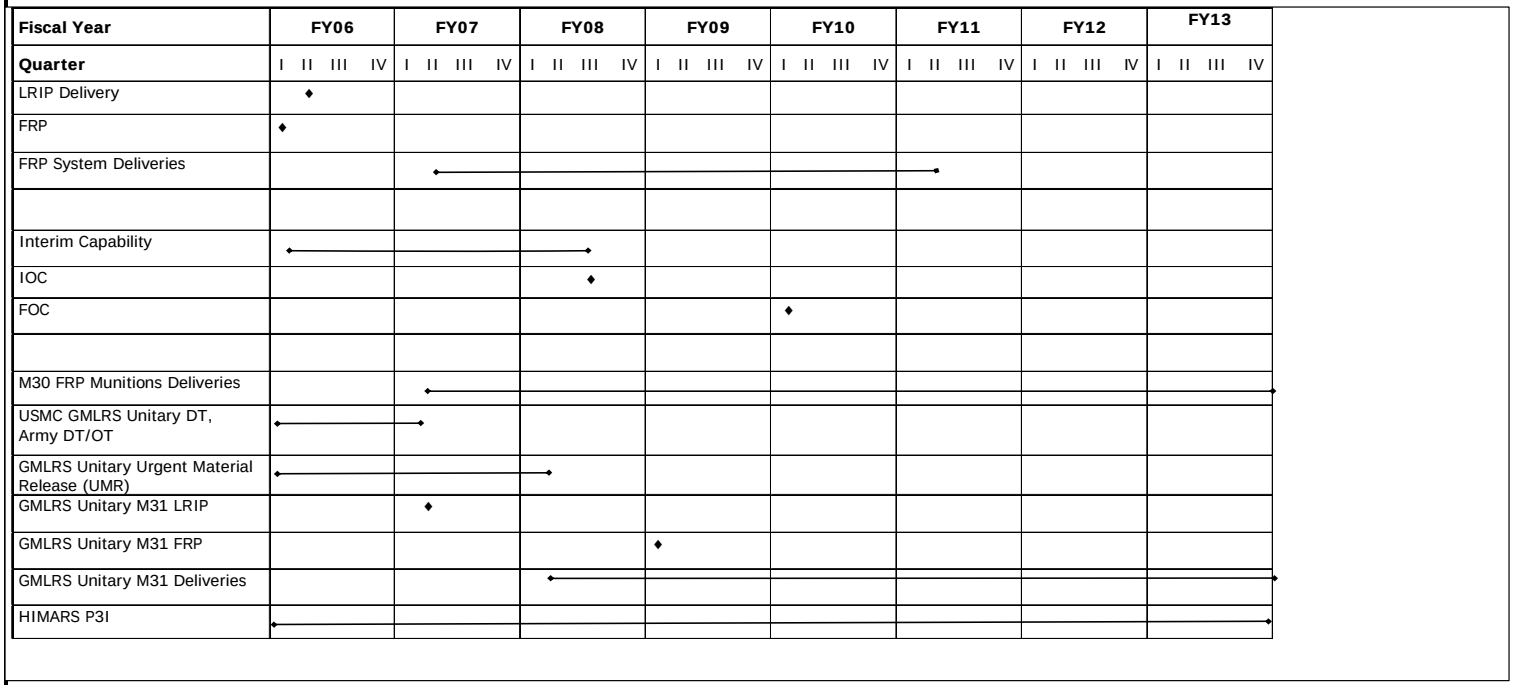
Remarks:

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	1.394	0.189	10/05	0.316	10/06	0.075	10/07	0.075	10/08	Cont	Cont	
Program Mngmnt	FFP	CEOSS, Quantico VA	4.506	0.190	10/05	0.227	10/06	0.078	10/07	0.078	10/08	Cont	Cont	
Subtotal Management			**5.900**	**0.379**		**0.543**		**0.153**		**0.153**		**Cont**	**Cont**	

Remarks:

Total Cost			**22.530**	**3.669**		**6.156**		**1.191**		**2.432**		**Cont**	**Cont**	

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2007
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)**



Program Funding Summary	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N, 0206623M, HIMARS	3.912	6.156	1.191	2.432	0.525	0.545	2.150	2.447	Cont	Cont
(U) PMC, (BLI 221200), HIMARS SYSTEMS AND ROCKETS	158.019	220.850	30.650	88.785	97.820	81.274	50.390	37.794	Cont	Cont

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2007
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--------	----------	-----3Q					
USMC Full Rate Production (FRP) Decision	1Q							
USMC FRP Deliveries		2Q------	----------	----------	----------	---2Q		
GMLRS (M30) Munitions Deliveries		2Q------	----------	----------	----------	----------	----------	----------
Initial Operational Capability			3Q					
Full Operational Capability					1Q			
GMLRS Unitary Munitions								
USMC DT, US Army DT/OT	----------	---2Q						
GMLRS Unitary LRIP		2Q						
GMLRS Unitary FRP				1Q				
Unitary Deliveries			2Q--------	----------	----------	----------	----------	----------
HIMARS Pre-Planned Product Improvements (P3I)								
Carrier Upgrades	2Q---------	---------4Q						
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 2007			
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**				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost	**14.359**	**7.688**	**6.494**	**8.825**	**7.686**	**5.623**	**7.558**	**7.762**
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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.229**	**0.289**	**0.296**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.625**	**1.719**	**1.757**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.732**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.308**	**0.000**	**0.000**
RDT&E Articles Qty				

Mortar Ballistic Computer (MBC): Integration effort of Government-Furnished Equipment (GFE) software with a common hardware suite (CHS) platform. Prepare for and conduct combined Developmental Testing (DT) and Operational Testing (OT) to include Live Fire User Evaluation. Conduct Interim Progress Review (IPR). Prepare for Milestone C decision. Requirements review to determine evolution to future block upgrades.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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**	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.161**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

Common Laser Range Finder (CLRF): Formerly known as AN/GVS-5 Replacement (AEROS). CLRF provides engineering and programmatic support as well as the integration of the Long Range Thermal Imager (LRTI) to the AEROS program.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**9.812**	**4.011**	**3.058**	**5.357**
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) shall be completed by July 2007 and the IOC is scheduled for September 2007. EFSS supports irregular warfare and distributed operations.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**1.000**	**1.003**	**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.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.800**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

Improvised Explosive Device (IED) Detection: Provides comprehensive program management, engineering, and test and evaluation support for IED Detection efforts supporting Marine Corps Warfighting Laboratory experimentation.

(U) Total $	**14.359**	**7.688**	**6.494**	**8.825**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**11.470**	**7.717**	**7.456**	**8.719**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases	0.006			
(U) Reprogrammings	3.112		-1.000	
(U) SBIR/STTR Transfer	-0.232			
(U) Minor Affordability Adjustment	0.003	-0.029	0.038	0.106
(U) FY 2008 President's Budget:	**14.359**	**7.688**	**6.494**	**8.825**

CHANGE SUMMARY EXPLANATION:
(U) Funding: See above.
(U) Schedule: Not Applicable.
(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
PMC BLI# 473300 Meteorological Measuring Sets (FSS)	1.700	1.460	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.160
PMC BLI# 473300 Fire Supp Sys (IPADS)	2.292	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.292
PMC BLI# 473300 FSS (Mortar Ballistic Computer)	3.819	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.819
PMC BLI# 473300 Fire Supp Sustainment	2.263	4.977	1.438	2.576	2.681	4.815	6.936	5.066	Cont	Cont
PMC BLI# 473300 CLRF	20.080	25.733	0.000	0.000	0.000	0.000	0.000	0.000	0.000	45.813
PMC BLI# 473300 PIAFS	0.493	0.201	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.694
PMC BLI# 206400 Expeditionary Fire Support Sys	5.787	15.295	3.895	11.872	10.227	0.000	0.000	0.000	0.000	47.076
PMC BLI# 646800 CLRF (FSS)	0.033	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.067
PMC BLI# 646800 IPADS (FSS)	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.060
PMC BLI# 700000 Prime Vendor Spares - IPADS (FSS)	0.478	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.478
PMC BLI# 700000 Prime Vendor Spares - (CLRF)	0.839	0.940	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.779
PMC BLI# 700000 Prime Vendor Spares - (EFSS)	0.000	0.432	0.870	0.000	0.000	0.000	0.000	0.000	0.000	1.302

(U) Related RDT&E:

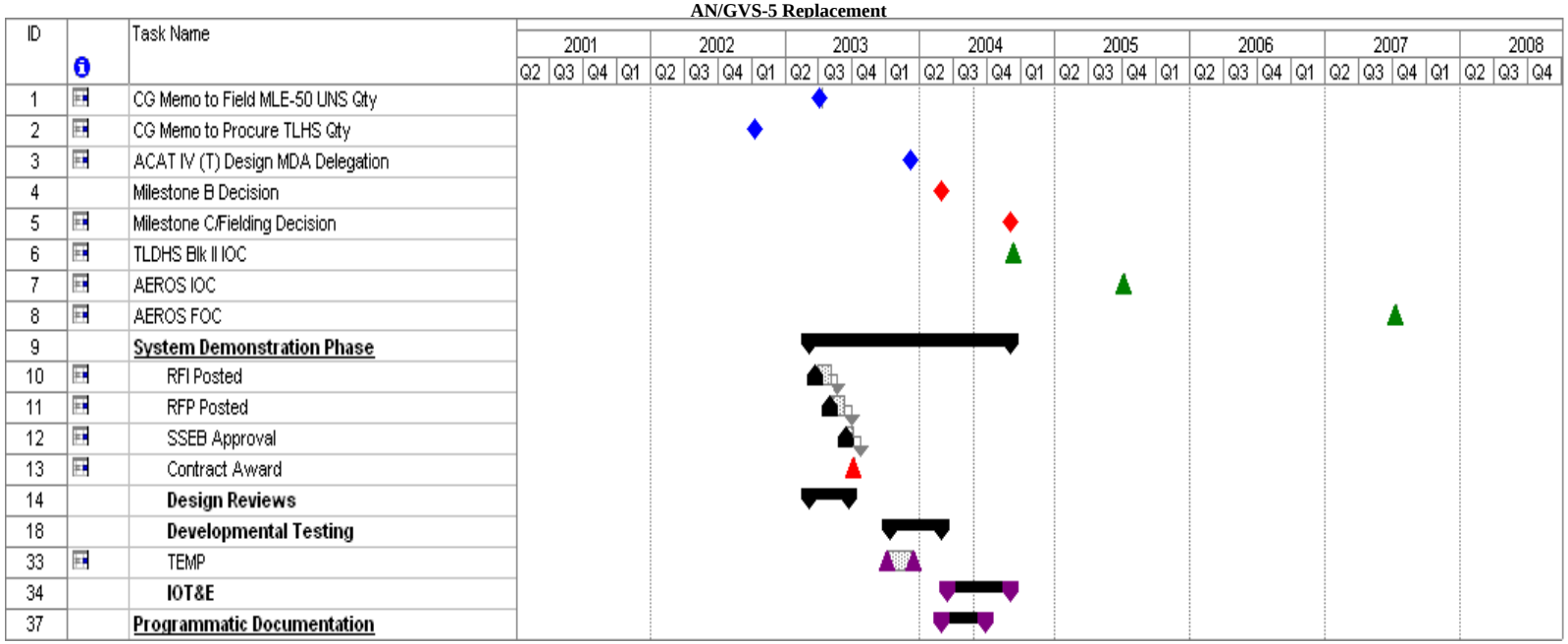
(U) D. ACQUISITION STRATEGY: These programs range from off-the-shelf modifications to developmental items. Fire power enhancement used selected upgrades from Army developmental programs to create a system that more readily meets Marine Corps requirements. EFSS will use an evolutionary acquisition approach fielding a near term capability in FY08 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 2007						
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 **C3098 Fire Support Systems**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	10.789	3.700	1Q06	2.000	1Q07	1.500	1Q08	2.500	1Q09	Cont	Cont	
EFSS	VAR	VARIOUS	0.600	0.530	2Q06	0.500	2Q07	0.430	2Q08	0.644	2Q09	Cont	Cont	
Fire Spt Sustainment	RCP	Smith Indus, Gd Rapids, MI	1.202	1.178	1Q06	0.700	TBD	0.726	TBD	0.741	TBD	Cont	Cont	
Fielded System Readiness	VAR	VARIOUS	0.000	0.400	4Q06	0.361	TBD	0.380	TBD	0.386	TBD	Cont	Cont	
TM2	MIPR	TBD	0.000			0.800	TBD	0.803	TBD	0.810	TBD	Cont	Cont	
Subtotal Product Dev			**12.591**	**5.808**		**4.361**		**3.839**		**5.081**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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**												
CLRF	RCP	CEOSS	0.601	0.161	1Q06							0.000	0.762	
EFSS	RCP	CTQ, Quantico, Va	2.044	0.900	1Q06	0.314	1Q07	0.309	1Q08	0.500	1Q09	Cont	Cont	
EFSS	WR	NSWCDD, Dahlgren, VA	0.912	1.252	1Q06	0.100	1Q07	0.100	1Q08	0.300	1Q09	Cont	Cont	
Fam Artillery Munitions	WR/RCP	BAEST, Stafford, VA	0.116	0.229	1Q06	0.289	1Q07	0.296	1Q08	0.299	1Q09	Cont	Cont	
Fire Spt Sustainment	WR/RCP	BAEST, Stafford, VA	0.621	1.060	1Q06	0.500	1Q07	0.508	1Q08	0.508	1Q09	Cont	Cont	
Fielded System Readiness	RCP	CTQ, Quantico, Va	0.000	0.332	3Q06							0.000	0.332	
MBC	VAR	VARIOUS	1.080			0.308	1Q07					0.000	1.388	
TM2	RCP	CEOSS	0.000			0.200	1Q07	0.200	1Q08	0.200	1Q09	Cont	Cont	
IED Detection	WR	NSWC Panama City, FL	0.000	0.129	3Q06							0.000	0.129	
IED Detection	MIPR	NASA	0.000	0.090	2Q06							0.000	0.090	
Subtotal Support			**5.374**	**4.153**		**1.711**		**1.413**		**1.807**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.680	1.100	2Q06	0.200	2Q07	0.119	2Q08	0.313	2Q09	Cont	Cont	
EFSS	WR	MCPD, Fallbrook, CA	0.688	1.000	2Q06	0.325	2Q07	0.200	2Q08	0.500	2Q09	Cont	Cont	
Fire Spt Sustainment	WR	MCOTEA, Quantico, VA	0.200	0.200	1Q06	0.246	2Q07	0.250	1Q08	0.251	1Q09	Cont	Cont	
IED Detection	RCP	CTQ, Quantico, Va	0.000	0.068	2Q06							0.000	0.068	
IED Detection	MILSTRIP	MCSC, Quantico, VA	0.000	0.013	2Q06							0.000	0.013	
IED Detection	RCP	CTQ, Quantico, Va	0.000	0.500	2Q06							0.000	0.500	
Subtotal T&E			**1.568**	**2.881**		**0.771**		**0.569**		**1.064**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	2.621	1.330	1Q06	0.572	1Q07	0.400	1Q08	0.600	1Q09	Cont	Cont	
Fire Spt Sustainment	WR	MCSC, Quantico, VA	0.271	0.187	2Q06	0.273	2Q07	0.273	1Q08	0.273	1Q09	Cont	Cont	
Subtotal Management			**2.892**	**1.517**		**0.845**		**0.673**		**0.873**		**Cont**	**Cont**	
Remarks:														
Total Cost			**22.425**	**14.359**		**7.688**		**6.494**		**8.825**		**Cont**	**Cont**	

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2007
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 **C3098 Fire Support Systems**

AEROS PROGRAM
AN/GVS-5 Replacement



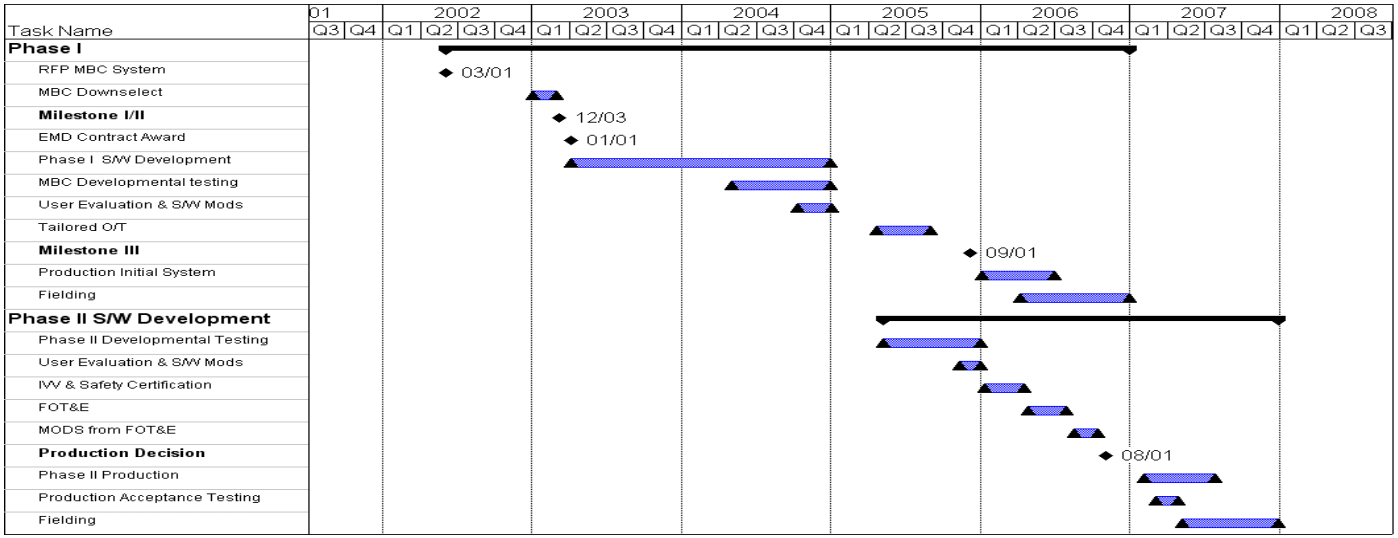
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N (C3098) AN/GVS-5	0.161	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.161
PMC BLI# 473300 AEROS (AN/GVS-5) / CLRF	20.080	25.733	0.000	0.000	0.000	0.000	0.000	0.000	0.000	45.813
PMC BLI# 646800 AN/GVS-5 (FSS)	0.033	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.067
PMC BLI# 700000 PRIME VENDOR (CLRF)	0.839	0.940	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.779

Exhibit R-4/4a Schedule Profile/Detail			DATE: February 2007
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 **C3098 Fire Support Systems**	

AEROS SCHEDULE DETAIL		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY2012	FY2013
CG Memo to Fielding MLE-50 UNS									
CG Memo to Procure TLDHS AEROS Qty									
Program ACAT IV (T) Designation									
Milestone B									
Issue Draft Request for Proposal (RFP)									
Pre-Solicitation Conference									
Issue Final RFP									
Source Selection, Including User Evaluation									
Award Firm Fixed Price Contract with Production Options									
Developmental Testing									
Operational Testing (OT)									
Milestone C / Fielding Decision									
Exercise Production Option									
Production									
Initial Operational Capability (IOC)									
Full Operational Capability (FOC)			Q4						

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2007
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**

MORTAR BALLISTIC COMPUTER



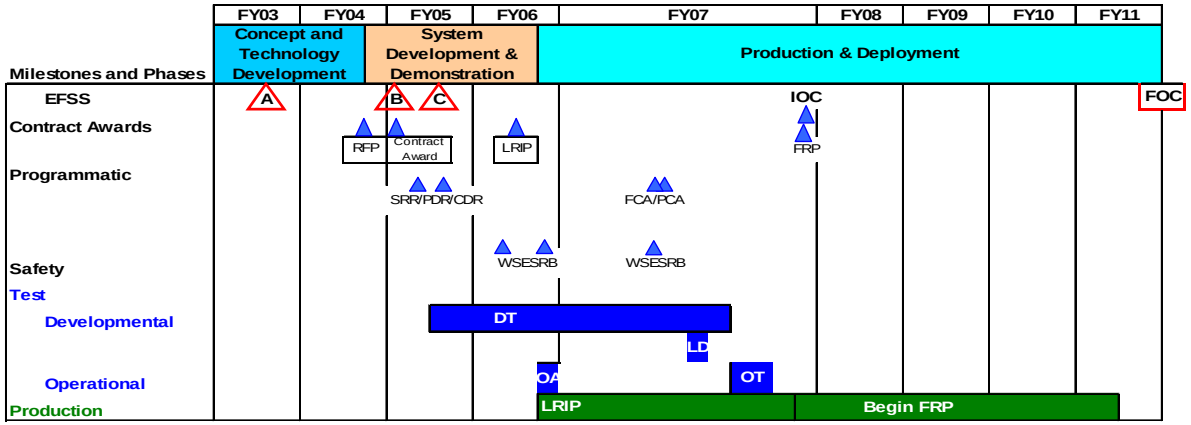
Program Funding Summary	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(APPN, BLI #,										
(U) RDT&E,N (C3098) MBC	0.000	0.308	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.308
PMC BLI# 473300 FSS (Mortar Ballistic Computer)	3.819	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.819

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2007
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 **C3098 Fire Support Systems**

MBC SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY2012	FY2013
Phase I								
RFP Mortar Ballistic Computer (MBC)System								
MBC Down Select								
Milestone I/II								
EMD Contract Award								
Phase I Software (SW) Development								
MBC Developmental Testing								
User Evaluation & SW Mods								
Tailored Operational Testing (OT)								
Milestone III								
Production Initial System								
Fielding								
Phase II -								
Phase II Developmental Testing								
User Evaluation & SW Mods								
IW & Safety Certification	1Q							
FOT&E	2Q							
Mods from FOT&E	3Q							
Production Decision	4Q							
Phase II Production		1Q						
Production Acceptance Testing		1Q						
Fielding		2Q						

Exhibit R-4/4a Schedule Profile/Detail		DATE: February 2007
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)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) RDT&E,N (C3098) EFSS	9.812	4.011	3.058	5.357	5.181	3.076	4.947	5.081	Cont	Cont
PMC BLI# 206400 Expeditionary Fire Support Sys	5.787	15.295	3.895	11.872	10.227	0.000	0.000	0.000	0.000	47.076
PMC BLI# 700000 Prime Vendor Spares (EFSS)	0.000	0.432	0.870	0.000	0.000	0.000	0.000	0.000	0.000	1.302

Exhibit R-4/4a Schedule Profile/Detail			DATE: February 2007
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 **C3098 Fire Support Systems**	

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		4Q						
Full Rate Production		4Q						
Full Operational Capability						4Q		

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Systems Development**	PROGRAM ELEMENT NUMBER AND NAME **0206623M Marine Corps Ground Combat/Support Arms Systems**				PROJECT NUMBER AND NAME **C4002 Family of Raid and Reconnaissance Equipment**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost	**1.698**	**0.677**	**1.011**	**0.000**	**0.000**	**0.000**	**0.428**	**0.439**
RDT&E Articles Qty								

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

The Family of Raid and Reconnaissance Equipment program supports the research, development, and procurement actions for multiple airborne/parachuting and specialized reconnaissance related programs. This line focuses on immediate capability enhancements to numerous insertion and personnel equipment shortfalls currently existing in reconnaissance units throughout the operating forces. This will include improving airborne capability equipment and items for direct action missions that use this specialized raid equipment.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.810**	**0.485**	**0.474**	**0.000**
RDT&E Articles Qty				

Family of Raids and Reconnaissance Equipment: Integrate logistics to standardize and improve existing close quarters battle and direct action combat equipment and all Marine Corps parachute programs. On-going support to existing items that meet mission requirements for close quarter battle and parachute operations. Development of airborne systems that will allow military parachutists to carry combat equipment in various configurations and a means of supplying/re-supplying combat essentials to Marine units. As part of this effort, options will be explored to replace the M-1 and M-2 Cargo Release Systems. Development on High Altitude High Opening (HAHO) navigation board, improved jumpers helmet, and High Altitude Low Opening (HALO)/HAHO jumpers kit.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.173**	**0.192**	**0.000**	**0.000**
RDT&E Articles Qty				

Family of Small Craft: Conduct engineering analysis and exploration of enhancements for modifications of the Family of Small Craft programs. The Small Unit Riverine Craft (SURC), Open Water Safety Craft (OWSC), Combat Rubber Reconnaissance Craft (CRRC), Multi-Fuel Engines (MEF), and other small craft items will be supported through FY07.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.715**	**0.000**	**0.537**	**0.000**
RDT&E Articles Qty				

Underwater Reconnaissance Capability (URC): Concept exploration and development of prototypes for the Tactical Hydrographic Survey Equipment (THSE) will be explored in support of underwater reconnaissance operations.

(U) Total $	**1.698**	**0.677**	**1.011**	**0.000**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**	**C4002 Family of Raid and Reconnaissance Equipment**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**1.756**	**0.680**	**1.175**	**0.168**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) POM08 Program Adjustment				
(U) Congressional Rescissions				
(U) Congressional Increases	**0.001**			
(U) Reprogrammings	**-0.055**		**-0.163**	**-0.168**
(U) SBIR/STTR Transfer	**-0.004**			
(U) Minor Affordability Adjustments		**-0.003**	**-0.001**	
(U) FY 2008 President's Budget:	**1.698**	**0.677**	**1.011**	**0.000**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
PMC BLI#651800	**27.292**	**41.418**	**10.523**	**15.268**	**14.275**	**16.902**	**10.490**	**5.112**	**Cont**	**Cont**

(U) Related RDT&E: Not Applicable.

(U) D. ACQUISITION STRATEGY:

The acquisition strategy consists of market surveys to identify off-the-shelf/non-developmental item baseline competitors. This will be followed by a release of desired capabilities/specifications and establishment of the trade space parameters. Project dependent, expect to down-select to best value. Follow-on testing/evaluations as required to be conducted.

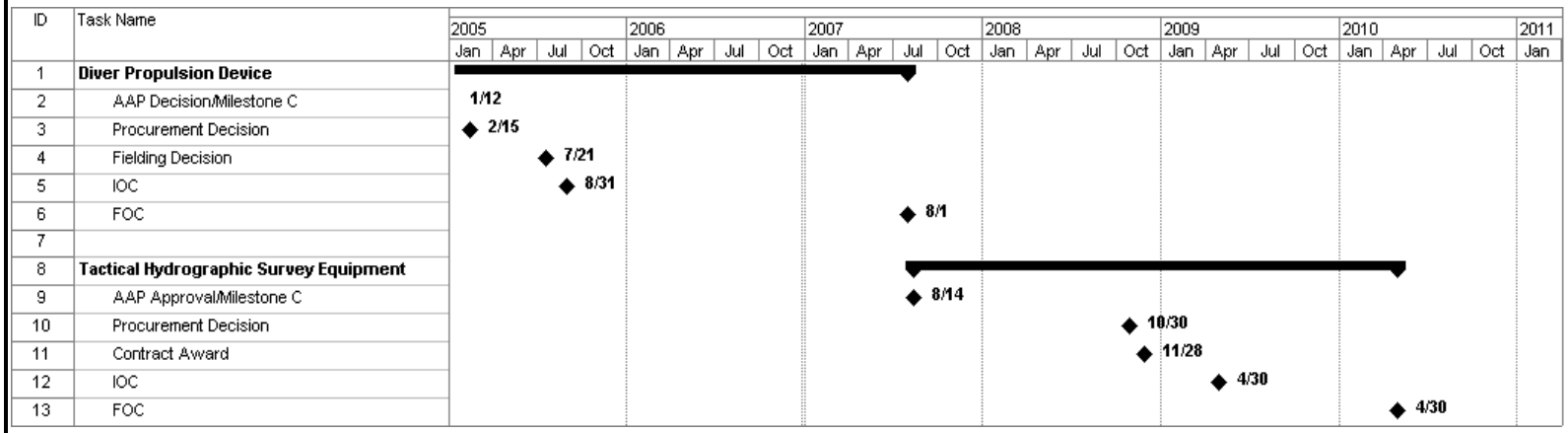
(U) E. MAJOR PERFORMERS:

Oct 08	Panama City, FL	Coastal Systems Station (CSS), system engineering in support of underwater and parachute reconnaissance operations
Oct 08	Natick, MA	Natick Labs, system engineering

Exhibit R-3 Cost Analysis								DATE: February 2007						
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 **C4002 Family of Raid and Reconnaissance Equipment**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
Hardware Development	RCP	MCSC, Quantico, VA	1.193			0.090	09/07					Cont	Cont	
Hardware Development	RCP	CSS, Panama City, FL				0.120	09/07					Cont	Cont	
Systems Engineering	WR	CSS, Panama City, FL	4.579	0.939	10/06	0.403	03/07	0.555	10/07	0.000		Cont	Cont	
Systems Engineering	WR	Natick Labs, Natick, MA	0.249	0.231	12/06	0.050	03/07	0.207	10/07			Cont	Cont	
Systems Engineering	WR	NSWC, Suffolk, VA		0.173	02/06							Cont	Cont	
Systems Engineering	WR	NAWC, Patuxent River, MD		0.032	02/06							Cont	Cont	
												Cont	Cont	
Subtotal Product Dev			**6.021**	**1.375**		**0.663**		**0.762**		**0.000**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
Integrated Logistics Support	RCP	BAE Inc., Stafford VA	0.495									Cont	Cont	
												Cont	Cont	
Subtotal Support			**0.495**	**0.000**		**0.000**		**0.000**		**0.000**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
Operational Test & Evaluation	RCP	MCOTEA, Quantico VA	0.040									Cont	Cont	
												Cont	Cont	
Subtotal T&E			**0.040**	**0.000**		**0.000**		**0.000**		**0.000**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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 Support	RCP	MCSC, Quantico VA	0.199	0.323	12/06	0.014	03/07	0.249	10/07					
Subtotal Management			**0.199**	**0.323**		**0.014**		**0.249**		**0.000**		**Cont**	**Cont**	
Remarks:														
Total Cost			**6.755**	**1.698**		**0.677**		**1.011**		**0.000**		**Cont**	**Cont**	

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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 **C4002 Family of Raid and Reconnaissance Equipment**

Underwater Reconnaissance Capability



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 C4002 URC	0.778	0.000	0.537	0.000	0.000	0.000			Cont	Cont
(U) PMC BLI # 651800 URC	7.288	0.035	2.790	4.537	0.000	0.000			Cont	Cont

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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 **C4002 Family of Raid and Reconnaissance Equipment**

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Tactical Hydrographic Survey Equipment								
Developmental/Operational Testing								
Milestone C		4Q						

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2007	
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 **C9999 Congressional Adds**				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**24.547**	**18.082**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

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

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.591**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

AntiOxidant Micronutrients Pgm 9644C: The micronutrients/antioxidants is a dietary supplement program that has the efficacy of reducing the level of oxidation damage and oxidative stress found in stressful situations/environments and posttraumatic wounding/injuries. The dietary supplement is a special daily vitamin formula being researched to provide stress relief/reduction of heat, NBC and posttraumatic wounding/injuries.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**10.802**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

Expeditionary Fire Support System 9867N: Obtain Insensitive Munitions (IM) compliant Ammunition for qualification, safety certification, to support operational testing, Developmental testing Jan-Jul 2006, Initial Safety Certification for Operational Testing NLT Aug 2006. Operational Test Sept-Dec 2006. Final IM safety certification Feb 2007.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.958**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

M200 Long Range Rifle Sys 9868N: Effort to determine USMC specific needs for the long range medium caliber sniper capability beyond our existing legacy systems. To expedite development and testing to provide a sniper weapon that will bridge the gap of our current capability by being as accurate as our current systems from 800m out to 1500m.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.502**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

MC LAV Integrated Digital/Collab Envir 9641C: Continuation of the effort started in FY05 to stand up an IDE service center which will allow key LAV maintenance and support data accessibility and sharing across the USMC enterprise.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 Congressional Adds**	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**4.788**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

Multi-Role Intermediate Supt Craft 9869N: Conduct initial evaluations of existing COTS variants of the Surface Planning Wet Submersible (SPWS) Craft leading to procurement of a medium sized fixed rigid hull craft that can operate on the surface and in an underwater concealment mode. Marine Corps reconnaissance and other designated units will employ the MRISC in littoral combat operations to execute the full range of Marine Expeditionary Unit (MEU)-Special Operations Capable (SOC) missions in support of MAGTF.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.020**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

Solid St Laminate Metal-Ceramic Armor 9870N: Determine the applicability of using ultrasonic consolidation technology to develop improved metal-matrix armor packages for Light Armored Vehicles.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.886**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

Ultrasonic Consolid Embedded Sensors 9871N: Determine whether ultrasonic consolidation technology can successfully embed vehicle health monitoring sensors in a variety of components in support of the LAV Sense and Respond effort.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**1.992**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**1.445**	**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.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**3.985**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.498**	**0.000**	**0.000**
RDT&E Articles Qty				

Particulate Matter Filter System 9A95N: This Congressional Add funds the Particulate Matter Filter System.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 Congressional Adds**	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**7.970**	**0.000**	**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 suupport 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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**2.192**	**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.

(U) Total $	**24.547**	**18.082**	**0.000**	**0.000**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**25.300**	**0.000**	**0.000**	**0.000**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases		18.150		
(U) Reprogrammings				
(U) SBIR/STTR Transfer	-0.391			
(U) Minor Affordability Adjustment	-0.362	-0.068		
(U) FY 2008 President's Budget:	**24.547**	**18.082**	**0.000**	**0.000**

CHANGE SUMMARY EXPLANATION:
(U) Funding: See above.
(U) Schedule: Not Applicable.
(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost

(U) Related RDT&E:

(U) D. ACQUISITION STRATEGY:

(U) E. MAJOR PERFORMERS:

CLASSIFICATION: **UNCLASSIFIED**

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**17.182**	**17.456**	**12.946**	**7.264**	**3.396**	**2.758**	**2.831**	**2.909**
C0076 Medium Tactical Vehicle Replacement (MTVR)	**0.904**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
* C0201 Logistical Vehicle System Replacement (LVSR)	**2.396**	**7.622**	**5.058**	**4.152**	**0.706**	**0.000**	**0.000**	**0.000**
C2316 Combat Service Support Engineering Equipment	**3.973**	**2.020**	**3.555**	**0.544**	**0.556**	**0.567**	**0.578**	**0.594**
C2509 Motor Transport Modernization	**0.346**	**0.558**	**0.584**	**0.600**	**0.613**	**0.625**	**0.645**	**0.663**
C2929 Testing Measuring Diagnostic Equip (TMDE) & SE	**3.817**	**7.256**	**3.749**	**1.968**	**1.521**	**1.566**	**1.608**	**1.652**
C9999 - Congressional Adds	**5.746**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
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 transportat

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 device

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Dev**	PROGRAM ELEMENT (PE) NAME AND NO. **0206624M Marine Corps Combat Services Support**

B. PROGRAM CHANGE SUMMARY

	FY2006	FY2007	FY2008	FY2009
(U) FY 2007 President's Budget:	**16.318**	**17.524**	**13.106**	**4.003**
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions	-0.056			
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings	1.308		-0.242	3.200
(U) SBIR/STTR Transfer	-0.366			
(U) Minor Affordability Adjustment	-0.022	-0.068	0.082	0.061
(U) FY 2008 NAVCOMPT Budget:	**17.182**	**17.456**	**12.946**	**7.264**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Dev**	PROGRAM ELEMENT NUMBER AND NAME **0206624M Marine Corps Combat Services Support**				PROJECT NUMBER AND NAME **C0201 Logistical Vehicle Sys Replacement (LVSR)**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost	**2.396**	**7.622**	**5.058**	**4.152**	**0.706**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty	**1**	**3**						

(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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.500**	**3.095**	**0.000**	**0.000**
RDT&E Articles Qty				
LVSR: Test and Evaluation.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.098**	**0.429**	**0.443**	**1.000**
RDT&E Articles Qty				
LVSR: Engineering/Program Management				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.604**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty	1			
LVSR: Procure Prototypes. (FY06/07 RDT&E Articles Qty's are 5th Wheel and Wrecker Variants)				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.194**	**0.659**	**1.200**	**1.200**
RDT&E Articles Qty				
LVSR: Engineering Support.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**2.046**	**1.202**	**1.252**
RDT&E Articles Qty				
LVSR: Operational Test and Evaluation.				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**1.393**	**0.900**	**0.000**
RDT&E Articles Qty		3		
FRC: Prototype Development.				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Dev**	PROGRAM ELEMENT NUMBER AND NAME **0206624M Marine Corps Combat Services Support**		PROJECT NUMBER AND NAME **C0201 Logistical Vehicle Sys Replacement (LVSR)**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**1.313**	**0.700**
RDT&E Articles Qty				
FRC: Developmental Test and Evaluation				
(U) Total $	**2.396**	**7.622**	**5.058**	**4.152**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**1.446**	**7.652**	**1.115**	**0.920**
(U) Adjustments from the President's Budget:				
(U) Congressional Adds				
(U) Reprogrammings	0.985		3.908	3.200
(U) SBIR/STTR Transfer				
(U) Minor Affordability Adjustments	-0.035	-0.030	0.035	0.032
(U) FY 2008 President's Budget:	**2.396**	**7.622**	**5.058**	**4.152**

CHANGE SUMMARY EXPLANATION:

(U) Funding: Funding changes in FY06 represent reimbursement of $1015K to LVSR from various MC programs for funds provided in FY05 to support MC shortfalls. Funding changes in FY08 and FY09 are a result of the FY08 POM to Budget Adjustments

(U) Schedule:

(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) PMC Line (BLI# 509300) FlatRack	0.000	7.151	0.016	12.137	21.927	13.271	0.000	0.00	Cont	Cont
(U) PMC Line (BLI# 509300) LVSR	31.615	39.780	26.747	219.025	180.467	162.159	120.542	59.146	Cont	Cont

(U) Related RDT&E:

(U) PE 0206623M Marine Corps Ground Combat Supporting Arms Systems
(U) PE 0603640M Marine Corps Advanced Technology Demonstration
(U) PE 0604804A Logistics and Engineering Equip/Engr Development
(U) PE 0206313M Marine Corps Communications

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Sys Dev**	PROGRAM ELEMENT NUMBER AND NAME **0206624M Marine Corps Combat Services Support**	PROJECT NUMBER AND NAME **C0201 Logistical Vehicle Sys Replacement (LVSR)**

(U) D. ACQUISITION STRATEGY:

The Logistics Vehicle System Replacement (LVSR) program will consist of two separate phases. During the first phase, the System Development and Demonstration (SD&D) phase, up to two contracts will be awarded to procure prototypes for developmental testing. The winner of the SD&D phase will be awarded a production contract to produce Low Rate Initial Production (LRIP) vehicles for operational testing. The other two LVSR variants, the 5th Wheel and Wrecker variants will be designed, built and tested under the LVSR cargo production contract.

(U) D. ACQUISITION STRATEGY: The Flatrack Refueling Capability (FRC) program will consist of two separate phases. During the first phase, the System Development and Demonstration (SD&D) phase, one contract will be awarded to procure prototypes for developmental testing. The winner of the SD&D phase will be awarded a production contract to produce LRIP vehicles for operational testing.

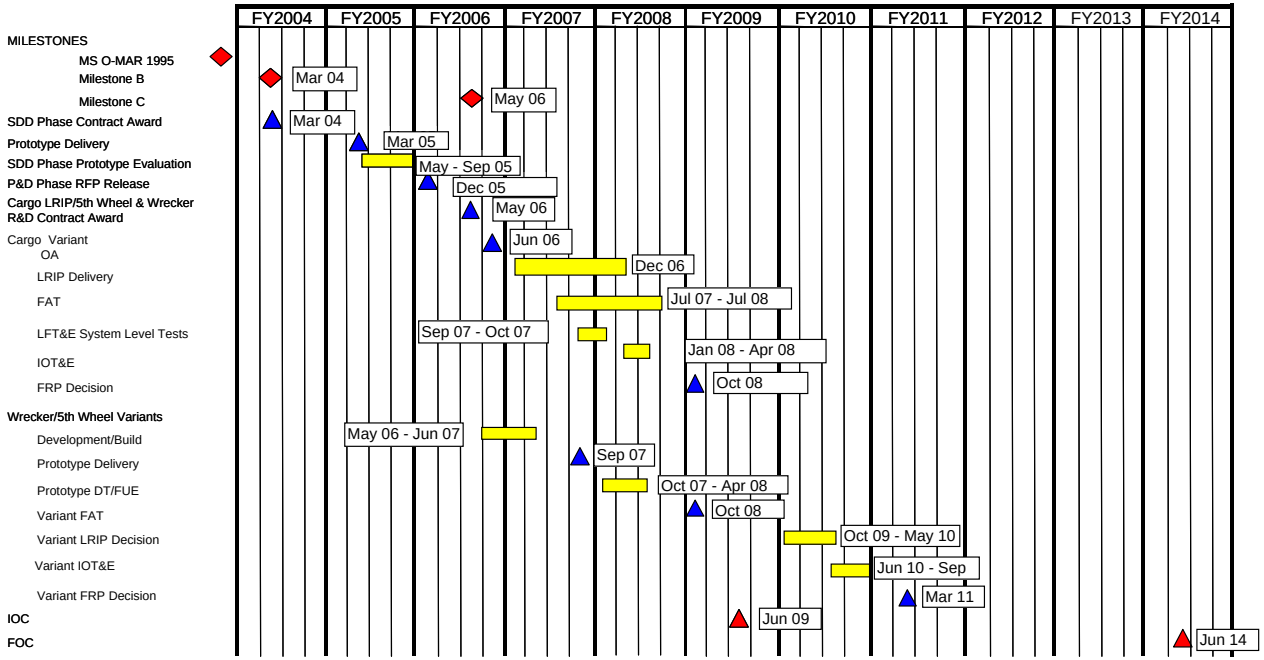
(U) E. MAJOR PERFORMERS:

Mar '04	American Truck Corp	3 Vehicle Prototypes
Mar '04	Oshkosh Truck Corp	3 Vehicle Prototypes

Exhibit R-3 Cost Analysis								DATE: February 2007						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**		PROGRAM ELEMENT **0206624M Marine Corps Combat Services Spt**						PROJECT NUMBER AND NAME **C0201 Logistical Vehicle System Replacement (LVSR)**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	15.131	1.596	05/06	0.000		0.000		0.000		0.000	16.727	
LVSR Source Selection	RCP	MCSC Quantico, VA	0.240	0.008	12/05	0.000		0.000					0.248	
FRC Prototypes	RCP	TDB	0.000	0.000		1.393	01/07	0.900	11/07	0.000		0.000	2.293	
Subtotal Product Dev			**15.371**	**1.604**		**1.393**		**0.900**		**0.000**		**0.000**	**19.268**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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			2.754	12/06	0.000		0.000		0.000	**2.754**	
LVSR Variant Test	MIPR	TACOM, Warren, MI	0.000	0.110	06/06	0.000		0.000		0.000		0.000	**0.110**	
LVSR Corrosion Test	WR	NSWC Philadephia	0.052	0.040	04/06	0.000		0.000		0.000		0.000	**0.092**	
LVSR Development Test	MIPR	Aberdeen Test Center	2.727	0.000		0.341	12/06	0.000		0.000		0.000	**3.068**	
FRC Modeling and Simulation	RCP	NSWC, Carderock, MD	0.205	0.000		0.000		0.000		0.000		0.000	**0.205**	
FRC Developmental T&E	TBD	TBD	0.000	0.000		0.000		1.313	12/07	0.000		0.000	**1.313**	
Subtotal Developmental Cost			**2.984**	**0.150**		**3.095**		**1.313**		**0.000**		**0.000**	**7.542**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	04/06	0.000		0.000		0.000		0.000	**0.194**	
LVSR Engineer & Tech Support	RCP	MCSC Quantico, VA		0.000		0.629	12/06	1.200	12/07	1.200	12/08	0.000	**3.029**	
Subtotal Engineer & Tech Support			**0.000**	**0.194**		**0.629**		**1.200**		**1.200**		**0.000**	**3.223**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	0.000	0.350	05/06	1.300	02/07	1.202	12/07	1.220	12/08	0.000	4.072	
LVSR Operational Assessment	TBD	TBD	0.000			0.746	11/06					0.000	0.746	
FRC Operational Analysis	TBD	MCOTEA	0.000							0.700	12/08	0.000	0.700	
Subtotal Operational Support			**0.000**	**0.350**		**2.046**		**1.202**		**1.920**		**0.000**	**5.518**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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		0.400	12/06	0.243	12/07	0.800	12/08	0.000	5.522	
LVSR Prgrm Mgmnt Spt	WR	MCSC Quantico, VA	0.685	0.098	10/05	0.059	12/06	0.200	12/07	0.232	12/08	0.000	1.274	
Subtotal Management			**4.764**	**0.098**		**0.459**		**0.443**		**1.032**		**0.000**	**6.796**	
Remarks:														
Total Cost			**23.119**	**2.396**		**7.622**		**5.058**		**4.152**		**0.000**	**42.347**	

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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



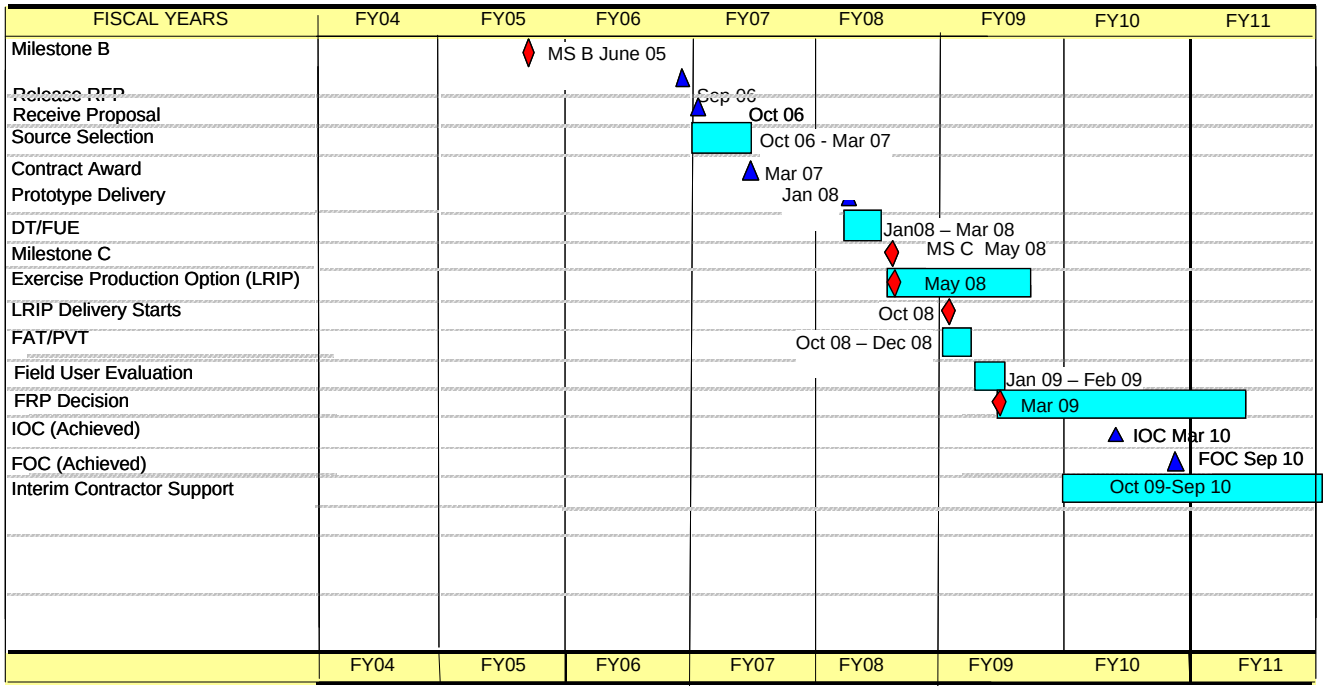
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
(U) RDT&E,N (C0201 LVSR)	0.834	6.229	2.845	3.452	0.000	0.000	0.000	0.000	13.360
(U) PMC Line (BLI# 509300) LVSR	31.615	39.780	26.747	219.025	180.467	162.159	120.542	59.146	839.481

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) RDT&E,N (Flatrack)	1.562	1.393	2.213	0.700	0.706	0.000	0.000	6.574
(U) PMC Line (BLI# 509300) FlatRack	0.000	7.151	0.016	12.137	21.927	13.271	0.000	54.502

Exhibit R-4-4a Project Schedule/Detail		DATE: February 2007
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
Milestone B						
Release RFP	4Q					
Source Selection		1Q-2Q				
Contract Award		2Q				
Prototype Delivery			2Q			
DT/FUE			2Q			
Milestone C			3Q			
LRIP Delivery				1Q		
FAT				1Q		
FUE				2Q		
FRP Decision				2Q		
IOC Achieved					2Q	
FOC Achieved						4Q
Interim contractor Support					1Q-4Q	1Q-4Q

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY				PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev	**0206624M Marine Corps Combat Services Spt**			**C2316 Combat Services Support Engineering Equipment**				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**3.973**	**2.020**	**3.555**	**0.544**	**0.556**	**0.567**	**0.578**	**0.594**
RDT&E Articles Qty								

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

A. This project includes improvements in all areas of Combat Service Support Engineering Equipment. This will sustain the technological currency of the M1A1 Main Battle Tank and the M88A2 Recovery Vehicle while concurrently addressing equipment deficiencies, obsolesced components, and/or opportunities to reduce total ownership costs. The program includes joint evaluations and development of modifications, component enhancements and advanced subsystems involving automotive, fire control, survivability and combat identification. The Joint Assault Bridge (JAB), formerly Expeditionary Assault Bridge (EAB) is a tracked engineer vehicle that provides the Marine Air Ground Task Force (MAGTF) with a survivable, deployable and sustainable 18.3 meter wet/dry gap crossing capability. The JAB is comprised of an M1A1 chassis, a modified BR90 bridge launcher, an Embedded Diagnostics System, and Cameras to aid crew visibility. The JAB will provide crew protection and vehicle survivability while having the speed and mobility to keep pace with the maneuver force.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.212**	**0.528**	**0.535**	**0.544**
RDT&E Articles Qty				

M1A1 Armor Mods: Continue joint participation and evaluation of prospective modifications including component enhancements, advanced fire control systems, survivability systems, Combat Identification, mobility and others.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**1.939**	**0.742**	**0.000**	**0.000**
RDT&E Articles Qty				

Joint Assault Bridge (JAB): Begin system integration with M1A1 tank chassis, BR90 bridge launcher, and MLC70 assault bridge to build first article JAB demonstrator. JAB is an armored vehicle used for rapidly employing, short-gap, assault crossing system, capable of spanning natural and manmade obstacles up to 60 feet (18.29) while under fire for up to Military Load Class (MLC) 70-ton vehicles. The JAB consists of a rebuilt and upgraded M1A1 Tank chassis with existing MLC70 scissors bridge and a modified BR90 launcher. The JAB will provide the MAGTF with the capability to conduct assault and tactical wet and dry gap crossings in all types of climate and terrain, including slopes, trenches and vertical steps. The M1A1 based vehicle will provide the suvivability, maintainability, and maneuverability required to keep pace with the maneuver force.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.460**	**0.500**	**0.520**	**0.000**
RDT&E Articles Qty				

JAB: Program management and engineering support.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.362**	**0.250**	**2.500**	**0.000**
RDT&E Articles Qty				

JAB: Conduct and conclude Developmental Testing, Operational Test and evaluation.

(U) Total $	**3.973**	**2.020**	**3.555**	**0.544**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY		PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	**0206624M Marine Corps Combat Services Spt**	**C2316 Combat Services Support Engineering Equipment**

(U) PROJECT CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009
(U) FY 2007 President's Budget:	**3.376**	**2.028**	**0.532**	**0.539**
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases	0.002			
(U) Reprogrammings	0.649		3.000	
(U) SBIR/STTR Transfer	-0.055			
(U) Minor Affordability Adjustments	0.001	-0.008	0.023	0.005
(U) FY 2008 President's Budget:	**3.973**	**2.020**	**3.555**	**0.544**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See above.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) PMC Line (BLI# 652000)EOD Sys- ABV	63.637	6.888	0.000	0.000	0.000	0.000	0.000	0.000	0.000	70.525
(U) PMC Line (BLI# 651800) Amphib SE- JAB	0.000	2.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.012
(U) PMC Line (BLI# 652000) EOD Sys- JAB	0.000	0.000	0.000	8.054	8.656	2.673	2.747	2.824	Cont	Cont
(U) PMC (BLI#206100) Mod Kits (M1A1 Mod Kits)	3.731	2.734	2.818	2.820	6.041	4.485	5.594	4.718	Cont	Cont
(U) PMC (BLI#206100) Recovery Veh, Ft, Heavy	4.760	6.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.781
(U) PMC (BLI#206100) Safety Mods (M1A1)	22.415	3.571	1.611	1.658	1.729	1.759	1.801	1.851	Cont	Cont
(U) PMC (BLI#209500) M1A1 FEP (M1A1)	31.517	19.003	14.716	14.706	0.000	0.000	0.000	0.000	0.000	79.942

(U) Related RDT&E:

(U) PE 0206623M Marine Corps Ground Combat Supporting Arms Systems

(U) PE 0603640M Marine Corps Advanced Technology Demonstration

(U) PE 0604804A Logistics and Engineering Equip/Engr Development

(U) PE 0206313M Marine Corps Communications

(U) D. ACQUISITION STRATEGY:

(U) The **M1A1 Tank MOD** and **Safety Mods** programs leverages Army developmental programs to create a system that more readily meets Marine Corps requirements. Modification includes safety, reliability, and technology up-grades to meet Marine Corps requirement. M1A1 Tank MOD will exercise options on existing contracts of varying types to conduct research and analysis associated with the development of modifications to the M1A1 Tank and supporting platforms.

(U) **Joint Assault Bridge (JAB):** Begin system integration with M1A1 tank chassis, BR90 bridge launcher, and MLC70 assault bridge to build first article JAB demonstrator. JAB is an armored vehicle used for rapidly employing, short-gap, assault crossing system, capable of spanning natural and manmade obstacles up to 60 feet (18.29) while under fire for up to Military Load Class (MLC) 70-ton vehicles. The JAB consists of a rebuilt and upgraded M1A1 Tank chassis with existing MLC70 scissors bridge and a modified BR90 launcher. The JAB will provide the MAGTF with the capability to conduct assault and tactical wet and dry gap crossings in all types of climate and terrain, including slopes, trenches and vertical steps. The M1A1 based launcher will provide the survivability, maintainability, and maneuverability required to keep pace with the maneuver force.

(U) E. MAJOR PERFORMERS:

JAB - Anniston Army Depot, Anniston, Alabama

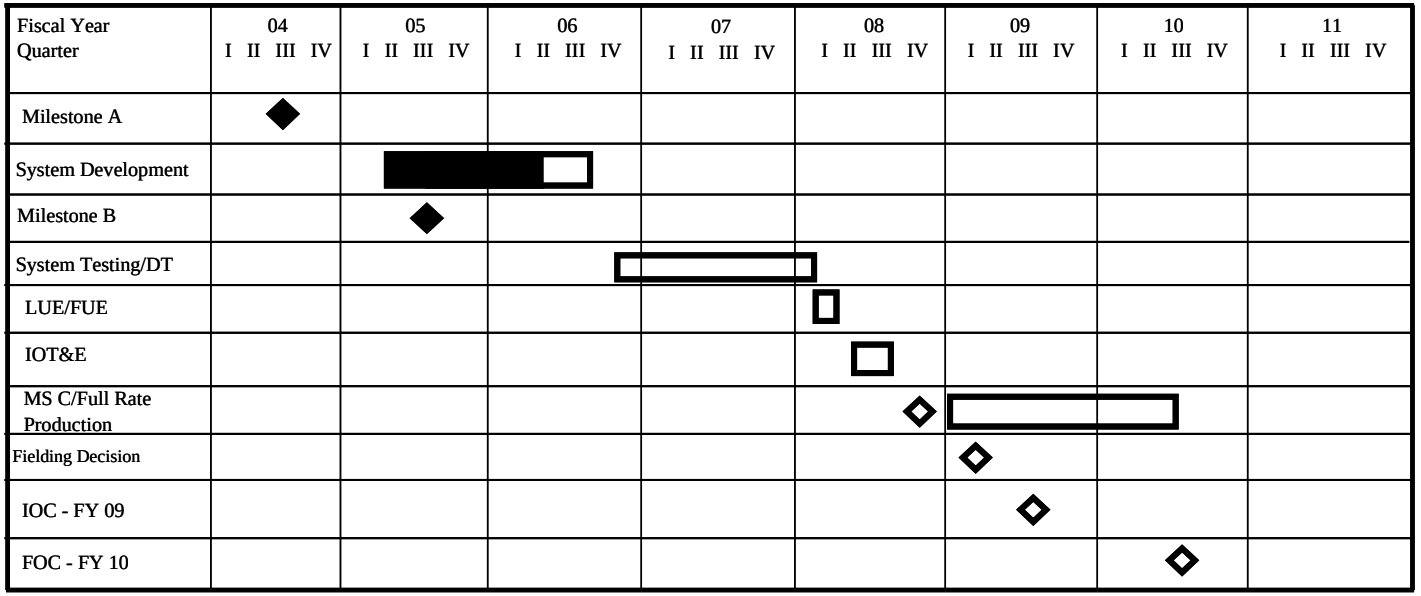
JAB - BAE Land Systems, New Castle, United Kingdom

Exhibit R-3 Cost Analysis									DATE: February 2007						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA 7 Operational Sys Dev**			PROGRAM ELEMENT **0206624M Marine Corps Combat Services Spt**					PROJECT NUMBER AND NAME **C2316 Combat Services Support Engineering Equip**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
Systems Engineering -JAB	WR	Various	0.000	1.939	1Q/06	0.742	1Q/07					0.000	2.681	
PROD DEV - M1A1 Mods	RCP	Various	0.609	0.622	1Q/06	0.353	1Q/07	0.308	1Q/08	0.316	1Q/09	Cont	Cont	
Subtotal Product Dev			**0.609**	**2.561**		**1.095**		**0.308**		**0.316**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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 - JAB	RCP	BAE, Stafford, VA	0.000	0.460	1Q/06	0.500	1Q/07	0.500	1Q/08			0.000	1.460	
Program Supp-M1A1 Mods	WR	MCSC, Quantico, VA	0.350	0.591	1Q/06	0.175	1Q/07	0.227	1Q/08	0.228	1Q/09	Cont	Cont	
Subtotal Support			**0.350**	**1.051**		**0.675**		**0.727**		**0.228**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
JAB	MIPR	Aberdeen Prvg Grnd, MD	0.000	0.362	1Q/06	0.250	1Q/07	1.000	1Q/08			0.000	1.612	
JAB - OT Support		MCOTEA, Quantico VA						1.000	2Q/08			0.000	1.000	
JAB Test Support		Various						0.520	1Q/08			0.000	0.520	
Subtotal T&E			**0.000**	**0.362**		**0.250**		**2.520**		**0.000**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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**	**Cont**	
Remarks:														
Total Cost			**0.959**	**3.973**		**2.020**		**3.555**		**0.544**		**Cont**	**Cont**	

Exhibit R-4/4a Schedule Profile Detail	DATE: February 2007

APPROPRIATION/BUDGET ACTIV	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys	**0206624M Marine Corps Combat Services Spt**	**C2316 Combat Services Support Engineering Equip**

EXPEDITIONARY ASSAULT BRIDGE



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 EAB	2.842	1.492	3.020	0.000	0.000	0.000	0.000	0.000	0.000	7.354
(U) PMC BLI 651800 Amph Supt Eq JAB	0.000	2.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.012
(U) PMC BLI 652000 EOD Sys JAB	0.000	0.000	0.000	8.054	8.656	2.673	2.747	2.824	Cont	Cont

Exhibit R-4/4a Schedule Profile Detail		DATE: February 2007
APPROPRIATION/BUDGET ACTIV	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys	**0206624M Marine Corps Combat Services Spt**	**C2316 Combat Services Support Engineering Equip**

JAB SCHEDULE DETAIL	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone A								
System Development								
Milestone B								
System Testing/DT	3rd Qtr							
Limited User Evaluation/Field User Evaluation			1st Qtr					
IOT&E			2nd Qtr					
Milestone C			4th Qtr					
Fielding Decision/Full Rate Production				1st Qtr				
IOC				3rd Qtr				
FOC					3rd Qtr			

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**3.817**	**7.256**	**3.749**	**1.968**	**1.521**	**1.566**	**1.608**	**1.652**
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 Logisitcs (AL) program provides weapon system sensor data collection and processing for information conversion to provide situational awareness. FY-06 effort will focus on developing system, operational, and technical architectures for condition based maintenance for Marine Corps Ground Weapon Systems. FY-07 efforts will develop Low Rate Initial Production (LRIP) system health hardware and software for Marine Corps weapon systems.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM

During FY-06 the AL program will conduct 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 will include diagnostic and prognostic algorithm development. FY-07 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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.074**	**0.137**	**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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.447**	**0.570**	**0.655**	**0.537**
RDT&E Articles Qty				

ATS: Development of new technology testing applications in support of emerging weapon systems.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.787**	**0.522**	**0.679**	**1.178**
RDT&E Articles Qty				

MCATE: Develop new technology for sustainment of current Marine Corps Automatic Test Equipment.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.509**	**6.027**	**2.415**	**0.253**
RDT&E Articles Qty				

ALS: Weapon sensor data collection & processing for information conversion to provide situational awareness.

(U) Total $	**3.817**	**7.256**	**3.749**	**1.968**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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**

	FY2006	FY2007	FY2008	FY2009
(U) FY 2007 President's Budget:	**4.267**	**7.284**	**10.878**	**1.950**
(U) Adjustments from the President's Budget:				
(U) Congressional Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases	0.002			
(U) Reprogrammings	-0.373		-7.150	
(U) SBIR/STTR Transfer	-0.080			
(U) Minor Affordability Adjustment	0.001	-0.028	0.021	0.018
(U) FY 2008 President's Budget:	**3.817**	**7.256**	**3.749**	**1.968**

CHANGE SUMMARY EXPLANATION:
(U) Funding: See above.
(U) Schedule: Not Applicable.
(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	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	17.405	15.292	1.537	1.619	1.699	1.776	3.700	3.853	Cont	Cont
(U) PMC Line (BLI# 418100) TETS	46.812	41.786	8.288	11.854	0.000	0.000	0.000	0.000	Cont	Cont
(U) PMC Line (BLI# 418100) Autonomic Log	109.005	1.000	3.972	3.448	3.362	3.030	3.117	3.210	Cont	Cont
(U) PMC Line (BLI# 418100) Calibration	11.897	26.834	2.049	2.093	2.131	2.172	2.237	2.304	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 2006		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT					PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational Systems Development		0206624M Marine Corps Combat Svs Spt					C2929 Testing Measuring Diagnostic Equip (TMDE) & SE							
Cost Categories	**Contract Method & Type**	**Performing Activity & Location**	**Total PY s Cost**	**FY 06 Cost**	**FY 06 Award Date**	**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	0.851	0.375	12/05	0.255	02/07	1.000	11/07	0.000		0.000	2.106	0.87
Eval Testing	RCP	MCSC, Quantico VA	0.318	1.197	08/06	0.393	02/07	0.821	02/08	0.000		0.000	1.532	2.398
Study & Hardware	RCP	NSWC; Corona, CA	1.111					0.308	12/07	0.331	12/08	Cont	Cont	Cont
Hardware	RCP	Willitis Electronic Assembly	0.019	0.092	12/05			0.000		0.000		0.000	0.019	0.111
Hardware	RCP	MCSC, Quantico VA	0.298	0.320	12/05	4.250	12/06	0.000		0.000		0.000	4.548	4.860
Software Support	WR	ATEP, Ga	0.525	0.500	12/05	0.354	12/06	0.250	12/07	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	06/06	0.092	12/06	0.850	12/07	0.976	12/08	Cont	Cont	Cont
Study and Hardware	RCP	Mortrup Chicago		0.501	02/06	0.500	12/06							
Subtotal Product Dev			**3.667**	**3.287**		**6.619**		**3.229**		**1.450**		**Cont**	**Cont**	
Remarks:														
Cost Categories	**Contract Method & Type**	**Performing Activity & Location**	**Total PY s Cost**	**FY 06 Cost**	**FY 06 Award Date**	**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	0.164	0.024	02/06	0.037	12/06			0.000		Cont	Cont	
Study and hardware	WR	ATEP, GA		0.334	02/06	0.250	12/06	0.250	12/07	0.248	12/08	Cont	Cont	
Spftware Support	WR	ATEP, GA		0.122	02/06	0.250	12/06	0.270	12/07	0.270	12/08	Cont	Cont	Cont
Subtotal Support			**0.164**	**0.480**		**0.537**		**0.520**		**0.518**		**Cont**	**Cont**	
Remarks:														
Cost Categories	**Contract Method & Type**	**Performing Activity & Location**	**Total PY s Cost**	**FY 06 Cost**	**FY 06 Award Date**	**FY 07 2.509**	**FY 07 Award Date**	**FY 08 Cost**	**FY 08 Award Date**	**FY 09 Cost**	**FY 07 Award Date**	**Cost to Complete**	**Total Cost**	**Target Value of Contract**
EVAL TESTING	WR	NSWC, Carderock,MD	0.051	0.025	02/06	0.050	02/07	0.000		0.000		Cont	Cont	
Subtotal T&E			**0.051**	**0.025**		**0.050**		**0.000**		**0.000**		**Cont**	**Cont**	
Remarks:														
Cost Categories	**Contract Method**	**Performing Activity &**	**Total PY s**	**FY 06**	**FY 06 Award**	**FY 07**	**FY 07 Award**	**FY 08**	**FY 08 Award**	**FY 09**	**FY 07 Award**			**Target Value of**
(U) POM08 Program Ad	**Method**	**Activity &**	**PY s**	**FY 06**	**Award**	**FY 07**		**FY 08**	**Award**	**FY 09**	**Award**	**Cost to**	**Total**	**Value of**
	& Type	**Location**	**Cost**	**Cost**	**Date**	**Cost**	**Date**	**Cost**	**Date**	**Cost**	**Date**	**Complete**	**Cost**	**Contract**
Program Support	FFP	MCSC, Quantico	0.400	**0.025**	02/06	**0.050**	12/06	**0.000**		**0.000**		**Cont**	Cont	2.445
Subtotal Management			**0.400**	**0.025**		**0.050**		**0.000**		**0.000**		**Cont**	**Cont**	
Remarks:														
Total Cost			**4.282**	**3.817**		**7.256**		**3.749**		**1.968**		**Cont**	**Cont**	

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 **C9999 FY06 Congressional Adds**	

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	5.746	**0.000**	**0.000**	**0.000**	**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. FY-06 effort will focus on developing system, operational, and technical archite

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

Project 9645N - Battlefield Management System (BMS) – Designed primarily for tracked combat vehicles such as the M1 Main Battle Tank and Advanced Amphibious Assault Vehicle, AS2 is an integrated hardware and software suite that provides both weapons contr

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM

During FY-06 the AL program will conduct 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 will include diagnostic and prognostic algorithm

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**2.394**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

Autonomic Logistics 9872N: Develop new technology for sustainment of current Marine Corps Automatic Test Equipment.

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**3.352**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty				

Battlefield Management Sys (BMS) 9645C: Support of BMS Analysis Related to C2PC/JTCW.

(U) Total $	**5.746**	**0.000**	**0.000**	**0.000**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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 **C9999 FY06 Congressional Adds**

(U) PROJECT CHANGE SUMMARY:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2007 President's Budget:	**6.000**	**0.000**	**0.000**	**0.000**
(U) Adjustments from the President's Budget:				
(U) Congressional Program Reductions	-0.060			
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings				
(U) SBIR/STTR Transfer	-0.168			
(U) Minor Affordability Adjustment	-0.026			
(U) FY 2008 NavCompt Budget:	**5.746**	**0.000**	**0.000**	**0.000**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See above.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**To Compl**	**Total Cost**

(U) Related RDT&E:

(U) D. ACQUISITION STRATEGY:

Funding to date has been provided solely via congressional plus-ups to the program elements (PE).

(U) E. MAJOR PERFORMERS:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7						R-1 ITEM NOMENCLATURE 0207161N, TACTICAL AIM MISSILES		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	9.032	7.916	4.445	6.691	2.379	1.022	1.040	1.058
0457 AIM-9X	9.032	7.916	4.445	6.691	2.379	1.022	1.040	1.058

(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-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 (fuse, rocket motor and warhead). Improved Anti-Tamper features are being incorporated to protect improvements inherent in AIM-9X design.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	0207161N, TACTICAL AIM MISSILES

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	9.243	7.946	2.463	1.189
Current President's Budget:	9.032	7.916	4.445	6.691
Total Adjustments	-0.211	-0.030	1.982	5.502
Summary of Adjustments				
Congressional Reductions	-0.218	-0.030		
Congressional Rescissions				
Congressional Increases	0.007			
Economic Assumptions			0.011	0.015
Miscellaneous Adjustments			1.971	5.487
Subtotal	-0.211	-0.030	1.982	5.502

Schedule: Schedule changes due to range and aircraft availability. DT-IIIB testing delays due to the QF-4 drones availability. Subsequently, this has delayed the start of OT-IIIB which depend ended upon DT completion. DT/OT-IIIC and IIID were also moved to reflect changes to Block II integration schedule. This will consist of to re-hosting SW into Block II missiles during DT-IIID.

Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E,N/BA-7	0207161N, TACTICAL AIM MISSILES	0457, AIM-9X	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0457 AIM-9X	9.032	7.916	4.445	6.691	2.379	1.022	1.040	1.058
RDT&E Articles Qty								

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 from enemy aircraft and complements the Advanced Medium Range 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 (fuse, rocket motor and warhead). Improved Anti-Tamper features are being incorporated to protect improvements inherent in AIM-9X design.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Test & Evaluation	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.230	2.310	.407	.591
RDT&E Articles Qty				

Funding required for Test & Evaluation (T&E) and associated Governmental support.

Primary P3I Fuze/Systems Engineering Mgmt	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	5.570	5.456	3.879	5.985
RDT&E Articles Qty				

Primary Hardware Development/Pre-Planned Product Improvement (P3I):
Fuze/Systems Engineering/Program Management, Continuation of (P3I) efforts for the AIM-9X fuze.

Navy Fuse (Platform OFS Mods)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.082			
RDT&E Articles Qty				

AIM-9X fuze, Operational Flight Software (OFS) Mods.

Transportation/Travel	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.150	.150	.159	.115
RDT&E Articles Qty				

Transportation/Travel for AIM-9X efforts.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost (*1)
220900 AIM-9X Missile	37.118	40.218	54.891	58.454	58.985	59.273	62.199	62.855	764.682	1,331.304
AIM-9X Mods/Missile (Air Force)	44.360	43.660	52.690	74.084	80.586	63.355	64.581	65.952	662.221	1,343.741

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).

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7		PROGRAM ELEMENT 0207161N, TACTICAL AIM MISSILES				PROJECT NUMBER AND NAME 0457, AIM-9X						
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 (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	5.056	Nov 2006	3.681	Nov 2007	5.762	Nov 2008	.879	23.837	23.837
Systems Eng (WD)	WX	NAWCWD, CHINA LAKE CA	34.564	.400	Nov 2006	.198	Nov 2007	.223	Nov 2008	1.084	36.469	
All Prod DevCost from program implementation thru FY2002			192.194								192.194	
SUBTOTAL PRODUCT DEVELOPMENT			238.317	5.456		3.879		5.985		1.963	255.600	

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												
Dev Test & Eval (WD)	WX	NAWCWD, CHINA LAKE CA	27.543	1.900	Nov 2006						29.443	
Navy Test & Eval (Gov Op Test-WD)	WX	NAWCWD, CHINA LAKE CA	.050	.050	Nov 2006	.050	Nov 2007	.050	Nov 2008		.200	
Navy Test & Eval - (Cont Dev Test	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	.541	Nov 2008	1.701	5.285	
All Prod DevCost from program implementation thru FY2002			4.927								4.927	
SUBTOTAL TEST & EVALUATION			35.171	2.310		.407		.591		1.701	40.180	

MANAGEMENT												
Transportation - Material	MD	NAVAIR, PAXTUXENT RIVER MD	.030	.015	Nov 2006	.015	Nov 2007	.015	Nov 2008	Continuing	Continuing	
Travel	WX	NAWCAD, PATUXENT RIVER MD	1.613	.135	Nov 2006	.144	Nov 2007	.100	Nov 2008	Continuing	Continuing	
All Prod DevCost from program implementation thru FY2002			7.526								7.526	
SUBTOTAL MANAGEMENT			9.169	.150		.159		.115		Continuing	Continuing	

Remarks:

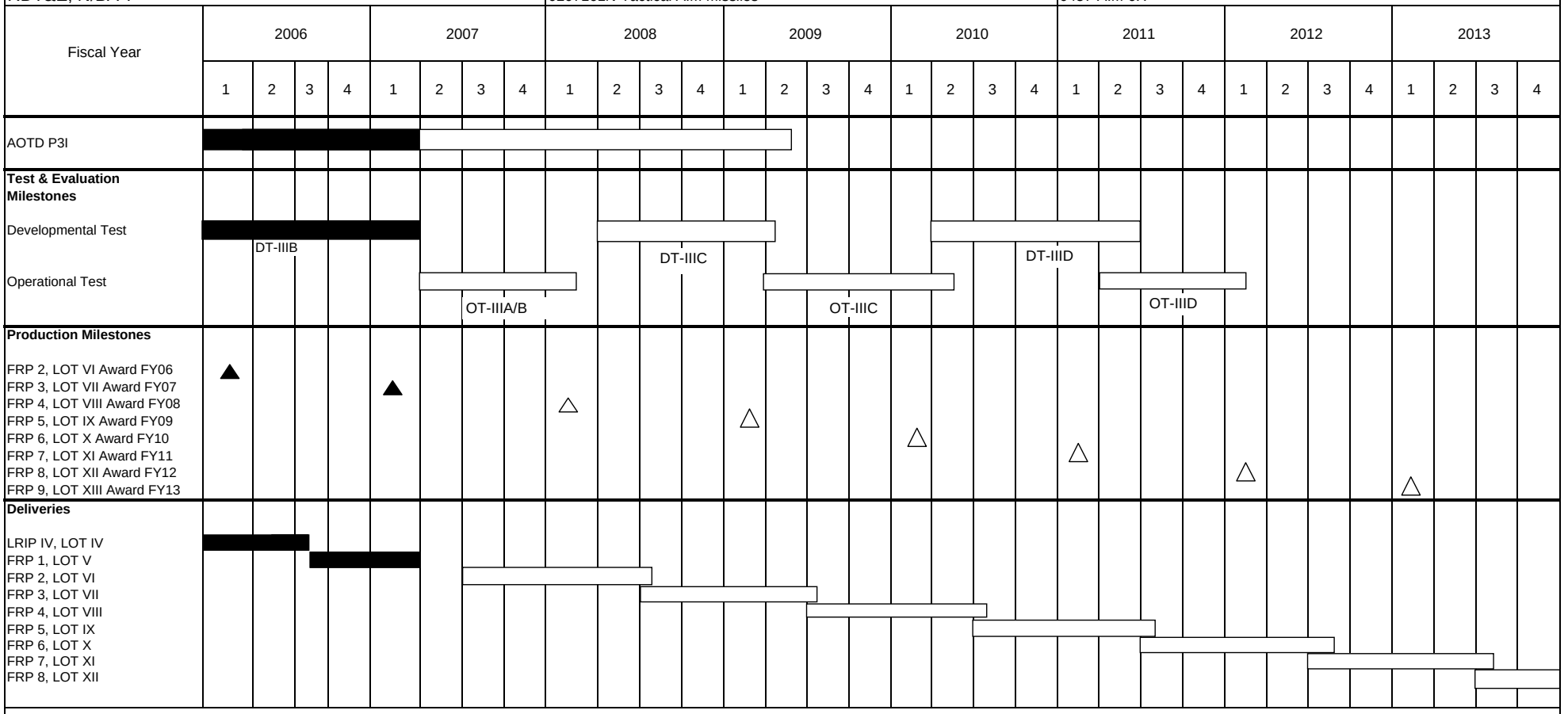
Total Cost			282.657	7.916		4.445		6.691		Continuing	Continuing	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: February 2007

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-7	0207161N-Tactical AIM Missiles	0457-AIM-9X



Note:

EMD completed in 1st QTR of FY04, IOC in 2nd QTR of FY04, & Acquisition Milestone III 3rd QTR of FY04.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail

DATE: February 2007

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	0207161N-Tactical AIM Missiles	0457-AIM-9X

Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AOTD P3I	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q				
Developmental Test DT-IIIB	1Q-4Q	1Q						
Developmental Test DT-IIIC			2Q-4Q	1Q - 2Q				
Developmental Test DT-IIID					2Q-4Q	1Q - 2Q		
Operational Test OT-IIIA/B		2Q - 4Q	1Q					
Operational Test OT-IIIC				2Q-4Q	1Q - 2Q			
Operational Test OT-IIID						2Q-4Q	1Q	
Full Rate Production (FRP 2) Award Lot VI	1Q							
Full Rate Production (FRP 3) Award Lot VII		1Q						
Full Rate Production (FRP 4) Award Lot VIII			1Q					
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
Low-Rate Initial Production IV Delivery	1Q - 3Q							
Full Rate Production (FRP 1), Lot V Delivery	3Q - 4Q	1Q						
Full Rate Production (FRP 2), Lot VI Delivery		3Q - 4Q	1Q - 3Q					
Full Rate Production (FRP 3), Lot VII Delivery			3Q - 4Q	1Q -3Q				
Full Rate Production (FRP 4), Lot VIII Delivery				3Q - 4Q	1Q - 3Q			
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

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0207163N AMRAAM		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	3.475	6.680	4.579	6.513	3.300	3.378	3.806	3.814
0981 AMRAAM	3.475	6.680	4.579	6.513	3.300	3.378	3.806	3.814

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 2007
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0207163N AMRAAM

B. PROGRAM CHANGE SUMMARY

Funding:	FY2006	FY2007	FY2008	FY2009
Previous President's Budget:	3.531	6.705	2.620	3.508
Current President's Budget:	3.475	6.680	4.579	6.513
Total Adjustments	-0.056	-0.025	1.959	3.005
Summary of Adjustments				
Congressional Reductions	-0.057	-0.025		
Congressional Rescissions				
Congressional Increases	0.001			
Economic Assumptions			0.013	0.077
Miscellaneous Adjustments			1.946	2.928
Subtotal	-0.056	-0.025	1.959	3.005

Schedule:

AIM-120C-7 operational testing (OT) revealed a fuze anomaly, with a correction to be incorporated via the C-7 SWUP program. The re-testing of this correction, plus a reassessment of the time needed to complete the remaining OT missions, analyses, and reporting, have extended the projected end-date of the C-7 OT schedule until July 07.

AIM-120C-7 SWUP development completion has slipped from Jun 06 to Sep 06 to permit developmental flight testing of a correction to a fuze issue identified during C-7 OT

The US Marine Corps CLAWS program has been cancelled.

Phase 4 program issues led to a restructured schedule, approved by the AF and Navy PEOs in Mar 06. The revised SDD completion reflects a delay of 15 months from the original plan. There is a corresponding slip in the DT flight test schedule. 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. Delay in the IOC dates is due to the revised OT schedule and a revised production plan, also approved by the PEOs, which delays delivery of inventory tactical missiles until late FY09. Phase 4 SIP/SWUP has been rephrased based on the delay in IOC dates.

Technical:

Not applicable.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0981 AMRAAM	3.475	6.680	4.579	6.513	3.300	3.378	3.806	3.814
RDT&E Articles Qty								

This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the AMRAAM into Navy aircraft with analysis of Navy unique applications, aircraft missile integration tasks, product improvement efforts including missile software upgrade development and procurement of hardware to support Navy test and evaluation tasks.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Continued aircraft integration	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.069	4.423	1.370	1.301
RDT&E Articles Qty				

Continue aircraft integration activities and test and evaluation for Navy unique requirements.

Continued to identify potential improvements	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.791	1.300	0.600	0.680
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	0.615	0.957	2.609	4.532
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 (OFP) 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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:	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total Cost
WPN/P1# 4 AMRAAM	73.797	88.295	87.460	96.893	97.461	94.409	92.215	92.402	2,153.766	4,122.659

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:

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 in FY07; and a 3 year LTPA for the years 2008-2010. The Air-to-Air Wing Program Office will need to revisit the EPMR for missile mix in FY07, and again in FY08 for the production cut-in decision (estimated for Spring 2008).

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2007**

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												
Award Fees (EGLIN)	SS/CPAF	VARIOUS	5.491	0.045	01/07	0.030	01/08				5.566	5.566
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 (EGLIN))	SS/CPAF	RAYTHEON COMPANY, TUCSON, AZ	39.625	0.604	01/07	0.263	1/08	1.214	1/09	4.909	46.615	46.615
Primary Hdw Development	TBD	TBD				2.000	1/08	3.000	1/09		5.000	5.000
Primary Hdw Development (NAWCAD)	WX	NAWCAD, PATUXENT RIVER MD		0.205	11/06	0.208	11/07	0.208	11/08	0.840	1.461	
Primary Hdw Development (NAWCWD)	WX	NAWCWD, PT MUGU CA		0.083	11/06	0.085	11/07	0.086	11/08	0.352	0.606	
Prior Years Hardware Dev	Various	VARIOUS	20.520								20.520	
SUBTOTAL PRODUCT DEVELOPMENT			65.636	0.957		2.609		4.532		6.203	79.937	
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						3.607	3.607
Development Support (NSMA)	RX	NAVY SYST MGT ACT, ARLINGTON VA	1.229	0.250	12/06	0.250	12/07	0.250	12/08	0.863	2.842	
Studies & Analyses - JHU/APL	SS/FFP	NAVSEASYSCOM, WASH 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	1.100		0.400		0.480		1.676	19.568	
Remarks:												
TEST & EVALUATION												
Dev Test & Eval; (NAWCPM)	WX	NAWC WD PT MUGU CA	2.375	4.423	11/06	1.370	11/07	1.301	11/08	5.605	15.074	
SUBTOTAL TEST & EVALUATION			2.375	4.423		1.370		1.301		5.605	15.074	
Remarks:												
MANAGEMENT												
Travel (PMA-259M)	MIPR	PMA-259 Eglin AFB FL	1.708	0.200	10/06	0.200	10/07	0.200	10/08	0.814	3.122	
Prior Years Management	Various	VARIOUS	4.002								4.002	
SUBTOTAL MANAGEMENT			5.710	0.200		0.200		0.200		0.814	7.124	
Remarks:												
Total Cost			89.633	6.680		4.579		6.513		14.298	121.703	
Remarks:												

EXHIBIT R4, Schedule Profile | DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT NUMBER AND NAME: 0207163N AMRAAM

PROJECT NUMBER AND NAME: 0981 AMRAAM

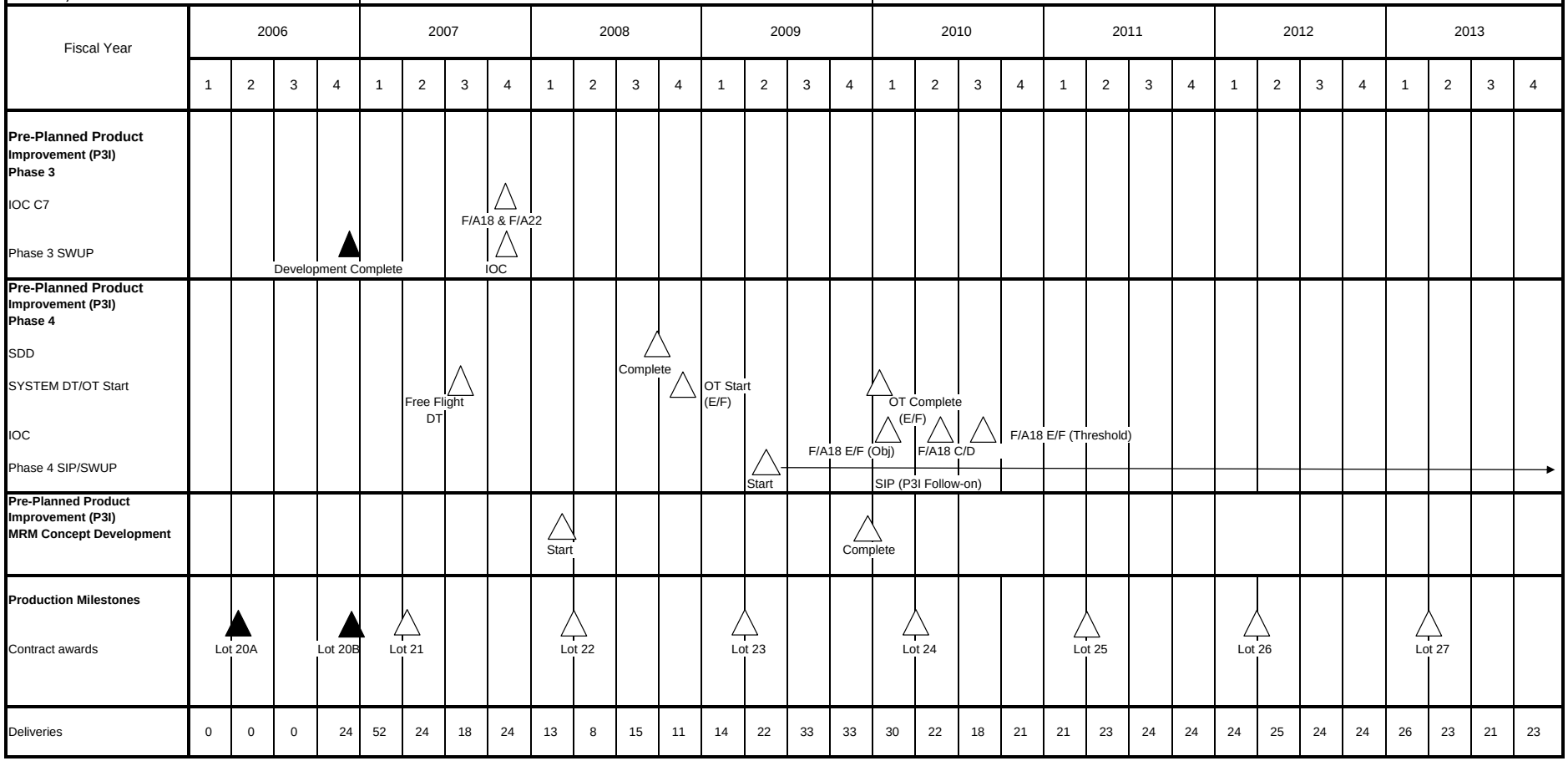


Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0207163N AMRAAM			PROJECT NUMBER AND NAME 0981 AMRAAM				
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
F/A-18 IOC of AIM120C7		4th Qtr						
F-22 IOC of AIM120C7		4th Qtr						
Phase 3 SWUP COMPLETE	4th Qtr							
Phase 3 SWUP IOC		4th Qtr						
SDD Completion Phase 4			3rd Qtr					
Phase 4 SIP/SWUP Start (P3I Follow-0n)				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		3rd Qtr						
System OT (F/A-18 E/F) Start			4th Qtr					
System OT (F/A-18 E/F) Complete					1st Qtr			
IOC F/A18 E/F (Objective)					1st Qtr			
IOC F/A18 E/F (Threshold)					3rd Qtr			
IOC F/A18 C/D					2nd Qtr			
Medium Range Missile Concept Development Start			1st Qtr					
Medium Range Missile Concept Development Complete				4th Qtr				
Production Lot 20 Contract Award	2nd & 4th Qtr							
Production Lot 21 Contract Award		2nd 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

EXHIBIT R-2, RDT&E Budget Item Justification	FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)						DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**				R-1 ITEM NOMENCLATURE **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**0.000**	**14.109**	**18.934**	**11.960**	**8.650**	**3.809**	**0.000**	**0.000**
3131 Intratheater Connectors (Concept Studies)	**0.000**	**11.861**	**5.041**	**3.948**	**1.768**	**2.468**	**0.000**	**0.000**
3134 Intratheater Connectors (Contract Design)	**0.000**	**2.248**	**13.893**	**8.012**	**6.882**	**1.341**	**0.000**	**0.000**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Future joint forces will be responsive, deployable, agile, versatile, lethal, survivable, and sustainable. The nation will need lift assets that can provide for assured access, decrease predictability and dwell time, and have the capacity to quickly deliver troops and equipment together in a manner that provides for unit integrity. Joint High Speed Vessel (JHSV) will provide combatant commanders high-speed intra-theater sealift mobility with inherent cargo handling capability and the agility to achieve positional advantage over operational distances. Not limited to major ports, the JHSV will be able to operate in austere port environments.

B. PROGRAM CHANGE SUMMARY:

Funding:	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
President's Budget 2007	0.000	14.163	18.939	11.897
President's Budget 2008	0.000	14.109	18.934	11.960
Total Adjustments	0.000	-0.054	-0.005	0.063
Revised Economic Assumptions	0.000	-0.054	0.000	0.000
Program Adjustments	0.000	0.000	-0.005	0.063
Total Adjustment	0.000	-0.054	-0.005	0.063

EXHIBIT R-2a, RDT&E Project Justification	**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**				DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**	PROGRAM ELEMENT NUMBER AND NAME **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**				PROJECT NUMBER AND NAME **3131 Intratheater Connectors (Concept Studies)**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**0.000**	**11.861**	**5.041**	**3.948**	**1.768**	**2.468**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (3131) Intratheater Connectors - 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. The design parameters associated with the desired capability are:

Speed: over 35 knots
Payload: 600 short tons, 20000 sq ft
Range: 1200 nm loaded, 4500nm unloaded
Pax: 312
Single spot flight deck to support H-60
C4I suite for situational awareness and basic planning
Commercial Survivability (SOLAS and T-Ship AT/FP)
Non-developmental systems
PANAMAX
Austere Ports: access length less than 450 ft, draft less than 15 ft

CLASSIFICATION: **UNCLASSIFIED**

EXHIBIT R-2, RDT&E Budget Item Justification	**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**	**DATE:** **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDTEN/BA-7	**PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**	**3131 Intratheater Connectors (Concept Studies)**

B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	11.861	5.041	3.948
RDT&E Articles Quantity				

R&D Efforts for Intratheater Connector - addressing spiral technology development and risk mitigation efforts through development of tools and systems to monitor and forecast hull fatigue unique to lightweight hull forms. Continuing to conduct R&D in areas involving lightweight aluminum flight decks, development of advanced lightweight causeway systems, advanced fendering systems, and the safe transport of ammunition and dangerous goods aboard lightweight vessels

FY07 - Demonstrate a Hull Monitoring System that provides real time hull stress information to the operator. Develop procedures for transportation of dangerous goods specific to intended JHSV operations. Develop Lightweight Modular Causeway System by supporting ACTD to deliver a JHSV capable causeway that will facilitate access and throughput in austere ports.

FY08 - Commence Deployable Airbeam Fendering System (DAFS) Integration Study required to integrate and optimize such a system for future JHSVs. Study feasibility of Tensioned Alongside Refueling to support Navy UNREP capability on JHSV.

FY09 - Continue feasibility studies of Tensioned Alongside Refueling to support Navy UNREP capability on JHSV.

Total	0.000	11.861	5.041	3.948

EXHIBIT R-2, RDT&E Budget Item Justification	**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**	**DATE:** **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**	PROGRAM ELEMENT NUMBER AND NAME **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**	PROJECT NUMBER AND NAME **3131 Intratheater Connectors (Concept Studies)**

C. Other Program Funding Summary:	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total Cost
PE 0208058N SCN/BLI3043 Intratheater Connector Surface Support				**174.310**	**174.288**	**181.925**			**TBD**	**530.523**
(U) Related RDT&E:										
PE 0604567N (U)SHIP CONTRACT DESIGN/ LIVE FIRE T&E/3134 Intratheater Connectors	**1.871**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.871**
PE 0603564N (U)SHIP PRELIM DESIGN & FEASIBILITY STUDIES/3131 Intratheater Connectors	**4.669**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**4.669**

D. Acquisition Strategy:

Feasibility studies will be conducted to determine the best designs to meet new Joint Service requirements for intratheater connectors.

E. Major Performers:

Field Activities & Locations - Work Performed
NSWC, Carderock, MD - Concept development and engineering support
SPAWAR Systems Center, Charleston SC - Concept development and engineering support
NAVAIR Pax River, MD - Concept development and engineering support

Contractors & Locations - Work Performed
CSC, Washington, DC - Engineering Support
ALION-JJMA, Washington, DC - Program Support

Universities & Locations - Work Performed

CLASSIFICATION: UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 2)			**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**							**DATE:** **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**			PROGRAM ELEMENT **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**							PROJECT NUMBER AND NAME **3131 Intratheater Connectors (Concept Studies)**				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	
Ancillary Hardware Development													0.000	
Modeling & Simulation	Various	Various				1.353	1Q	0.750	1Q	0.250	1Q		2.353	
Risk Mitigation Efforts	MAC	ALION-JJMA				0.350	1Q	0.175	1Q	0.175	1Q		0.700	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			0.000	0.000		1.703		0.925		0.425		1.059	3.053	
Development Support													0.000	
Software Development													0.000	
Integrated Logistics Support	Various	Various				1.000	1Q	0.500	1Q	0.750	1Q		2.250	
Configuration Management													0.000	
Technical Data	Various	Various				0.675	1Q	0.500	1Q				1.175	
Studies & Analyses	Various	Various				0.759	1Q	0.300	1Q				1.059	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.000		2.434		1.300		0.750		1.059	4.484	

:Remarks

CLASSIFICATION: UNCLASSIFIED

FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M										DATE:				
Exhibit R-3 Cost Analysis (page 2)										**February 2007**				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT								PROJECT NUMBER AND NAME				
RDTEN/BA-7		**PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**								**3131 Intratheater Connectors (Concept Studies)**				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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				0.219	1Q	0.219	1Q	0.219	1Q		0.657	
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.000	0.000		0.219		0.219		0.219		1.059	0.657	
:Remarks														
Contractor Engineering Support	MAC	CSC				1.600	1Q	0.500	1Q	0.500	1Q		2.600	
Government Engineering Support	WX	Various				2.900	1Q	0.925	1Q	0.867	1Q		4.692	
Program management Support	MAC	ALION-JJMA				2.655	1Q	0.972	1Q	0.987	1Q		4.614	
Travel	PD	NAVSEA				0.350		0.200		0.200			0.750	
Transportation													0.000	
SBIR Assessment													0.000	
Subtotal Management			0.000	0.000		7.505		2.597		2.554		1.059	12.656	
Remarks:														
Total Cost			0.000	0.000		11.861		5.041		3.948		4.236	20.850	
Remarks:														

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile	FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)	DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**	PROGRAM ELEMENT NUMBER AND NAME **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**	PROJECT NUMBER AND NAME **3131 Intratheater Connectors (Concept Studies)**

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		MS A							MS B																							
Preliminary Design & Feasibility Studies		CDD																														
AoA																																
		Spec Development																														
Design Development																																
Award Lead Vessel																																
Award Second Vessel																																

CLASSIFICATION: **UNCLASSIFIED**

Exhibit R-4a, Schedule Detail	**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**				**DATE: February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**	PROGRAM ELEMENT **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**				PROJECT NUMBER AND NAME **3131 Intratheater Connectors (Concept Studies)**			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AoA Completion	1Q							
Milestone A	3Q							
Milestone B			2Q					
Award Lead Vessel			2Q					
Award Second Vessel				2Q				

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification	**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**				**DATE: February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**	PROGRAM ELEMENT NUMBER AND NAME **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**				PROJECT NUMBER AND NAME **3134 Intratheater Connectors (Contract Design)**			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**0.000**	**2.248**	**13.893**	**8.012**	**6.882**	**1.341**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (3134) Intratheater Connectors - 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. The design parameters associated with the desired capability are:

Speed: over 35 knots
Payload: 600 short tons, 20000 sq ft
Range: 1200 nm loaded, 4500 nm unloaded
Pax: 312
Single spot flight deck to support H-60
C4I suite for situational awareness and basic planning
Commercial Survivability (SOLAS and T-Ship AT/FP)
Non-developmental systems
PANAMAX
Austere Ports: access length less than 450 ft, draft less than 15 ft

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification	**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**	**DATE: February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDTEN/BA-7	**PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**	**3134 Intratheater Connectors (Contract Design)**

B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	2.248	13.893	8.012
RDT&E Articles Quantity				

Program Acquisition Efforts for Intratheater Connector - conducting Industry Day to engage potential shipbuilder to comment on the JHSV Performance Spec, solicitation for proposals to JHSV Preliminary/Contract 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. At the same time, we will assist the preparation of the Capability Development Document as part of requirement definition process. Milestone B preparation entails both statutory and regulatory documentation required for a Milestone decision.

FY07 - Continue efforts to support award of contract for preliminary design/contact design in mid-FY07. Resolve design issues and initiate the contract data package, including design drawings and specifications.

FY08 - Continue preliminary design/contact design efforts leading to shipbuilding contract award in 2nd quarter FY08. Commence studies to support definition of Navy unique requirements for JHSV #2.

FY09 - Continue studies to support definition of Navy unique requirements for JHSV #2.

Total	0.000	2.248	13.893	8.012

EXHIBIT R-2, RDT&E Budget Item Justification	**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**	**DATE:** **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**	PROGRAM ELEMENT NUMBER AND NAME **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**	PROJECT NUMBER AND NAME **3134 Intratheater Connectors (Contract Design)**

C. Other Program Funding Summary:	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total Cost
PE 0208058N SCN/BLI3043 Intratheater Connector Surface Support				**174.310**	**174.288**	**181.925**			**TBD**	**530.523**
(U) Related RDT&E:										
PE 0603564N/SHIP PRELIM DESIGN & FEASIBILITY STUDIES/3131 Intratheater Connectors	**4.669**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**4.669**
PE 0604567N (U)SHIP CONTRACT DESIGN/ LIVE FIRE T&E/3134 Intratheater Connectors	**1.871**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.871**

D. Acquisition Strategy:

Feasibility studies will be conducted to determine the best designs to meet new Joint Service requirements.

E. Major Performers:

Field Activities & Locations - Work Performed
NSWC, Carderock, MD - Concept development and engineering support
SPAWAR Systems Center, Charleston SC - Concept development and engineering support
NAVAIR Pax River, MD - Concept development and engineering support

Contractors & Locations - Work Performed
CSC, Washington, DC - Engineering Support
ALION-JJMA, Washington, DC - Program Support

Universities & Locations - Work Performed

Exhibit R-3 Cost Analysis (page 2)			**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**						**DATE:** **February 2007**					
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**			PROGRAM ELEMENT **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**						PROJECT NUMBER AND NAME **3134 Intratheater Connectors (Contract Design)**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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	
Ancillary Hardware Development													0.000	
Aircraft Integration													0.000	
Ship Integration	MAC	ALION-JJMA				0.278	1Q	3.500	1Q	2.000	1Q		5.778	
Ship Suitability													0.000	
Systems Engineering	MAC	CSC				0.500	1Q	1.500	1Q	1.000	1Q		3.000	
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			0.000	0.000		0.778		5.000		3.000		2.056	8.778	
:Remarks														
Development Support								2.000	1Q				2.000	
Software Development													0.000	
Integrated Logistics Support	Various	Various				0.435	1Q	1.429	1Q	1.466	1Q		3.330	
Configuration Management								1.000	1Q	0.874	1Q		1.874	
Technical Data								0.750	1Q				0.750	
Studies & Analyses													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.000		0.435		5.179		2.340		2.056	7.954	
:Remarks														

Exhibit R-3 Cost Analysis (page 2)	**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**	**DATE: February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**	PROGRAM ELEMENT **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**	PROJECT NUMBER AND NAME **3134 Intratheater Connectors (Contract Design)**

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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													0.000	
Operational Test & Evaluation								2.000	1Q	1.000			3.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.000	0.000		0.000		2.000		1.000		2.056	3.000	
:Remarks														
Contractor Engineering Support	MAC	CSC				0.177	1Q	0.500	1Q	0.500			1.177	
Government Engineering Support	WX	Various				0.160	1Q	0.814	1Q	0.572			1.546	
Program management Support	MAC	ALION-JJMA				0.698	1Q	0.250	1Q	0.500			1.448	
Travel	PD	NAVSEA						0.150		0.100			0.250	
Transportation													0.000	
SBIR Assessment													0.000	
Subtotal Management			0.000	0.000		1.035		1.714		1.672		2.056	4.421	
:Remarks														
Total Cost			0.000	0.000		2.248		13.893		8.012		8.224	24.153	

Remarks:

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile	FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)	DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**	PROGRAM ELEMENT NUMBER AND NAME **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**	PROJECT NUMBER AND NAME **3134 Intratheater Connectors (Contract Design)**

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		MS A								MS B																						
Source Selection Award Lead Vessel Award Second Vessel																																

CLASSIFICATION: **UNCLASSIFIED**

Exhibit R-4a, Schedule Detail	**FY 2008/FY2009 PRESIDENT'S BUDGET SUBMISSION ($M)**				**DATE:** **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA-7**	PROGRAM ELEMENT **PE 0208058N/JOINT HIGH SPEED VESSEL (JHSV)**				PROJECT NUMBER AND NAME **3134 Intratheater Connectors (Contract Design)**			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone A	3Q							
Milestone B			2Q					
Award Lead Vessel			2Q					
Award Second Vessel				2Q				

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-4**					R-1 ITEM NOMENCLATURE 0708730N Maritime Technology (Maritech)			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**3.263**	**20.422**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9999/Congressional Adds	**3.263**	**20.422**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Project 9999 - See the R2a for Congressional Add descriptions.

R-1 SHOPPING LIST - Item No. 192

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-4**	R-1 ITEM NOMENCLATURE 0708730N Maritime Technology

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 President's Budget	3.400	0.000	0.000	0.000
FY 2008/2009 PRES Budget	3.263	20.422	0.000	0.000
Total Adjustments	-0.137	20.422	0.000	0.000
Summary of Adjustments				
SBIR reductions	-0.088	0.000	0.000	0.000
Program Adjustments	-0.049	-0.078	0.000	0.000
Congressional Adds	0.000	20.500	0.000	0.000
Subtotal	-0.137	20.422	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 192

CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 4	0708730N Maritime Technology (Maritech)	Project Unit (PU) No. and Name: Congressional Plus-Ups : VARIOUS

C. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
9B14N				
NAWC Asset Visibility Business Process Imprvmnt	0.000	1.992		

(U) FY 2007 - The add is to provide funding for NAWC Asset Visibility Business Process Improvement.

	FY 06	FY 07	FY 08	FY 09
9858C/9858N				
Navy Automatic Identification Technology	3.263	2.491		

(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.

	FY 06	FY 07	FY 08	FY 09
9813N				
National Shipbuilding Research Program	0.000	14.943		

(U) FY 2007 - The add is to provide 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.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 4	0708730N Maritime Technology (Maritech)	Project Unit (PU) No. and Name: Congressional Plus-Ups : VARIOUS

C. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
9B12N				
Shipyard Enterprise Warehouse Management Sys	0.000	0.996		

U) FY 2007 - The add is to provide funding for Shipyard Enterprise Warehouse Management Systems

	FY 06	FY 07	FY 08	FY 09

	FY 06	FY 07	FY 08	FY 09

R-1 SHOPPING LIST - Item No. 192

CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME 0708730N Maritime Technology	PROJECT NUMBER AND NAME Project Unit (PU) No. and Name: Congressional Plus-Ups : VARIOUS

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
None										

E. ACQUISITION STRATEGY: N/A

F. MAJOR PERFORMERS: N/A

R-1 SHOPPING LIST - Item No. 192

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 7**				R-1 ITEM NOMENCLATURE 0303109N Satellite Communications (Space)				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**527.432**	**748.416**	**736.572**	**736.485**	**425.140**	**190.084**	**171.430**	**166.275**
0728 EHF SATCOM Terminals	**51.792**	**82.388**	**107.805**	**122.108**	**84.141**	**17.470**	**17.773**	**18.085**
0731 Fleet Satellite Comm	**1.189**	**0.682**	**9.146**	**1.285**	**2.694**	**0.943**	**3.668**	**3.841**
2472 Mobile User Objective System	**449.467**	**662.407**	**611.569**	**602.824**	**295.936**	**117.457**	**60.449**	**48.419**
9122 Advanced Wideband System/Transformational Comm.	**19.227**	**0.000**	**8.052**	**10.268**	**42.369**	**54.214**	**89.540**	**95.930**
9999 Congressional Adds	**5.757**	**2.939**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Quantity of RDT&E Articles	**0**	**23**	**1**	**0**	**4**	**0**	**20**	**0**

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

(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 (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 Operational Requirements Document (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.

(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 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.

CLASSIFICATION:		
EXHIBIT R-2, RDT&E Budget Item Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 7**		R-1 ITEM NOMENCLATURE 0303109N Satellite Communications (Space)

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

(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.

(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. 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 Computing and Network Enterprise System (CANES) networking program.

(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 2008. The MUOS program is funded to the August 2004 Operational Requirements Document (ORD).

(U) This MUOS RDT&E effort supports an Under Secretary of the Air Force (USecAF) approved Initial Operational Capability (IOC) 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 Department of Defense Space Major Defense Acquisition Program. FY 2006-FY 2009 MUOS efforts are focused on Critical Design Review (CDR), beginning work on the spacecraft engineering development models, and fabrication, assembly, integration and test of the first two satellites. In addition, efforts will include the design, development, fielding and testing of the ground segment. The funding for FY 2007 and FY 2008 also includes software development for Ultra-High Frequency (UHF) Follow-On (UFO) Telemetry, Tracking and Command (TT&C) Terminal upgrades due to parts obsolescence, advanced planning, and engineering for the terminal installation, as well as the procurement and installation of two prototype terminals.

(U) 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.

(U) 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.

(U) The Covert Communications Information Transfer (CCIT) program addresses the evolving special communication requirements of Naval Special Warfare and Expeditionary Force missions including covert communications required for operational utilization. FY 2006 further refined candidate technologies into modular, scalable, deployable CCIT capabilities deployed to Special Operations Forces.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	**BA 7**	0303109N Satellite Communications (Space)

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 President's Budget	539.489	748.662	711.916	588.057
FY 2008/2009 President's Budget	527.432	748.416	736.572	736.485
Total Adjustments	-12.057	-0.246	24.656	148.428
Summary of Adjustments				
NAVY IPV6 adjustments			-0.891	-0.907
OSD directed MUOS risk mitigation				126.110
Support IW and extend JMINI Control System			8.100	0.374
Realign Navy Multiband Terminal (NMT) funding			11.470	10.143
Rebaseline Transformational Communication			8.000	9.400
Extension and transition of Commercial SATCOM			6.000	4.900
Navy Working Capital Fund (NWCF) Rate Adjustments			0.259	0.234
Pricing				4.344
DISA Functional Transfers			0.115	0.002
Alternative Offset for New Triad-DNC2				-1.014
NetCentricity -DCJ2				-4.680
Realignment of funding to MILCON			-6.200	
Fixed Submarine Broadcast System (FSBF) Unfunded			-2.000	
Sec. 8023: Federally Funded R&D Center		-0.359		
Joint Integrated Systems For Advanced Digital Networking (JIST-NET)		1.950		
Internet Protocol Version 6 Transition Planning Laboratory		1.000		
Miscellaneous Navy Adjustments	2.633			-0.610
Small Business Innovation Research (SBIR) Tax	-14.675			
Federal Techology Transfer Tax	-0.015			
Non-Purchase Inflation Adjustment			-0.224	0.132
Sec. 8106: Revised Economic Assumptions		-2.837		
Subtotal	-12.057	-0.246	24.629	148.428

(U) Schedule:

EHF SATCOM Terminals (project 0728) - System Design and Development (SDD) contract award 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. NMT funding profile adjustment required the prototype phase to be extended an additional 6 months. Competitive down select currently scheduled for June 2007.
Fleet Satellite Comm. (project 0731) - No schedule changes
Mobile User Objective System (project 02472)
Advanced Wideband System/Transformational Communications (project 9122) - Program Office began Acquisition Strategy development and refinement in FY 2004. Milestone B is currently projected in FY 2010.

(U) Technical:

No technical changes

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0303109N Satellite Communications (Space)				0728 EHF SATCOM Terminals		

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	51.792	82.388	107.805	122.108	84.141	17.470	17.773	18.085
RDT&E Articles Qty		20						

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

(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 (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 Satellite (WGS) and Global Broadcast Systems (GBS). The new system will equip the warfighters with the assured, jam resistant, secure communications as described in the joint AEHF Satellite Communications System Operational Requirement Document (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.

(U) The New-Start Commercial SATCOM terminal will support satellite communications terminals and shore connectivity to the Navy Points of Presence through the use of Commercial Off the Shelf (COTS) terminals and commercial satellite land earth stations and terrestrial fiber services.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	0728 EHF SATCOM Terminals

(U) B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
New-Start Commercial Terminal	0.000	0.000	4.022	4.941
RDT&E Articles Quantity				

(U) New-Start Commercial Terminal
(U) **FY 2008:** 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), Information Support Plan (ISP), Market research, Engineering studies.
(U) **FY 2009**: Complete development of Acquisition Documentation and begin development Request For Proposal (RFP).

	FY 2006	FY 2007	FY 2008	FY 2009
NMT Development, First & Second Phases	51.341	82.388	103.783	117.167
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 2006:** Continued NMT hardware and software development of 8 Software Communications Architecture (SCA) compliant prototype terminals. Continued high level test plan. Additional Software Development required to ensure legacy equipment, utilized by NMT program, will meet Advanced Extremely High Frequency (AEHF) Satellite System requirements.
(U) **FY 2007**: Complete terminal hardware and software development for 8 SCA compliant NMT prototypes. Perform over-the-air testing of NMT prototypes and conduc vendor down-select. Commence design and development of 20 Q/Ka capable Engineering Development Models (EDMs) and added X-band for submarine platforms. EDM test sets are 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. Ir addition, eight EDMs are planned as 1st 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, added X-band for submarine and X/Ka kits for ships. Additional security measures will be incorporated into the terminal software and hardware to support DoD Information Technology Security Certification and Accreditation Process (DITSCAP) certification prior to EDM fielding for DT/OT.
(U) **FY 2009**: Complete design and development of 20 Q/Ka capable EDMs and added X-band 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 or ship and submarine platforms and a shore site to support DT/OT and preparations for MS C.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	0728 EHF SATCOM Terminals

(U) B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Extremely High Frequency (EHF) Polar	0.451	0.000	0.000	0.000
RDT&E Articles Quantity				

(U) EHF POLAR / Ultra High Frequency (UHF) Follow On (UFO)-11 software development and systems engineering.
(U) **FY 2006**: Continued development of Tracking, Telemetry and Control (TT&C) subsystems and end-to-end system testing for Polar 2/3 system.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	0728 EHF SATCOM Terminals

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3215 - OPN Ship and Shore	20.644	-	27.000	27.561	106.077	197.105	198.301	199.676
NESP	20.644							
NMT *					86.077	184.005	188.301	191.776
New-Start Commercial Terminal			27.000	27.561	20.000	13.100	10.000	7.900

(U) Related RDT&E:

(U) PE 0303603F, MILSTAR

(U) PE 0303601F, Air Force Satellite Communications

(U) D. ACQUISITION STRATEGY:

(U) Navy Multiband Terminal (NMT) Concept Exploration contracts were awarded in FY 2001. Two System Development and Demonstration (SDD) contracts were competitively awarded in FY 2004 for the development and demonstration of four prototype terminals per vendor (eight total). In FY 2007, a down select to one vendor will occur for the development, demonstration and procurement of twenty Engineering Development Models (EDMs) which will incorporate integrated multi-band capabilities for Q/Ka band, Submarine X-Band, and Ship X/Ka frequency band communication requirements.

U) The new-Start Commercial SATCOM terminal will support satellite communications terminals and shore connectivity to the Navy Points of Presence through the use of Commercial Off the Shelf (COTS) terminals and commercial satellite land earth stations and terrestrial fiber services. Acquisition documentation development, concept studies and analyses will be accomplished using existing contracts. No new competitive or sole source contracts required for COTS systems.

(U) E. MAJOR PERFORMERS:

Harris Corp., Melbourne, FL - NMT SDD Vendor; contract awarded Oct. 03
Raytheon, Marlborough, MA - NMT SDD Vendor; contract awarded Oct. 03
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.

* Funds not reflected in 3215 budget submit because funding, FY 2010-2013, is outside of the budget submit

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2007**

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	51.202	11/06	0.199	10/07	0.150	10/08			
Hardware Development	C/FFP	Harris (Melbourne, FL)	6.551									
NMT EDM Development	TBD	TBD		19.669	06/07	88.766	10/07	100.817	10/08	Continuing	Continuing	
Hardware Development	WR	SSC SD (San Diego, CA)	1.077									
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				0.133	10/07	0.100	10/08			
Systems Engineering	WR	SSC SD (San Diego, CA)	14.169			0.100	10/07	0.200	10/08			
Systems Engineering	WR	NUWC (Newport, RI)	7.345	1.723	10/06	2.247	10/07	2.426	10/08	Continuing	Continuing	
Systems Engineering	Various	Various	12.376	2.867	10/06	4.067	10/07	4.353	10/08	Continuing	Continuing	
GFE	Various	Various	10.114	0.351	10/06	1.640	10/07	0.050	10/08	Continuing	Continuing	
Subtotal Product Development			260.588	75.812		97.152		108.096		Continuing	Continuing	

Remarks:

Development Support	WR	Various	7.504			0.133	10/07	2.000	10/08	Continuing	Continuing	
Logistics Support	Various	Various				1.000	10/07	1.021	10/08	Continuing	Continuing	
Studies & Analysis	WR	Various	6.126	0.500	10/06	0.350	10/07	0.243	10/08	Continuing	Continuing	
Information Assurance	Various	Various	1.409	0.340	10/06	0.904	10/07	0.961	10/08	Continuing	Continuing	
Subtotal Support			15.039	0.840		2.387		4.225		Continuing	Continuing	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

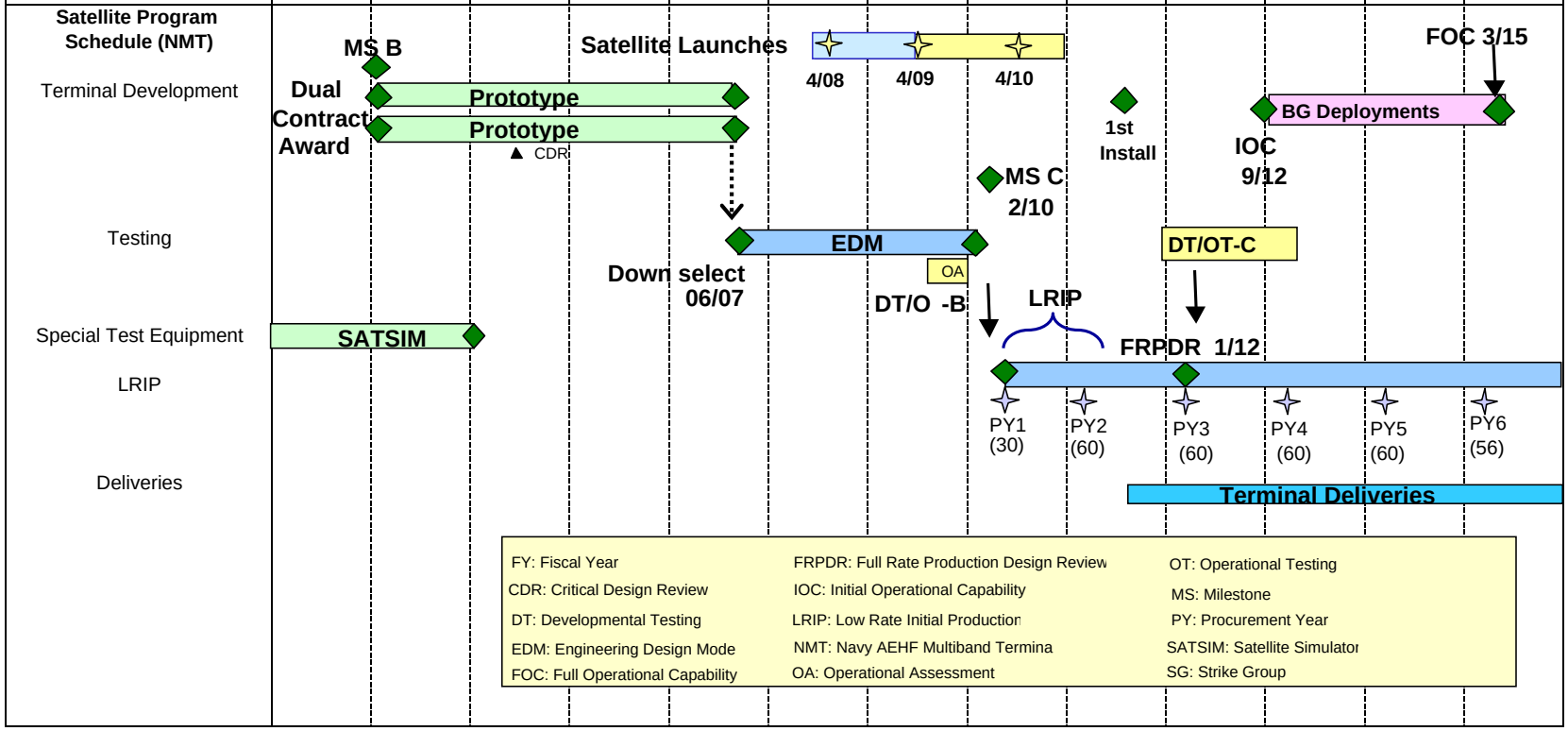
PROGRAM ELEMENT: 0303109N Satellite Communications (Space)

PROJECT NUMBER AND NAME: 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	0.659	10/06	0.655	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	0.659		0.655		2.145		Continuing	Continuing	
Remarks:												
Contract Management	Various	Various	4.109	0.737	10/06	1.039	10/07	1.210	10/08	Continuing	Continuing	
Program Management	Various	Various	6.252	2.843	10/06	2.943	10/07	3.292	10/08	Continuing	Continuing	
Acquisition Management	Various	Various		1.391	10/06	3.461	10/07	2.640	10/08	Continuing	Continuing	
Acquisition Management	WR	NCAD						0.300	10/08			
Travel		Gov't Travel	0.314	0.106	10/06	0.167	10/07	0.200	10/08	Continuing	Continuing	
Subtotal Management			10.675	5.077		7.610		7.642		Continuing	Continuing	
Remarks:												
Total Cost			297.645	82.388		107.805		122.108		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile	DATE: February 2007	
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



Note:
Reflects development of 20 Engineering Development Models (EDMs)
Production Quantity includes 19 SCN platforms (2 of the PY2 buy are SCN procurements)

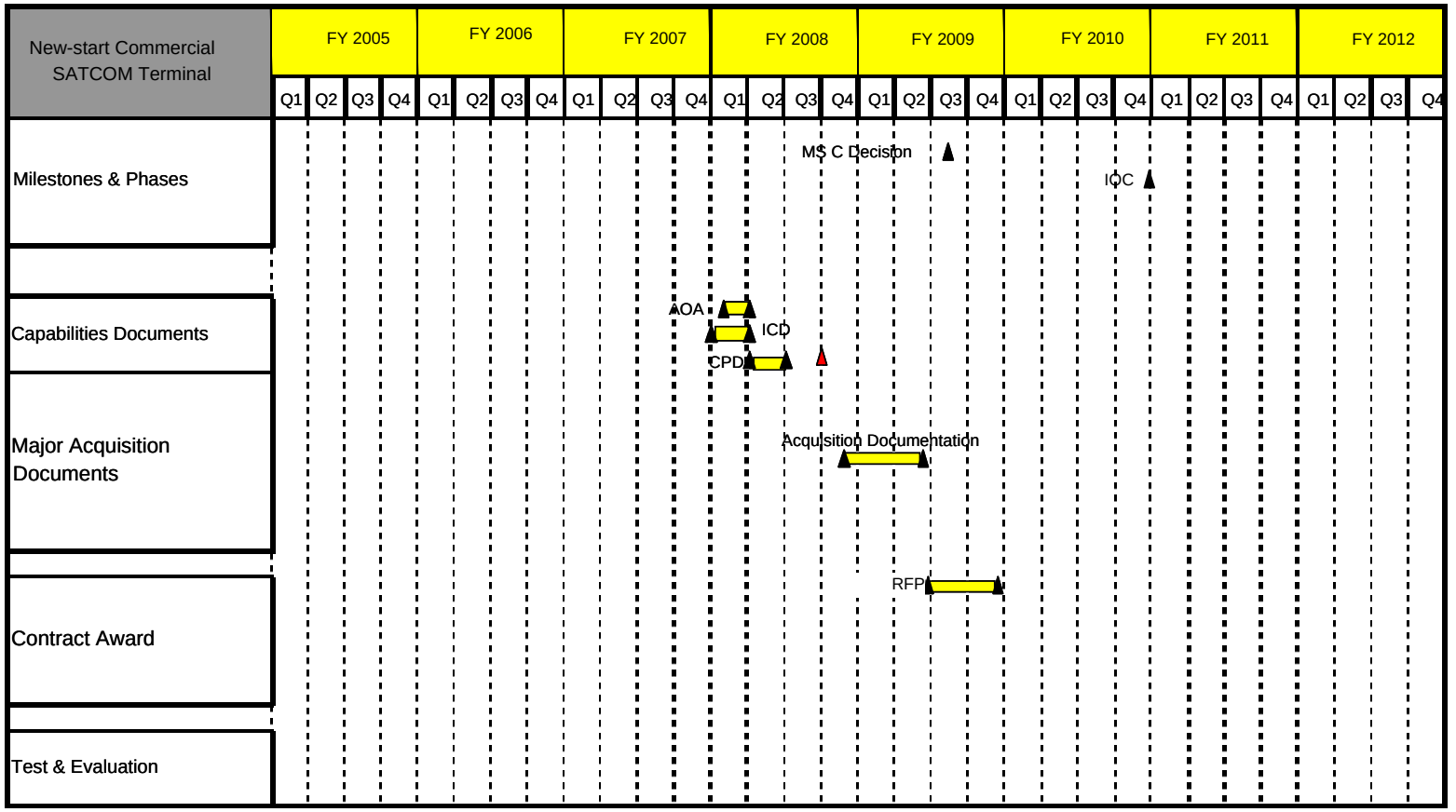
CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0303109N - Satellite Communications (Space)				PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B								
Dual Contract Award								
Prototype Complete		3Q						
Engineering Development Model (EDM) Begins (Quantity = 20)		3Q						
Developmental Testing				4Q				
Operational Assessment				4Q				
Milestone C					2Q			
Start Low-Rate Initial Production I (LRIP I)					2Q			
Start Low-Rate Initial Production II						1Q		
Low-Rate Initial Production I Delivery						2Q		
Developmental Testing							1Q	
Operational Testing							2Q	
Full Rate Production Decision Review (FRPDR)							2Q	
Initial Operational Capability (IOC)							4Q	
Full Operational Capability (FOC) (NOTE 1)								

NOTE 1: FOC is scheduled for 2Q FY 2015.

CLASSIFICATION:

EXHIBIT R4, Schedule Profile	DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVIT	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N - Satellite Communications (Space)	0728 EHF SATCOM Terminals



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0303109N - Satellite Communications (Space)				PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone C				3Q				
IOC					4Q			
Capabilities Documentation - AOA			1Q					
Capabilities Documentation - ICD			1Q					
Capabilities Documentation - CPD			2Q					
Acquisition Documentation Process Begins			4Q					
Acquisition Documentation Process Ends				2Q				
Contract Award - RFP Begins				2Q				
Contract Award - RFP Ends				4Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**1.189**	**0.682**	**9.146**	**1.285**	**2.694**	**0.943**	**3.668**	**3.841**
RDT&E Articles Qty								

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

(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.

(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.

(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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm	

(U) B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
JMINI IW Development			8.265	0.384
RDT&E Articles Quantity				

(U) FY 2006: N/A

(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: Start development of next JMINI control system to replace non-supported equipment, reduce system components, support tech insertion and system re-architecture.

	FY 2006	FY 2007	FY 2008	FY 2009
SCI Networks	1.189	0.682	0.695	0.706
RDT&E Articles Quantity				

(U) FY 2006: Integrated and implemented SCI Networks and associated Special Intelligence Communications. Development Test/Observation of Operational Capability (DT/OOC) of AN/USQ-148E(V)2, and developed and integrated COMPOSE 3.0 software. IPv6 integration and laboratory tests completed. Lab DT of AN/USQ-148D(V)2. Integrated and tested of Voice over Internet Protocol (VoIP).

(U) FY 2007: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. DT/OOC of AN/USQ-148D(V)2. Integration and testing of COMPOSE 3.0 with AN/USQ-148D(V)2.

(U) FY 2008: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. Begin development and integration of the consolidated afloat networks architecture with Common PC Operating System Environment (COMPOSE) 4.X software. Perform Sub DT.

(U) FY 2009: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. Conduct Follow-on Test and Evaluation (FOT&E) of COMPOSE 4.X software.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	0731 Fleet Satellite Comm

(U) B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
IPv6 Transition			0.186	0.195
RDT&E Articles Quantity				

(U) FY 2006: N/A

(U) FY 2007: N/A

(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.

(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

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	**BA-7**	0303109N Satellite Communications (Space)	0731 Fleet Satellite Comm

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN - Comm Auto - 3050 - SCI NETWORKS	4.987	23.048	17.461	14.87	10.143	9.451	5.42	5.507	Continuing	Continuing
OPN - Sat Comm - 3215 - JMINI			0.160	2.846	0.225	8.459	0.622	0	0	12.312

(U) D. ACQUISITION STRATEGY:

JMINI: The JMINI upgrades will be comprised of software and hardware development for channel controller for integration into the 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 4Q FY 2011.

SCI Networks: SCI Network variants are comprised of Commercial Off the Shelf equipments and Government Off the Shelf 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.

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.

(U) E. Major Performers:

JMINI: TBD

SCI Networks: SPAWAR Systems Center, San Diego (SSC SD) provides research and development for next generation SCI Networks.

IPv6: SSC SD/ SPAWAR Systems Center, Charleston (SSC CH)

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1) | DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7** | PROGRAM ELEMENT: 0303109N Satellite Communications (Space) | PROJECT NUMBER AND NAME: 0731 Fleet Satellite Comm

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	Various	22.663								22.663	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering	WX	SSC SD		0.541	12/06	0.553	12/07	0.564	12/08	Continuing	Continuing	0.000
Systems Engineering	Various	Various	0.000	0.000	Various	0.000		0.270	Various	Continuing	Continuing	0.000
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			22.663	0.541		0.553		0.834		Continuing	Continuing	0.000

Remarks:

Development Support	MP	JITC		0.064	12/06	0.065	12/07	0.065	12/08	Continuing	Continuing	0.000
Software Development	WX	DISA	0.000	0.000	Various	8.265	11/07	0.000	Various	Continuing	Continuing	0.000
Training Development											0.000	0.000
IPv6 Support	WX	SSC CH/SD	0.000	0.000	Various	0.186	Various	0.195	Various	Continuing	Continuing	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.064		8.516		0.260		Continuing	Continuing	0.000

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7** | PROGRAM ELEMENT: 0303109N Satellite Communications (Space) | PROJECT NUMBER AND NAME: 0731 Fleet Satellite Comm

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	OPTEVFOR		0.018	12/06	0.018	12/07	0.018	12/08	Continuing	Continuing	0.000
Operational Test & Evaluation											0.000	0.000
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			0.000	0.018		0.018		0.018		Continuing	Continuing	0.000
Remarks:												
Contractor Engineering Support	Various	Various		0.059	Various	0.059	Various	0.059	Various	Continuing	Continuing	0.000
Government Engineering Support											0.000	0.000
Program Management Support	Various	Various	0.000	0.000	Various	0.000	Various	0.114	Various	Continuing	Continuing	0.000
Travel											0.000	0.000
Subtotal Management			0.000	0.059		0.059		0.173		Continuing	Continuing	0.000
Remarks:												
Total Cost			22.663	0.682		9.146		1.285		Continuing	Continuing	0.000
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm - JMINI	

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																MS B						MS C/FRPDR		IOC			FOC					
Software Deliveries																				JMINI software delivery												
Test & Evaluation Milestones Development Test (MS B)																Contract Award						DT/OT										
Operational Test (MS B)																						JITC Cert										
Production Milestones																							Contract Award	LANT/PAC Install		Naples/Guam Install						
Deliveries																																

Note:
This schedule profile is for JMINI only

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm - JMINI			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B (MS B)				4Q				
Contract Award					1Q			
Developmental Testing (MS B)						1Q		
Software Delivery						1Q		
Operational Testing (Platform Operational Assessment) (MS B)						1Q		
Milestone C (MS C)						2Q		
Full Rate Production Decision Review (FRPDR)						2Q		
JITC Cert						2Q		
Install - LANT/PAC/Naples/Guam						4Q	2Q	
Initial Operational Capability (IOC)						4Q		
Full Operational Capability (FOC)							3Q	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / **BA-7**	0303109N Satellite Communications (Space)	0731 Fleet Satellite Comm (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	5	6	7	8	9	10	11	12
Acquisition Milestones	△ Post MS C 148D/E PM Memo																															
Prototype Phase																																
System Development Submarine/BCA AN/USQ-148E AN/USQ 148D	▬	▬	▬	▬																												
Equipment Delivery AN/USQ 148D																																
Software SW Delivery			2.X △				3.0 △		4.X △											5.X △												
Test & Evaluation Milestones			Lab DT 148D							Lab DT 4.X		Ship/Sub/Shore DT 4.X										Lab DT 5.X										
Development Test			▬	▬				▬		▬	▬	▬										▬		▬								
Operational Test			Ship/Shore DT/OOC 148E				Ship/Shore DT/OOC 148D				Sub DT			▬										Ship/Sub/Shore DT 5.X									
														Ship/Sub/Shore FOT&E 4.X																			
Production Milestones																																
LRIP I																																
LRIPII																																
FRP																																
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm (SCI Networks)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Post MS C 148D/E PM Memo	1Q							
System Development (AN/USQ-148D)	1Q-4Q							
Software Delivery 2.X	3Q							
Software Delivery 3.0		3Q						
Software Delivery 4.X			1Q					
Software Delivery 5.X					4Q			
Development Test - Ship/Shore DT/OOC 148E	3Q							
Development Test - Lab DT 148D	4Q							
Development Test - Ship/Shore DT/OOC 148D		4Q						
Development Test - Lab DT 4.X			2Q					
Development Test - Sub DT			3Q					
Development Test - Ship/Sub/Shore DT 4.X			4Q					
Development Test - Lab DT 5.X						1Q		
Development Test - Ship/Sub/Shore DT 5.X						3Q		
Operational Test - Ship/Sub/Shore FOT&E 4.X				2Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0303109N Satellite Communications (Space)				2472 Mobile User Objective System		

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	449.467	662.407	611.569	602.824	295.936	117.457	60.449	48.419
RDT&E Articles Qty (MUOS Satellites)		1	1					
RDT&E Articles Qty (UFO TT&C Terminals)		2						

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

(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 2008. The MUOS program is funded to the August 2004 Operational Requirements Document (ORD).

(U) This MUOS Research Development Test & Evaluation (RDT&E) effort supports an Under Secretary Air Force (USecAF) approved Initial Operational Capability (IOC) 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 Department of Defense Space Major Defense Acquisition Program. FY 2006-FY 2009 MUOS efforts are focused on Critical Design Review (CDR), beginning work on the spacecraft engineering development models, and fabrication, assembly, integration and test of the first two satellites. In addition, efforts will include the design, development, fielding and testing of the ground segment.

(U) The funding for FY 2007 and FY 2008 also includes software development for Ultra-High Frequency (UHF) Follow-On (UFO) Telemetry, Tracking and Command (TT&C) Terminal upgrades due to parts obsolescence, advanced planning, and engineering for the terminal installation, as well as the procurement and installation of two prototype terminals.

(U) The 2008 President's Budget effect an OSD-directed net increase of $126.11M in FY 2009. This increase was a result of direction from the MUOS Milestone Decision Authority (MDA) to fund the program to the OSD Cost and Analysis Improvement Group's (CAIG) estimate. This increase reflects the critical need for the MOUS system to remain on schedule as the preceding UFO system is rapidly degrading. These funds will be used for risk mitigation on the first two satellites. In addition, FY 2009 WPN - where the launch vehicle and remaining satellites are funded - reflects a corresponding OSD-directed net decrease of $180M.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	0303109N Satellite Communications (Space)	2472 Mobile User Objective System

(U) B. Accomplishments/Planned Program

MUOS	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishments/Effort/Subtotal Cost	449.467	651.907	609.069	602.824
RDT&E Articles Quantity		1	1	

(U) FY 2006: Continued funding MUOS RRDD contract and associated system engineering tasks in order to accomplish all FY06 Critical Design Review (CDR) tasks, a necessary condition to meet Initial Operational Capability (IOC) in 2010.
(U) FY 2007: Continue funding for MUOS RRDD contract to complete CDR. Begin work on spacecraft engineering development models and fabrication, assembly, integration and test of the first two satellites.
(U) FY 2008: Continue work on fabrication, assembly, integration and test of the first two satellites. In addition, design and develop entire ground segment and begin fielding and testing.
(U) FY 2009: Continue work on fabrication, assembly, integration and test of the first two satellites. In addition, finish fielding and testing entire ground segment.

UFO TT&C Terminal Upgrades	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishments/Effort/Subtotal Cost	0.000	10.500	2.500	0.000
RDT&E Articles Quantity		2		

(U) FY 2007: Begin 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 installations.

	FY 2006	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	2472 Mobile User Objective System

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
*BLI 2433: Mobile User Objective System (WPN Funding)	0	0	215.834	330.060	529.897	522.497	225.392	70.915	819.633	2,714.228
PE 0301376N: MUOS Ground Station Construction, (MILCON Funding)		26.071	8.450							34.521

(U) D. ACQUISITION STRATEGY:

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 (RDT&E) 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).

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. RDT&E funds in the amount of $10.5M 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 $10.7M in FY 2008 and $2M in FY 2009 will be used to procure and install UFO TT&C terminal updates.

(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 2007**

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 (Note 1)	CPAF/FPI	Lockheed Martin (LM)	$ 797.305	$ 601.294	1Q	$ 568.419	1Q	$ 569.924	1Q	$ 597.032	$ 3,133.974	$ 3,133.974
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	$ 2.060	$ 0.100		$ 0.500		$ -		$ -	$ 2.660	$ 2.660
Subtotal Product Development			$ 929.332	$ 601.394		$ 568.919		$ 569.924		$ 597.032	$ 3,266.601	$ 3,266.601
Remarks:												
UFO TT&C Terminal Upgrades	VAR	VAR	$ -	$ 10.500		$ 2.500		$ -		$ -	$ 13.000	
Facilities Modifications	VAR	VAR	$ 1.341	$ 5.927	Note 2	$ 2.500		$ -		$ -	$ 9.768	
Leased Lines	TBD	TBD	$ -	$ -		$ 2.000		$ 6.000		$ -	$ 8.000	
Studies & Analyses (EELV)	MIPR	SMC/FMAIC	$ 0.500	$ 0.500		$ -		$ -		$ -	$ 1.000	
ISCS Integration	WX	NAVSOC	$ 1.103	$ 2.000		$ 2.250		$ 2.500		$ 1.000	$ 8.853	
JTRS JTEL Testing	TBD	TBD	$ -	$ -		$ 2.500		$ 1.500		$ -	$ 4.000	
Subtotal Support			$ 2.944	$ 18.927		$ 11.750		$ 10.000		$ 1.000	$ 44.621	$ -
Remarks Note 2: FY07 Facility Mods funding of $5.559M is for Australia site prep. 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	$ 0.720	$ 0.709		$ 0.800		$ 1.000		$ 12.127	$ 15.356	
Live Fire Test & Evaluation			$ -			$ -				$ -	$ -	
Subtotal T&E			$ 2.630	$ 1.533		$ 1.473		$ 1.412		$ 13.650	$ 20.698	$ -
Remarks												
Contractor Engineering Support	VAR	VAR	$ 73.462	$ 23.717		$ 16.971		$ 11.151		$ 53.004	$ 178.305	
Government Engineering Support	VAR	VAR	$ 14.814	$ 6.417		$ 4.591		$ 3.017		$ 14.340	$ 43.179	
Program Management Support	VAR	VAR	$ 19.019	$ 9.819		$ 5.965		$ 3.920		$ 18.633	$ 57.356	
Travel	VAR	VAR	$ 1.082	$ 0.400		$ 0.400		$ 0.400		$ 1.600	$ 3.882	
Frequency Filing	ITU	MD	$ 0.855	$ -		$ 1.500		$ 3.000		$ 1.000	$ 6.355	
IPA/ICAT	VAR	VAR	$ 0.124	$ 0.200		$ -		$ -		$ -	$ 0.324	
Subtotal Management			$ 109.356	$ 40.553		$ 29.427		$ 21.488		$ 88.577	$ 289.401	$ -
Remarks												
Total Cost			$ 1,044.262	$ 662.407		$ 611.569		$ 602.824		$ 700.259	$ 3,621.321	$ 3,266.601
Remarks												

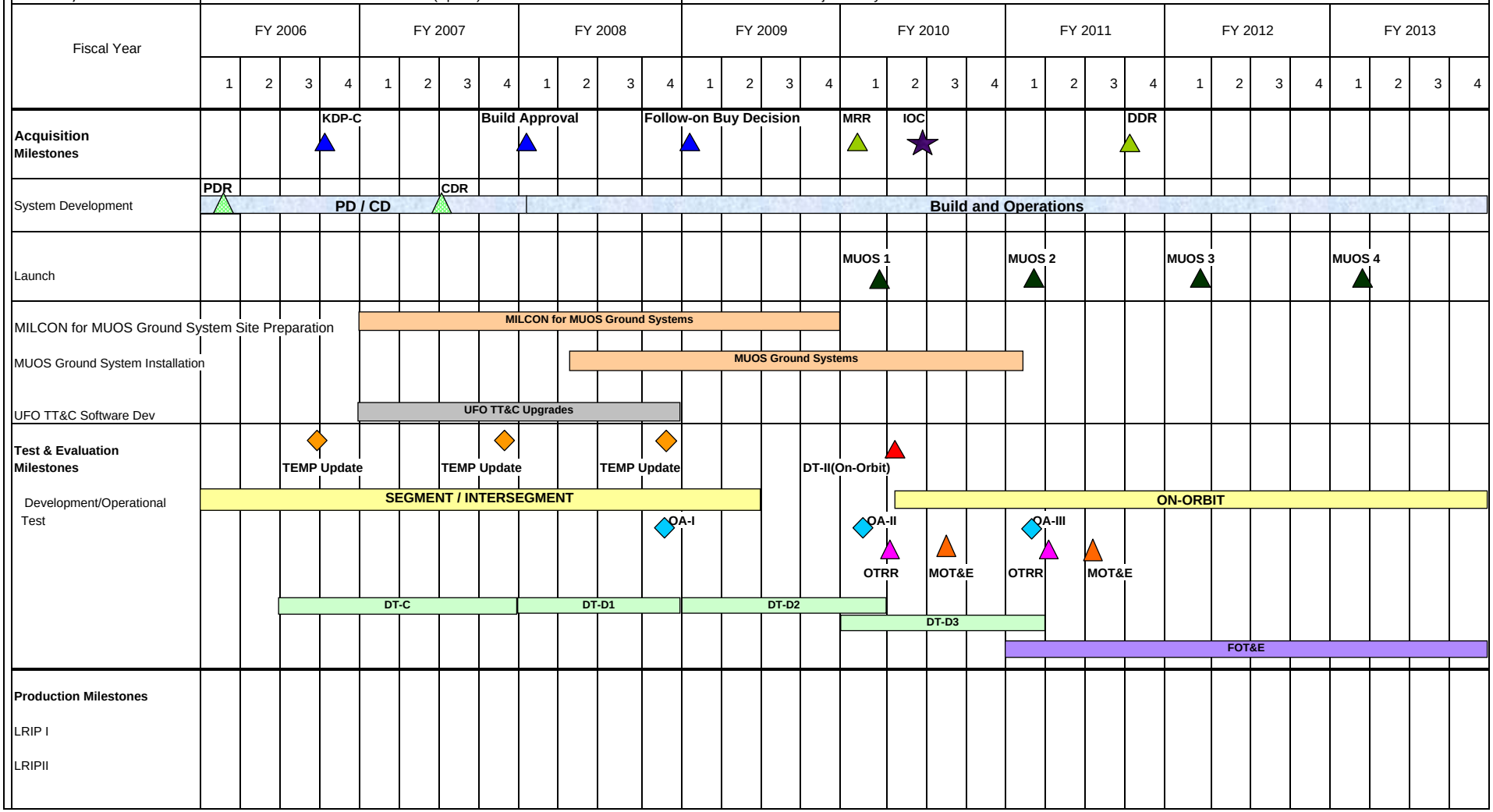
CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2007**

APPROPRIATION/BUDGET A: **RDT&E, N /**

PROGRAM ELEMENT NUMBER AND NAME: 0303109N Satellite Communications (Space)

PROJECT NUMBER AND NAME: 2472 - Mobile User Objective System



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&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-2Q				
Preliminary Design Review (PDR)	1Q							
Key Decision Point C	4Q							
Development Test (DT)-C	3Q-4Q	1Q-4Q						
Critical Design Review (CDR)		3Q						
Complete Design (CD) Phase	4Q	1Q-4Q	1Q					
UFO TT&C Terminal Upgrades		1Q-4Q	1Q-4Q					
DT-D1			1Q-4Q					
Build Approval			1Q					
Build and Operations Phase			1Q-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-1)			4Q					
Operational Test Readiness Review (OTRR)					2Q	2Q		
DT-D2				1Q-4Q	1Q			
Follow-On Buy Decision				1Q				
DT-D3					1Q-4Q	1Q		
Developmental Testing (DT-II) (On Orbit)					2Q			
Mission Readiness Review (MRR)					1Q			
Operational Assessment (OA-II)					1Q			
Launch 1 (M1)					1Q			
Initial Operational Capability (IOC)					2Q			
On-Orbit Testing					2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Multi-Service Operational Testing & Evaluation (MOT&E)					3Q	3Q		
Launch 2 (M2)						1Q		
Operational Assessment (OA-III)						1Q		
Follow-On Test Evaluation (FOT&E)						1Q-4Q	1Q-4Q	1Q-4Q
Deployment Decision Review (DDR)						4Q		
Launch 3 (M3)							1Q	
Launch 4 (M4)								1Q

Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding						DATE: **February 2007**		
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 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
2472 Mobile User Objective System	$ 61.144	$ 50.486	$ 30.855	$ 23.873	$ 15.327	$ -	$ -	$ -

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 2006 are obligated at the beginning of FY 2006, but are required for expenditure at the beginning of FY 2007 (in October and November of CY 2006), 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N / BA-7	0303109N Satellite Communications (Space)				9122 Advanced Wideband System / Transformational Communications			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	19.227	0.000	8.052	10.268	42.369	54.214	89.540	95.930
RDT&E Articles Qty					4		20	

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

(U) The Navy Transformational Communications (TC) Terminal Satellite Communications 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	9122 Advanced Wideband System / Transformational Communications

(U) B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
AWS/TC Concept Development	19.227	0.000	8.052	10.268
RDT&E Articles Quantity				

(U) **FY 2006:** Continued system level engineering process to determine optimal tradeoffs between cost and performance. Mitigated risks that have been identified. Products to support the acquisition include the terminal suite acquisition specification flowdown, the Acquisition Strategy Report (ASR), and the draft Capability Development Document (CDD). Hardware products include the development of a prototype advanced Transmissions Security (TRANSEC)/Communications Security (COMSEC) computer chip that will be required for the operation of every Navy Transformations Communications (TC) terminal.

(U) **FY 2007:**

(U) **FY 2008:** Continue system level engineering process to determine optimal tradeoffs between cost and performance. Mitigate risks that have been identified. Develop products to support the acquisition including the terminal suite acquisition specification flowdown, the ASR and all required Milestone B documentation, and the draft CDD, all supporting development and release of a Transformational Satellite (TSAT) Terminal Request for Proposal (RFP) in FY 2010. Hardware products include the development of a prototype advanced 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, as well a program risk mitigation efforts. Continue drafting the Navy TSAT Terminal CDD, as well as all required Milestone (MS) B documentation. In preparation for 2Q FY 2010 MS B and RFP release. Continue development of a prototype advanced TRANSEC/COMSEC computer chip required for the operation of every Navy TC terminal.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	9122 Advanced Wideband System / Transformational Communications

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013

(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 Milestone B decision, including, but not limited to, a terminal specification, statement-of-work, Acquisition Strategy Report, 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

(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 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT: 0303109N Satellite Communications (Space)

PROJECT NUMBER AND NAME: 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
Hardware Development	Various	Various	37.554			2.526	10/07	2.205	10/08	Continuing	Continuing	
Systems Engineering	Various	Various	4.481			1.283	10/07	1.534	10/08	Continuing	Continuing	
Systems Engineering	WR	NUWC	3.418			1.000	10/07	1.099	10/08	Continuing	Continuing	
Subtotal Product Development			45.453	0.000		4.809		4.838		Continuing	Continuing	

Remarks:

Development Support	WR	SSC SD	3.448			1.005	10/07	1.159	10/08	Continuing	Continuing	
Studies & Analyses	WR	Various	3.475			0.260	10/07	1.025	10/08	Continuing	Continuing	
Information Assurance	WR	Various	0.515			0.525	10/07	0.532	10/08	Continuing	Continuing	
Subtotal Support			7.438	0.000		1.790		2.716		Continuing	Continuing	

Remarks:

CLASSIFICATION:

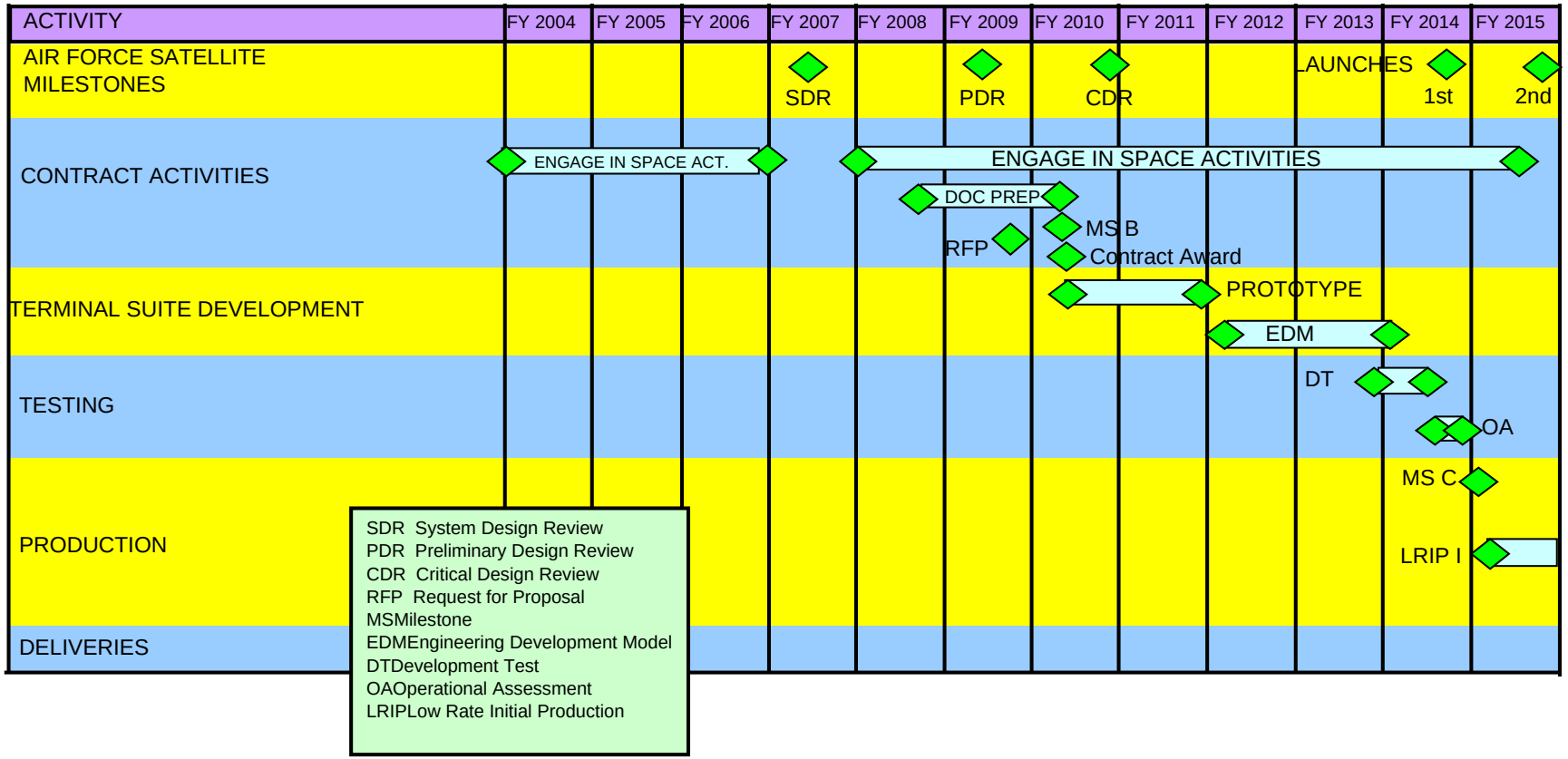
Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2007**

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		SSC SD (San Diego, CA)	0.349					1.200	10/08	Continuing	Continuing	
Program Management Support	Various	Various	1.422			0.500	10/07	1.090	10/08	Continuing	Continuing	
Acquisition Management Support						0.853	10/07	0.324	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		2.714		Continuing	Continuing	
Remarks:												
Total Cost			54.880	0.000		8.052		10.268		Continuing	Continuing	
Remarks:												

EXHIBIT R4, Schedule Profile		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N - Satellite Communications (Space)	9122 Advanced Wideband System / Transformational Communications



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-7**	PROGRAM ELEMENT 0303109N - Satellite Communications (Space)				PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Trans. Communications			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B					2Q			
Dual Contract Award					2Q			
Contract Award (Terminal Suite Development								
Developmental Testing								4Q
Operational Assessment (NOTE1)								
Milestone C (MS C) (NOTE 2)								
Start Low-Rate Initial Production I (LRIP I) (NOTE 3)								

NOTE 1: Operational Assessment is scheduled for 2Q FY2014
NOTE 2**:** MS C is scheduled for 1Q FY 2015
NOTE 3: Start of LRIP 1 is scheduled for 1Q FY 2015

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	0303109N - Satellite Communications (Space)				PROJECT NUMBER AND NAME 9999 - Congressional Increases			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	5.757	2.939	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

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

(U) Congressional add's for Satellite Communications

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROJECT NUMBER AND NAME 9999 - Congressional Increases	

(U) B. Accomplishments/Planned Program

JIST-NET Systems (9421C)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	3.362	1.943	0.000	0.000
RDT&E Articles Quantity				

(U) **FY 2006**: Completed analysis of monthly satellite resource usage metrics collected since 1Q FY06 ; included demonstration of the Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) V2S1 Situational Awareness (SA) Modules . Completed development of applicable acquisition documentation.
(U) **FY2007:** Update JIST-NET Version 3 Spiral 1; provide updated Satellite Access Request (SAR) Module and updated SA Module. Complete development of Acquisition Strategy, and Government Development Testing, along with applicable acquisition documentation.

Covert and Comm & Information Transfer (9429C)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.480	0.000	0.000	0.000
RDT&E Articles Quantity				

(U) **FY 2006**: Completed Covert Communications required for operational utilization.

Navy Multiband Terminal (9889N)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.915	0.000	0.000	0.000
RDT&E Articles Quantity				

(U) **FY 2006**: Supported hardware and software prototype development efforts.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROJECT NUMBER AND NAME 9999 - Congressional Increases	

(U) B. Accomplishments/Planned Program

Internet Protocol Version 6 (IPV6) (9A98N)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.996	0.000	0.000
RDT&E Articles Quantity				

(U) **FY 2007**: 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 Computing and Network Enterprise System (CANES) networking program. All test conditions and test results will be provided to our Joint Service partners and acquisition agencies associated with networking technologies. Applicability of the technologies and proposed targets will be delivered to OPNAV N6 for review and consideration in terms of future requirements documents.

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**			R-1 ITEM NOMENCLATURE 0303140N Information Systems Security Program (ISSP)					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**21.362**	**28.911**	**28.393**	**32.251**	**30.355**	**31.696**	**34.174**	**34.771**
0734 Information Systems Security	**18.007**	**20.943**	**26.249**	**30.090**	**28.141**	**29.452**	**31.890**	**32.448**
0734 Communications Security (ONR)	**2.075**	**1.991**	**2.144**	**2.161**	**2.214**	**2.244**	**2.284**	**2.323**
9999 Congressional Increases	**1.280**	**5.977**						
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.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-7**	R-1 ITEM NOMENCLATURE 0303140N Information Systems Security Program (ISSP)

(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.

(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.

(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; prototype 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.

(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.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY 07 President's Budget	21.569	23.037	28.535	33.100
FY 08/09 President's Budget	21.362	28.911	28.393	32.251
Total Adjustments	-0.207	5.874	-0.142	-0.849
Summary of Adjustments				
Sec. 8125: Revised Economic Assumptions	0.035			
Congressional Action	0.081			
Small Business Innovation Research (SBIR) Tax	-0.090			
Non-Enterprise related CIVPERS/CS Adjustments			-0.039	-0.039
FY 08 / FY 09 NWCF Rate Adjustments - Naval Research Laboratory			0.008	0.020
Sec. 8106: Revised Economic Assumptions		-0.110		
Congressional Interest: Tactctical Key Loader		3.200		
Congressional Interest: SECUREKit		1.000		
Congressional Interest: Universal Decription, Discovery and Integrate		1.800		
Sec. 8023: Federally Funded R&D Center		-0.016		
Non-Purchased Inflation Adj - Navy			-0.272	0.130
Program Adjustments	-0.233		-0.118	-1.213
FY08/FY09 NWCF Rate Adjustments - SPAWAR Systems Centers			0.279	0.253
Subtotal	-0.207	5.874	-0.142	-0.849

(U) Schedule:

N/A.

(U) Technical:

N/A.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0303140N Information Systems Security Program (ISSP)			PROJECT NUMBER AND NAME 0734 Information Systems Security				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**18.007**	**20.943**	**26.249**	**30.090**	**28.141**	**29.452**	**31.890**	**32.448**
RDT&E Articles Qty								

(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.

(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).

(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.

(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.

(U) The ISSP today includes much more than legacy Computer Security (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.

(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 Communication Security (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).

(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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
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

(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).

(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:

(U) Under the Navy Secure Voice (NSV) program, ISSP RDT&E assesses technology to provide high grade, secure tactical and strategic voice connectivity.

(U) Under the Navy Cryptographic Modernization Program, ISSP RDT&E provides high assurance and other cryptographic technologies protecting information and telecommunication systems.

(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.

(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:

- 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.

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- 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.

(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.

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(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Computer Network Defense (CND)	4.956	5.567	9.089	9.213
RDT&E Articles Quantity				

FY 06:: Continued to integrate security products and new technologies for resilient Computer Network Defense (CND) systems for both ship and shore installation. Provided Information Assurance (IA) engineering system design (+$1.655M), evaluation, and testing techniques to maintain IA controls from system end-to-end and information source-to-sink. Integration of IA appliances, software, and implementation techniques for Intrusion Prevention, CND Virus Scanning of all network data exchange protocols, Vulnerability management, and initial Host Based Security requirement were assessed. Began development of a tiered management system (+$2.0M) between Fleet Network Operations Centers (NOCs) and the Navy Cyber Defense Operation Center for real-time situation awareness and display of security risk as: Computer Network Threats, Vulnerabilities, and Critical System Security Performance. Began development of enhanced Security Management Tools (+$1.301M) with new capabilities to support system configuration management and monitoring. Supported development of online engineering support to access subject matter security system experts; automate security system Information Assurance & Vulnerability Assessment (IAVA) distributions, web based information server, NOC site 'As Built' Configuration Data, and Emergency Restoration Files. Developed an IAVA verification assessment system to status Network Operation Center IAVA status for fielded security equipment.

FY 07: Plans include: Provide the broadest range of Information Assurance (IA) research and development support across Joint, Fleet, and ashore networks. Provide on-going security of new ships, aircraft, and submarines to ensure reduced manning and greater operational dependency on networks. Provide IA engineering design (+$2.905M), 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. Provide IA engineering to translate FORCEnet capabilities into CND solutions and conduct security design evaluations certification test results. Includes IA appliances, software, and implementation techniques for policies such as IAVA requirements, Information Operation Condition (INFOCON) response, and USN firewall policy. Provide continuous development of a Shipboard unit level tier situation information management system (+$1.717M) 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. Continue the development of using authenticated administrator access control techniques enhance fielded Security Management Tools (+$0.945M) with new capabilities to support system configuration management and monitoring. Begin 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. Establish 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. Evaluate combined system security effectiveness between each systems networking layer end-to-end, data link layer security through application exchange layer security.

FY 08: Integrate security situational awareness technologies (+$7.316) 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. Through the use of the data in the new tool, initiate the development of the process to assign asset criticality at the host and application level (+$1.773M).

FY 09: 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 (+$7.176M). 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 (+$2.037M).

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	FY 06	FY 07	FY 08	FY 09
Crypto	4.579	5.378	7.227	12.064
RDT&E Articles Quantity				

FY 06: Provided for research, evaluation and prioritization of cryptographic products and KeyMat in modernizing the Naval Cryptographic inventory, including Type-1 US only, allied and coalition, and COTS. Provided support of development efforts in coordination with the Information Systems Security Office, Joint Services, and NSA. Provided (+$1.641M) specific design, testing, and evaluation assistance for new USN platforms and assisted in defining embedded cryptographic product engineering requirements. Provided sustained IA engineering support for the development, acquisition, and installation of Crypto Modernization products including KG-3X, KG-40AR, Communication Security (COMSEC)/TRANSEC Integrated Circuit (CTIC)/Device Hybrid (CDH), Mode 5 Identify Friend or Foe (IFF), Link Encryption Family (LEF), Universal Crypto Device (UCD)/Expendable Crypto devices, and Next Generation COMSEC devices such as: Programmable Embedded Information Security product (PEIP) follow-on, Modern Legacy Crypto Solution (MLCS), KIV-7M/KIV-19M WALBURN and SAVILLE (+$.808M), Thorton-KEESEE (+$2.130M) and KW-46, KG-45, KL-51, KG-68B (based on UCD development) sustainment/replacement. Additional efforts also focused on replacing NSA decertified products. Continued development of next generation network encryption devices, to include application and implementation of High Assurance Internet Protocol Encryptor (HAIPE) in transformational architectures such as FORCEnet and Joint Tactical Radio System (JTRS) Wideband Networking Waveform (WNW), and analysis of critical harmonization/development solutions between modernized In-line Network Encryptor (INE) devices and Key Management, Future Narrowband Digital Terminal (FNBDT) and Wireless standards to ensure net-centric capability.

FY 07: Continue to provide cryptographic products, including Type-1 US only, allied and coalition, and commercial-off-the-shelf. Provide consistent IA engineering support for the development of Crypto Modernization (+$2.353M) products including KG-3X, KG-40AR, CTIC/CDH, IFF Mode 5, Link Encryption Family, Universal Crypto Device (UCD)/Expendable Crypto devices, and Next Generation COMSEC devices such as: PEIP follow-on, KIV-19, KIV 7M, KG-194 (Walburn) (+$.594M), Thorton-KEESEE-SAVILLE (+$2.431M) and KW-46, KG-45, KL-51, KGV-68B (based on UCD development). Continue acquisition documentation mandated by Joint Capabilities Integration and Development System (JCIDS) for development of identified cryptographic devices for replacement in FY06. Continue research, evaluation and prioritization of KEESEE, SAVILLE and GOODSPEED cryptographic products and KeyMat in recommending replacement solution sets to provide cryptographic products, including type-1 US only, allied and coalition, and commercial-off-the-shelf devices to the war-fighter. Application and implementation of HAIPE in transformational architectures such as FORCEnet and Joint Tactical Radio System Wideband Networking Waveform (JTRS WNW), and develop integration solutions for modernized INE devices and Key Management, FNBDT and Wireless capabilities. Continue to research and develop potential uses of type-2 & 3 for use in type-1 historical environments. Establish solutions for DoN unique Crypto's including: IOC for KL-51; Solution identified for KG-45; and Solution identified for KWR-46. Establish first Air Force/DoN LPO. Publish Crypto Product Roadmap and complete UCD requirements specifications and source selection for first UCD product. Establish Industry Working Group charter. Validate Information Assurance Cryptographic Product (IACP) Management Tool. Complete KEESEE Integrated Product Team (IPT) (90% of Navy operational Crypto devices identified) and complete SAVILLE IPT (90% Crypto's identified).

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FY 08: Provide development support efforts in coordination with the Information Systems Security Office, Joint Services, and the National Security Agency. Continue development efforts and acquisition documentation for identified and selected KEESEE Cryptographic products as IPT completes at 100%. Complete SAVILLE IPT (90% Crypto's identified). Begin major pre-acquisition and development of specification for KGR-68. Provide consistent IA engineering support for on-going development of Crypto Modernization devices including UCD, KG-45, KL-51 and KG-68B. Continue development and testing of Cryptographic Module (Engine) in a joint effort with other services. A next generation cryptographic device for replacing identified legacy devices providing for secure communication capabilities to the war fighter. Begin additional pre-acquisition and development of on-going Decertified Cryptographic Algorithms affecting legacy DoN Cryptographic Devices.

FY 09: Continue to provide cryptographic products, including Type-1 US only, allied and coalition, and commercial-off-the-shelf to DoN. Continue research, evaluation, and prioritization of several other Decertified Cryptographic products. Provide consistent IA engineering support for the development and integration of Crypto Modernization products and begin major pre-acquisition and development specification for KGV-68. Complete development and testing of first UCD module in a joint effort with other services. Begin installation of identified first device groupings. Continue development and testing of on-going Decertified Cryptographic Algorithms affecting legacy DoN Cryptographic Devices and Communication Security (COMSEC). Continue pre-acquisition and development of on-going Decertified Cryptographic Algorithms affecting legacy DoN Cryptographic Devices.

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	FY 06	FY 07	FY 08	FY 09
Information Assurance Readiness	0.000	0.269	0.000	0.000
RDT&E Articles Quantity				

FY 06: N/A.

FY 07: Provide 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. Provide continued Antivirus Tools support and capabilities for R&D support systems and software to meet Navy Anti-Virus requirements.

FY 08: N/A

FY 09: N/A

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	FY 06	FY 07	FY 08	FY 09
Secure Voice	0.617	0.697	1.149	1.184
RDT&E Articles Quantity				

FY 06: Continued development and integration efforts of Secure Communication Interoperability Protocol (SCIP), formally Future Narrowband Digital Terminal (FNBDT), standard compression to provide the Sea-Shore and Sea-Shore-Sea Secure Voice communications. Developed survey for collecting secure voice mission and operational requirements from users for a new COMSEC device that will replace various legacy voice devices. Developed and fielded the Tactical Shore Gateway (TSG) to provide interoperability between tactical secure voice equipment (i.e., KY-57 KY58, KY-68, KY99A, KY-100 and ANDVT) and Secure Telephone Equipment (STE)/FNBDT devices as well as secure conference capabilities. The first TSG system was installed at Naval Computer and Telecommunications Area Master Station (NCTAMS) LANT. Developed the first draft version of Naval Advanced Secure Voice Architecture (NASVA) to establish a baseline for synchronized secure voice evolution in net-centric environment.

FY 07: Complete development and integration test of submarine SCIP Inter-working Function (IWF)/gateway to provide off-ship secure communication capabilities while underway. Begin development and test a SCIP IWF to provide off-ship secure voice communications to underway Military Sealift Command ships and Coast Guards ships. Update the Naval Advanced Secure Voice Architecture (NASVA) to provide a transition to bridge from channel-centric to net-centric Secure Voice capability, guide the next generation of Secure Voice and facilitate decision making on systems to be refreshed, retired and/or replaced. Continue development of the variable data rate voice algorithm (a component of Secure Voice Core Technology) 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 - Universal Voice Terminal (UVT) and Personal Secure Telephone (PST). Research and develop a compression technique (SCIP IWF or gateway) to allow SCIP IWF signaling be transmitted off-ship for underway submarines.

FY 08: Complete development and integration test of submarine SCIP IWF/gateway to provide off-ship secure communication capabilities while underway. Begin development and test a SCIP IWF to provide off-ship secure voice communications to underway Military Sealift Command (MSC) ships and Coast Guards 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).

FY 09: Complete development and integration test of the SCIP IWF for MSC and Coast Guard ships. Continue the design and development of next generation Secure Voice capabilities/products.

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	FY 06	FY 07	FY 08	FY 09
Cross Domain Solutions (CDS)	1.284	0.709	0.000	0.000
RDT&E Articles Quantity				

Note: Multiple Security Level (MSL) nomenclature changed to Cross Domain Solutions (CDS)

FY 06: Provided systems security engineering for the development, testing, and evaluation of complex multi-level security solutions, including complicated evaluations involving allied and coalition participation. Analyzed, evaluated and examined cross domain applications and technologies including databases, web browsers, routers/switches, etc. Developed and integrated Cross Domain Solutions (CDS) prototype architecture at Network Operation Center (NOC) facilities. Continued development and integration of Block One CDS solutions to focus on providing a robust coalition interoperability using Multi-Level Thin Client (MLTC), secure guarding devices and afloat coalition network systems. Began coordination with the Cross Domain Management Office (CDMO) including development of the Navy's Cross Domain Solution Office.

FY 07: Continue to provide systems security engineering development, testing, and evaluation for multi-level security solutions, including complicated evaluations involving allied and coalition participation. Examine and evaluate multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Develop and integrate Multiple Security Levels (MSL)/CDS prototype architecture at NOC facilities.

FY 08: N/A

FY 09: N/A

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	FY 06	FY 07	FY 08	FY 09
Key Management Infrastructure	3.820	4.713	5.690	5.235
RDT&E Articles Quantity				

FY 06: Began prototyping and certification/accreditation of the Navy's Key management system. Began Common User Application Software (CUAS), Data Mgmt Device (DMD), Simple Key Loader (SKL) and Electronic Key Management System (EKMS) Phase V development and integration. Completed Mode 5 Identify Friend or Foe (IFF) (Time of Day) design and development. Provided engineering design evolution for the supporting key management infrastructure, EKMS Phase IV for Tier 0,1,2,3. Performed design, evaluation, integration, and test of key-related platforms, such as smart cards, authentication mechanisms and biometric devices. Provided systems security engineering, test, evaluation, and development program support for organizations utilizing cryptographic equipments and associated keying systems (+$2.278). Began security and functionality testing and evaluation of current Public Key Infrastructure (PKI) tokens and readers due to upgrades to middleware. Began research of solutions and tools to implement Cryptographic network logon specifically for Navy Enterprise Network (ONE-NET) and legacy networks in Continental United States (CONUS). Initiated testing of Navy Certificate Validation Infrastructure (NCVI) afloat to include testing of Integrated Shipboard Network Systems (ISNS) Common PC Operating System Environment (COMPOSE) with PKI components. Provided front-end analysis for role-based system administrator certificates on alternate token. Performed design, evaluation, integration, and test of key-related platforms, such as smart cards, authentication mechanisms and new contact-less interface smart cards (+$1.542).

FY 07: Continue security and functionality testing and evaluation of current PKI tokens and readers to upgrade middleware, including Homeland Security Presidential Directive (HSPD-12) implementation. 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. Complete Defense Message System (DMS) migration to PKI. Continue 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. Research and evaluation of Microsoft VISTA integration, PKI with Internet Protocol Version 6 (IPv6), and Device (non-human) Certificates. Begin security and functionality testing and evaluation of OCSP architecture for the SIPRNet (+$1.485).

Continue EKMS Phase V to include development and implementation of an extended, networked architecture (key distribution over Secret Internet Protocol Router Network (SIPRNET)) to improve distribution and reliability for deployed forces, modernized key processors, common user application software and data transfer devices. Continue to develop and integrate Online Certificate Status Protocol and Future fill devices. Begin Wireless Key Fill technology design and development. Complete the Key Loading and Initialization Facility design and development. Continue design and development of the Key Management Infrastructure (KMI) client workstation. Complete certification/accreditation of the Navy's Key Management System (NKMS). Conduct requirements definition for the IA Component (IAC) Encryption device. Continue KMI CI-3 Requirements development including Benign Fill and single point keying, and general development of CI-3 capabilities. Support and ensure coordinated developments for KMI/EKMS in the transition from IPv4 to IPv6 (+$3.228).

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FY 08: 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 (+$4.191M). 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 (+$1.499M)

FY 09: 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 (+$3.646M). 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. Research and development of solutions to resolve technical challenges and the tools required for the deployment of MS Exchange 12, full implementation of IPv6, and additional Device (non-human) certificates. Complete development and integration of NCVI ashore, afloat NCVI, and shipboard CLO Continue to research and develop solutions and tools for signature applications/XML document signing and Public Key Enabled (PKE) (+$1.589M).

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	FY 06	FY 07	FY 08	FY 09
Emerging Technology	2.751	3.612	0.000	0.000
RDT&E Articles Quantity				

FY 06: Continued to provide security systems engineering (+$1.087M) support for the developed of DoD and DoN Information Assurance architectures and the transition of new technologies to address 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 (+$1.050M) for Navy critical networks and C4I systems. Coordinated with the Navy acquisition community to ensure IA requirements are identified and addressed within the development cycles for emerging Navy network and C4I capabilities. Continued development of open source authentication and authorization solution (+$.450M) by incrementally adding new features/enhancements for federated identity, Public Key Infrastructure (PKI), Role Based Access Control (RBAC), and Common Access Card (CAC). Provided standardized security design and installation baselines to ensure enhancements of configuration management. Developed Next Generation Access Systems solutions (+$0.164M) to provide improved security for access to computers, networks, and sensitive spaces or buildings. Seamless integration with CAC is necessary.

FY 07: Provide security systems engineering (+$1.523M) support for the developed 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 (+$1.180M) for Navy critical networks and C4I systems. Coordinate with the Navy acquisition community to ensure IA requirements are identified and addressed within the development cycles for emerging Navy network and C4I capabilities. Initiate the development and integration (+$.650M) of IA capabilities for integration into the Service Orientated Architecture being developed for deployment on Navy afloat networks. Provide IA engineering for development of Wireless Networks and Personal Digital Assistant (PDA) security (+$0.259M) readiness of Naval wireless networks and mobile computing devices, continue to evaluate products for security issues and develop guidance and procedures.

FY08: N/A

FY09: N/A

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	FY 06	FY 07	FY 08	FY 09
Information Assurance Architectures	0.000	0.000	3.094	2.393
RDT&E Articles Quantity				

****Transitioned from Emerging Technology**

FY06: N/A

FY07: N/A

FY 08: Provide security systems engineering (+$1.5M) support for the development of DoD and DoN Information Assurance (IA) architectures and the transition of new technologies to address Navy Information Assurance challenges. Support the ongoing security design and integration of IA Components into programs such as FORCEnet, Computer Network Defense in Depth (CND-ID) Strategy, Transformational Communication (TC), Global Information Grid Enterprise Services (GIG-ES), and Secure Voice over Internet Protocol (SVoIP). Provide risk analysis and recommended risk mitigation strategies (+$.678M) 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 (+$.641M) of IA capabilities for integration into the Service Orientated Architecture being developed for deployment on Navy afloat networks. Provide IA engineering for development of Wireless Networks and PDA security (+$0.275M) readiness of Naval wireless networks and mobile computing devices, continue to evaluate products for security issues and develop guidance and procedures.

FY 09: Provide security systems engineering (+$1.510M) support for the development of DoD and DoN Information Assurance architectures and the transition of new technologies to address Navy Information Assurance challenges. Support the ongoing security design and integration of IA Components into programs such as FORCEnet, Computer Network Defense in Depth (CND-ID) Strategy, Transformational Communication (TC), Global Information Grid Enterprise Services (GIG-ES), and Secure Voice over Internet Protocol (SVoIP). Provide risk analysis and recommended risk mitigation strategies (+$.553M) 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 (+$0.330M) readiness of Naval wireless networks and mobile computing devices. Continue to evaluate products for security issues and develop guidance and procedures.

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(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPN 3415 Info Sys Security Program (ISSP)	97.159	101.340	107.609	120.212	143.237	141.356	146.128	155.913

(U) D. ACQUISITION STRATEGY:

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. PMW 160 procures NSA certified COTS/GOTS devices 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.

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 is currently refining the requirement specs, preparing formal Analysis of Alternatives (AoA), Request For Information (RFI's), and Life Cycle Cost Estimates (LCCE's) to be completed in FY07 and the plan is to competitively award the development contract by 1Q FY08.

Crypto Modernization (Universal Crypto Device) - Navy is currently refining the requirement specs, preparing formal AoA, RFI's, and LCCE's to be completed in FY 06 and the plan is to competitively award the development contract by 1Q FY08. The evaluation of requirements of Crypto Modernization (Thorton-KEESEE) cryptographic system will also necessitate preparation of formal AOA, RFI within FY06 & FY07.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1) — DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303140N Information Systems Security Program (ISSP)	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	2.965	VAR	3.054	VAR	3.146	VAR	Continuing	Continuing	Continuing
Systems Engineering	C/VAR	Various	64.300	9.827	VAR	13.162	VAR	15.119	VAR	Continuing	Continuing	Continuing
Subtotal Product Development			156.581	12.792		16.216		18.265		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	0.165	11/06	0.180	11/07	0.200	11/08	Continuing	Continuing	Continuing
Software Development	C/VAR	Various		1.135	11/06	1.208	11/07	1.436	11/08	Continuing	Continuing	Continuing
Subtotal Support			34.675	1.300		1.388		1.636		Continuing	Continuing	Continuing

Remarks: SAIC target Value of contract includes other service's funding (ARMY RDT&E).

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: **February 2007**			
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	3.000	VAR	3.785	VAR	4.462	VAR	Continuing	Continuing	Continuing
Subtotal T&E			23.231	3.000		3.785		4.462		Continuing	Continuing	Continuing
Remarks:												
Program Management Support	CPAF	Various	5.747	3.851	VAR	4.860	VAR	5.727	VAR	Continuing	Continuing	Continuing
Subtotal Management			5.747	3.851		4.860		5.727		Continuing	Continuing	Continuing
Remarks:												
Total Cost			220.234	20.943		26.249		30.090		Continuing	Continuing	Continuing
Remarks:												

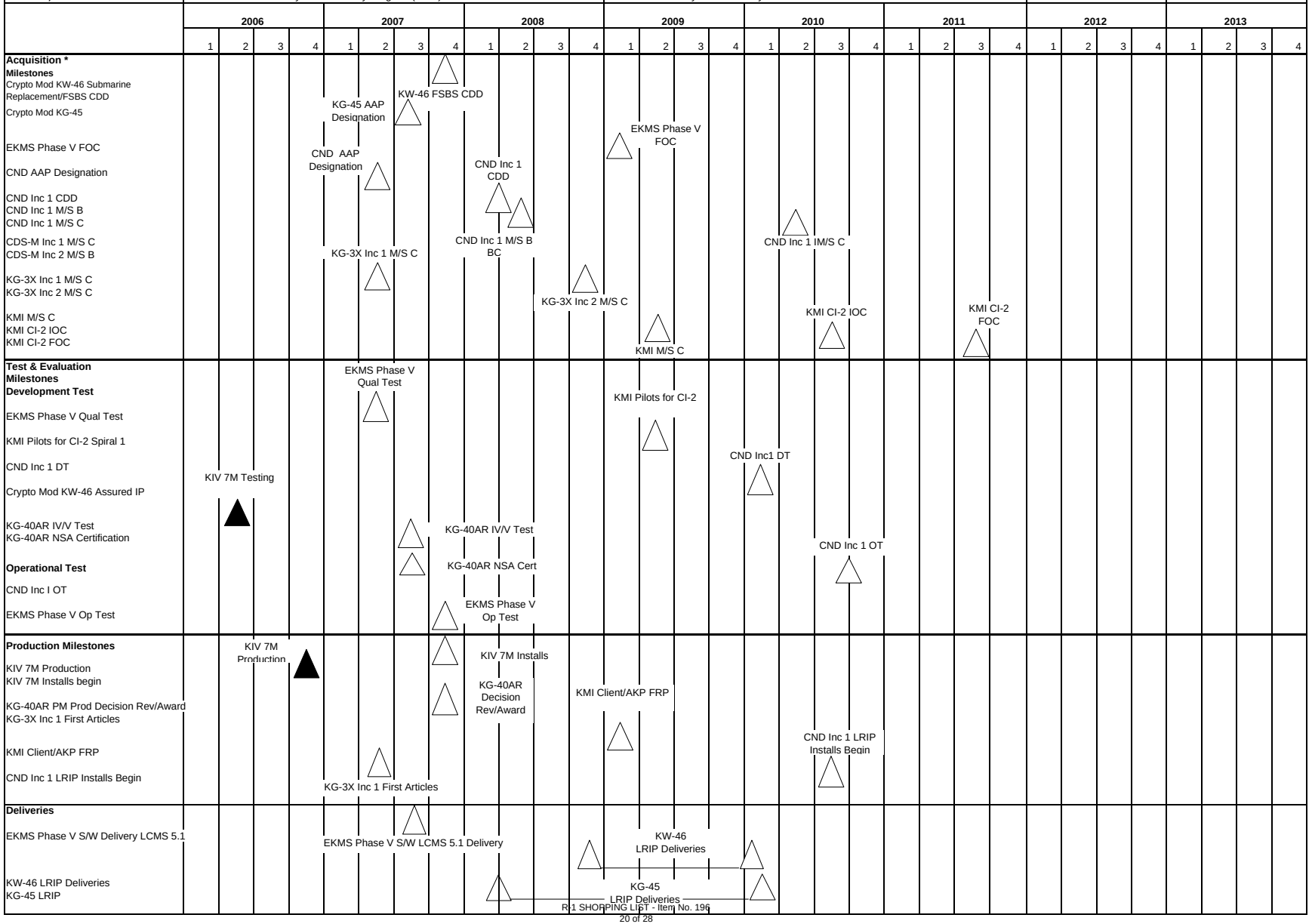
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT NUMBER AND NAME: 0303140N Information Systems Security Program (ISSP)

PROJECT NUMBER AND NAME: 0734 Information Systems Security



* Note: MLCS Deliveries support the MLCS Capability Certifications

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**				PROJECT NUMBER AND NAME 0734 Information Systems Security				
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
EKMS Phase V FOC				1Q				
Crypto Modernization KW-46 FSBS CDD		4Q						
Crypto Modernization KCA5 AAP		3Q						
CND AAP		2Q						
CND Inc 1 CDD			1Q					
CND Inc 1 M/S B			2Q					
CND Inc 1 M/S C					2Q			
KG-3X Inc 1 M/S C		2Q						
KG-3X Inc 2 M/S C			4Q					
KMI M/S C				2Q				
KMI CI-2 IOC					3Q			
KMI CI-2 FOC						3Q		
Developmental Test								
EKMS Phase V Qualification Test		2Q						
KMI Pilots for CI-2 Spiral 1				2Q				
CND Inc DT					1Q			
KIV 7M Testing	2Q							
KG-40AR IV/V Test		3Q						
KG-40AR NSA Certification		3Q						
Operational Test								
EKMS Phase V Operational Test		4Q						
Crypto Modernization KW-46 FRP Operational Test (UCD)				4Q	Cont'd-Q4			
CND Inc OT					3Q			
Production Milestones								
KIV 7M Production	4Q							
KIV 7M Installs begin		4Q						
KG-40AR PM Prod Decision Rev/Award		4Q						
KG-3X Inc 1 First Articles		2Q						
KMI Client/AKP FRP				1Q				
CND Inc 1 LRIP Installs Begin					3Q			
Deliveries								
EKMS Phase V S/W Delivery LCMS 5.1		3Q						
Crypto Mod KW-46 LRIP Deliveries			4Q					
KG45 LRIP Deliveries			1Q					

Exhibit R-4, Schedule Detail

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2007**
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		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**2.075**	**1.991**	**2.144**	**2.161**	**2.214**	**2.244**	**2.284**	**2.323**
RDT&E Articles Qty								

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

The goal of the Navy Information Systems Security Program (ISSP) is to ensure the continued protection of Navy and Joint information and information systems from hostile exploitation and attack. ISSP activities address the triad of Defense Information Operations: protection, detection, and reaction. Evolving attack sensing (detection), warning, and response (reaction) responsibilities extend far beyond the traditional ISSP role in protection or Information Systems Security (INFOSEC). Focused on the highly mobile forward-deployed subscriber, the 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.

The rapid rate of change in the underlying commercial and government information infrastructures makes the provision of security an increasingly complex and dynamic problem. Information Assurance (IA) technology mix and deployment strategies must evolve quickly to meet rapidly evolving threats and vulnerabilities. No longer can information security divorce the information infrastructure. The ISSP enables the Navy's war fighter to trust in the availability, integrity, authentication, privacy, and non-repudiation of information.

This project includes funds for advanced technology development, test and evaluation of naval information systems security based on leading edge technologies that will improve information assurance (e.g., situational awareness and information infrastructure protection) across all Command echelons to tactical units afloat and war fighters ashore. This effort will provide the research to develop a secure seamless interoperable, common operational environment of networked information systems in the 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.

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.

A Memorandum of Agreement (MOA) was signed in FY01 between the Office of Naval Research Department of Information, Electronics & Surveillance (ONR31) and Office of the Chief of Naval Operations, Directorate of Space, Information Warfare, Command and Control, Information Warfare Division (N64), and provides for interagency coordination with ONR, N71 and PEO C4I and Space (PMW 160) in pursuance of this effort.

This Project under Program Element 0303140N is a restructuring with the transfer of responsibility from SPAWAR to ONR in FY 2003 for prototyping IA concepts.

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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
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

(U) B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Software and Systems Research	2.075	1.991	2.144	2.161
RDT&E Articles Quantity				

FY06: Completed the prototype development of the security management common picture of the networked environment with respect to information assurance and security. Completed the addition of security enhancements to cross-domain solutions (CDS), such as stenography scrubbing and user/workstation authentication. Enhanced the multi-level chat capability. Continued to develop new infrastructure protection technologies in support of network centric architectures and warfare concepts. Continued to conceptualize new network centric warfare technology to protect our assets, such as secure network gateways and routers, components, and tools that improve the survivability of Navy networks. Initiated the definition of new network technology critical to the protection of mission assets. Continued systems security engineering, certification, and accreditation support for high-confidence naval information systems.

FY07: Initiate efforts on enhancing commercial wireless technology to meet high assurance requirements, critical for the global information grid (GIG). Initiate the development of an information sharing architecture to address data integrity, confidentiality and policy management throughout networks of varying classification levels. Examine multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Complete the development of the common operational assessment tool of the networked environment with respect to information assurance and security. This addresses 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. Continue development and refinement of infrastructure protection and architectures for Navy network centric architectures and warfare concepts. Continue systems security engineering, certification and accreditation support for high-confidence naval information systems and ensure certification and accreditation approaches are consistent with Navy and DoD requirements.

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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
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

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPN 3415 Info Sys Security Program (ISSP)	97.159	101.340	107.609	120.212	143.237	141.356	146.128	155.913
RDT&E 0303140N Info Sys Security (ISSP)	18.007	20.943	26.249	30.090	28.141	29.452	31.890	32.448

(U) D. ACQUISITION STRATEGY:

N/A.

CLASSIFICATION

Exhibit R-3, Code Analysis (page 1)				DATE: **February 2007**								
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N / BA-7**		PROGRAM ELEMENT 0303140N/ INFORMATION SYSTEMS SECURITY PROGRAM					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
Hardware Development												
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Software Development	WX	NRL, Washington, D.C.	4.162	1.991	10/06	2.144	10/07	2.161	10/08	Continuing	Continuing	
Subtotal Support			4.162	1.991		2.144		2.161		Continuing	Continuing	
Remarks:												

CLASSIFICATION

Exhibit R-3, Code Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N / BA-7**		PROGRAM ELEMENT 0303140N/ INFORMATION SYSTEMS SECURITY PROGRAM					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	1.991		2.144		2.161		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303140N Information Systems Security Program (ISSP)	9999 Congressional Increases

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
9430 SECUREKit	1.280	0.996		
9A99 Tactical Key Loader		3.188		
RDT&E Articles Quantity				

FY06: SECUREKit: Further refined design of authorization software to include integration with authentication service, Navy Enterprise Single Sign-On (NESSO) and Trusted Services Engine (TSE). Integrated the product within test networks and worked with the user community for feedback using a well defined authorization language approach. The final design, still a work in progress, is based on open architecture and designed for enabling web-based enterprise services in the Department of the Navy and coalition participants. The software components provide authorization services for the Global Information Grid (GIG) and for the FORCEnet enterprise.

FY07: SECUREKit: Continue further refinement of the administration interface to the underlying authorization engine. Begin to integrate the SECUREKit trusted authorization processing engine with the discovery application. Begin 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: Begin 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. Initiate development, and investigation of National Security Agency assessment certification requirements. Software and hardware will need to be develop and tested to assure it meets the needs of the Special Forces/USMC warfighter. Tradeoffs must be made to address security concerns of the NSA and still meet the special needs of the warfighter. This device must also be developed so that it will transition to the modern keying environment brought by KMI.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303140N Information Systems Security Program (ISSP)	9999 Congressional Increases

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
9903 Universal Description, Discovery, and Integration		1.793		
RDT&E Articles Quantity				

FY07: Universal Description, Discovery, and Integration: Begin 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 will allow 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, begin 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.

The evolutionary component architecture of the Secure UDDI architecture is being accomplished through partnering efforts with the National Security Agency (NSA) and PEO(C4I).

EXHIBIT R-2a, RDT&E Project Justification		DATE: September 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Systems Development**	PROGRAM ELEMENT NUMBER AND NAME **0303158M Joint Command & Control Program (JC2)**	PROJECT NUMBER AND NAME **C2223 MARINE CORPS ATD**

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost	**0.000**	**0.997**	**1.007**	**2.000**	**2.500**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

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

Joint Command and Control (JC2) capability 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. JC2 will be a "born" Joint, 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.

JC2 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, there will be one version of JC2 implemented , integrated and utilized by all Services and Agencies (GCCS-A, GCCS-M, GCCS-AF and GCCS-J capabilities will transition to JC2).

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost	**0.000**	**0.997**	**1.007**	**2.000**
RDT&E Articles Qty	**0.000**	**0.000**	**0.000**	**0.000**

JC2: Overview and assist with system engineering support, acquisition program support and logistics support.

(U) Project Change Summary:	**FY2006**	**FY2007**	**FY2008**	**FY2009**
(U) PROJECT CHANGE SUMMARY	**0.000**	**1.001**	**1.001**	**0.000**
(U) FY 2007 President's Budget:				
(U) Congressional Program Reductions				
(U) Congressional Rescissions				
(U) Congressional Increases				
(U) Reprogrammings				2.000
(U) SBIR/STTR Transfer				
(U) Minor Affordability Adjustments		-0.004	0.006	
(U) FY 2008 OSD08 Budget:	**0.000**	**0.997**	**1.007**	**2.000**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule:

(U) Technical:

EXHIBIT R-2a, RDT&E Project Justification		DATE: September 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-7 Operational Systems Development**	PROGRAM ELEMENT NUMBER AND NAME **0303158M Joint Command & Control Program (JC2)**	PROJECT NUMBER AND NAME **C2223 MARINE CORPS ATD**

(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 will develop an acquisition strategy during the Technical Development phase.

(U) E. MAJOR PERFORMERS:

DOD and all services.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**				R-1 ITEM NOMENCLATURE 0303158N Joint Command and Control (JC2) Program				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**4.928**	**5.040**	**5.015**	**4.972**	**4.956**	**4.910**	**5.000**	**5.095**
3146 NET-ENABLED COMMAND CAPABILITY(NECC) PROGRAM (Formerly Joint Command and Control (JC2))	**4.928**	**5.040**	**5.015**	**4.972**	**4.956**	**4.910**	**5.000**	**5.095**
Quantity of RDT&E Articles								

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

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.

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 NECC. FY 2008 will be primarily focused on NECC technology piloting activities in order to speed up the development, integration, testing, and evaluation of new C2 capabilities; while in FY 2009, the focus will be on the development of Situational Awareness and Deployment Planning C2 capabilities.

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 performs.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	R-1 ITEM NOMENCLATURE 0303158N Joint Command and Control (JC2) Program

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY07 President's Budget	4.925	5.073	5.078	4.938
FY08 President's Budget	4.928	5.040	5.015	4.972
Total Adjustments	0.003	-0.033	-0.063	0.034
Summary of Adjustments				
Price Adjustment			0.019	0.043
Unfunded ORACLE AFLOAT			-0.096	-0.020
FY08/09 NWCF Rate Adjustments-SPAWAR Systems Center			0.014	0.011
Sec. 8106: Revised Economic Assumptions		-0.019	0.000	0.000
Sec. 8023: Federally Funded R&D Center		-0.014	0.000	0.000
Sec. 8125: Revised Economic Assumptions	0.001	0.000	0.000	0.000
Congressional Action 1% Reduction	0.002	0.000	0.000	0.000
Subtotal	0.003	-0.033	-0.063	0.034

(U) Schedule:

The

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	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))			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**4.928**	**5.040**	**5.015**	**4.972**	**4.956**	**4.910**	**5.000**	**5.095**
RDT&E Articles Qty								

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

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.

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 NECC. FY 2008 will be primarily focused on NECC technology piloting activities in order to speed up the development, integration, testing, and evaluation of new C2 capabilities; while in FY 2009, the focus will be on the development of Situational Awareness and Deployment Planning C2 capabilities.

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 performs.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0303158N Joint Command and Control (JC2) Program	3146 Net-Enabled Command Capability (NECC) Program (Formerly Joint Command and Control (JC2))

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.928	5.040	5.015	4.972
RDT&E Articles Quantity				

FY 06: Successful migration of selected maritime command and control capabilities to commercial standards and architectures envisioned to be used by the Net-Enabled Command Capability (NECC) Program. Successful completion of Milestone A. Navy Component Program Management Office's (CPMO) participated in Technology Development (TD) Phase activities and acquisition documentation development.

FY 07: Planned migration of additional maritime command and control (e.g., GCCS-M) capabilities to standards-based architectures. Begin development of the plans for transfer of Global Command and Control System - Maritime (GCCS-M) management and functionality to NECC. Continued participation in NECC TD phase activities and development of acquisition documentation required for Milestone B.

FY 08/09: Continue migration of additional maritime command and control (e.g., GCCS-M) capabilities to standards-based architectures. Participate in NECC Inc I System Development and Demonstration (SDD) Phase activities.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0303158N Joint Command and Control (JC2) Program	3146 Net-Enabled Command Capability (NECC) Program (Formerly Joint Command and Control (JC2))

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
N/A									

(U) D. ACQUISITION STRATEGY:

N/A

(U) E. MAJOR PERFORMERS:

Space & Naval Warfare Systems Command Systems Centers (SPAWARSYSCENs) 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.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	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	1.200	VARIOUS	1.197	VARIOUS	1.219	VARIOUS	Continuing	Continuing	0.000
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	1.200		1.197		1.219		Continuing	Continuing	0.000

Remarks:

Development Support	VARIOUS	VARIOUS	0.625	0.700	VARIOUS	0.711	VARIOUS	0.691	VARIOUS	Continuing	Continuing	0.000
Software Development	VARIOUS	VARIOUS	0.625	0.803	VARIOUS	0.812	VARIOUS	0.790	VARIOUS	Continuing	Continuing	0.000
Training Development											0.000	0.000
Integrated Logistics Support	VARIOUS	VARIOUS		0.400	VARIOUS	0.406	VARIOUS	0.395	VARIOUS	Continuing	Continuing	0.000
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		1.876		Continuing	Continuing	0.000

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			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))				
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 SD	1.253	0.150		0.152		0.148		Continuing	Continuing	0.000
Operational Test & Evaluation	WX	OPTEVFOR		0.075		0.051		0.050		Continuing	Continuing	0.000
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	0.225		0.203		0.198		Continuing	Continuing	0.000
Remarks:												
Contractor Engineering Support				1.142	VARIOUS	1.127	VARIOUS	1.136	VARIOUS	Continuing	Continuing	0.000
Government Engineering Support	WX	SSC SD	1.250	0.570		0.559		0.543		Continuing	Continuing	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			1.250	1.712		1.686		1.679		0.000	6.327	0.000
Remarks:												
Total Cost			4.928	5.040		5.015		4.972		Continuing	Continuing	0.000
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	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))

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	NECC Inc 1 MS A	▲						NECC Inc 1 MS B (Projected)	▲										NECC Inc I FRPDR (Projected)	▲						NECC Inc II FRPDR (Projected)	▲						
Technology Development Activities																																
System Engineering	△	△	△	△	△	△	△																									
Establish Federated Development Certification Environment (FDCE)	△	△	△	△	△	△	△																									
Technology Risk-Reduction / Piloting				△	△	△	△	△																								
Piloting Integration					△	△	△	△																								
Define / Design / Develop Capability Modules	△	△	△	△	△	△	△																									
System Development and Demonstration Activities																																
Increment I									△	△	△	△	△	△	△	△	△	△	△	△												
Increment II																	△	△	△	△	△	△	△	△	△	△	△	△				
Increment III																									△	△	△	△	△	△	△	△

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**	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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones								
NECC Inc I MS A	Q2							
NECC Inc I MS B (Projected)			Q1					
Increment I FRPDR (Projected)					Q4			
Increment II FRPDR (Projected)							Q4	
Technology Development (TD)								
Activities - Increment I								
System Engineering	Q1 - Q4	Q1 - Q3						
Establish FDCE	Q2 - Q4	Q1 - Q3						
Tech Risk Reduction/Piloting	Q4	Q1 - Q4						
Piloting Integration		Q1 - Q4						
Define/Design/Dev Capability Modules	Q1 - Q4	Q1 - Q3						
TD Activities - Increment II			Q1 - Q4	Q1 - Q4				
TD Activities - Increment III					Q1 - Q4	Q1 - Q4		
System Demonstration and								
Development Activities								
Increment I			Q1 - Q4	Q1 - Q4	Q1 - Q4			
Increment II					Q1 - Q4	Q1 - Q4	Q1 - Q4	
Increment III							Q1 - Q4	Q1 - Q4

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N / BA-7**	PROGRAM ELEMENT NAME AND NUMBER **0305149N/COBRA JUDY**						PROJECT NUMBER AND NAME **4021/CJR System Engineering**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY2012	FY2013
Project Cost	**119.527**	**134.815**	**132.679**	**87.430**	**58.225**	**32.995**	**1.700**	**1.687**
RDT&E Articles Qty	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. (U) Mission Description

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.

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. (U) PROGRAM CHANGE SUMMARY:

Funding:	FY 2006	FY 2007	FY 2008	FY2009
Previous President's Budget (PB 07 Controls):	117.749	135.372	138.266	89.766
Current Budget (PB 08 Controls)	119.527	134.815	132.679	87.430
Total Adjustments	1.778	-0.557	-5.587	-2.336
Summary of Adjustments				
Congressional Action 1% Reduction	1.230	0.000	0.000	0.000
Misc. changes	0.548	-0.557	-1.587	-0.946
Programmatic adjustments	0.000	0.000	-4.000	-1.390
	1.778	-0.557	-5.587	-2.336

Schedule:

Technical:

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NUMBER AND NAME
RDT&E,N / BA-7	**0305149N/COBRA JUDY**	**4021/CJR System Engineering**

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
P.E. 0303901N									Continuing	Continuing

* Details and funding profile for this Program Element are classified.

D. ACQUISITION STRATEGY:

The acquisition strategy calls for leveraging ongoing Navy Ballistic Missile Defense (BMD) radar development, updating existing user interface/communications/data handling equipment designs from a similar operational unit, and purchasing and integrating the mission equipment aboard an appropriate merchant-class hull. System design will be accomplished using in-hand technologies and commercial standards to lower schedule risk and produce a product with the lowest possible life-cycle cost.

E. MAJOR PERFORMERS:

Mission Equipment:
Raytheon Company - Sudbury, Massachusetts
Northrop Grumman (subcontractor) - Baltimore, Maryland

Ship:
Bender Shipbuilding & Repair Co., Inc. - Mobile, AL
Marinette Marine Corp. - Marinette, WI
VT Halter Marine Inc. - Pascagoula, MS

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N / BA-7**	PROGRAM ELEMENT NAME AND NUMBER **0305149N/COBRA JUDY**						PROJECT NUMBER AND NAME **4021/CJR System Engineering**	
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY2012	FY2013
Project Cost	**119.527**	**134.815**	**132.679**	**87.430**	**58.225**	**32.995**	**1.700**	**1.687**
RDT&E Articles Qty	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. (U) Mission Description

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.

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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	**0305149N/COBRA JUDY**	**4021/CJR System Engineering**

B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	88.504	99.578	85.857	55.19
RDT&E Articles Quantity	0	0	0	0

DESIGN AND RISK REDUCTION
Accomplishments
- Completed critical detailed designs for prime mission (X-band & S-band) radars
- Completed preliminary design of the Mission Communications Suite (MCS)

Planned:
- Complete Pilot Build and Test (X-Band and S-Band Front Ends)
- Continue Common BackEnd software development and array build and test.
- Conduct Mission Equipment Production Readness Reviews

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	14.000	31.293	52.886	28.164
RDT&E Articles Quantity	0	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

Planned:
- Initiate ship detailed design and commence construction

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	13.453	1.707	2.083	1.799
RDT&E Articles Quantity	0	0	0	0

SYSTEM ENGINEERING
Accomplishments:
- Development of specifications / interface design documents and detailed test plans

Planned:
- Complete designs for non-prime mission equipment (C4I, data handling, classified mission equipment)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NUMBER AND NAME
RDT&E, N /	**0305149N/COBRA JUDY**	**4021/CJR System Engineering**

B. Accomplishments/Planned Program (Cont.)

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.195	0.307	0.410	0.410
RDT&E Articles Quantity	0	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 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.375	1.930	1.855	1.867
RDT&E Articles Quantity	0	0	0	0

PROGRAM MANAGEMENT SUPPORT

Planned:

- Program planning, assessment of technical alternatives, risk identification and mitigation.
- Cost and schedule development and execution

Total Cost:	119.527	134.815	143.091	87.430

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA - 7**

PROGRAM ELEMENT NAME AND NUMBER: **0305149N/COBRA JUDY**

PROJECT NUMBER AND NAME: **4021/CJR System Engineering**

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
Design and Risk Reduction	CPAF	Raytheon	138.025	92.833	12/03	92.425	12/03	92.215	12/03	55.135	12/03	Continuing	Continuing	TBD
	Various	PEO Ships	15.332	11.000	04/06	38.446	TBD	36.116	TBD	28.164	TBD	Continuing	Continuing	TBD
System Engineering	WX/RX	Various	3.709	0.155	02/06	1.707	TBD	2.083	TBD	1.804	TBD	Continuing	Continuing	TBD
	MIPR	Various	2.325	0.365	02/06									
	GSA	Various	1.691	0.000	N/A									
	CPAF	BAE	0.000	0.840	02/06									
	C NF	GTRI	1.495	0.238	02/06									
	CPFF	JHU/APL	4.524	0.610	03/06									
	MIPR	MIT/LL	2.844	1.425	02/06									
	WX	NRL	1.280	0.286	02/06									
	WX	NSWC CSS	2.942	0.000	N/A									
	WX	NSWC DD	7.461	1.080	02/06									
	WX	NSWC PHD	1.535	0.000	02/06									
	Various	PEO Ships	0.000	3.000	04/06									
	WX	SEG	1.195	0.000	N/A									
	WX/PD	SPAWAR	2.922	0.000	N/A									
Subtotal Product Development			187.280	111.832		132.578		130.414		85.103		Continuing	Continuing	TBD
Remarks:														
Test and Evaluation														
Test and Evaluation	CPAF/WX/RX	Various	0.000	0.040	02/06	0.307	TBD	0.410	TBD	0.410	TBD	Continuing	Continuing	TBD
	CPAF	Raytheon	0.400	0.800	12/03		12/03		12/03		12/03	Continuing	Continuing	TBD
		AFOTEC	0.185	0.025	02/06									
		COMOPTEVFOR	0.269	0.020	02/06									
		JITC	0.225	0.000	N/A									
	WX	NSWC DD	0.709	0.310	02/06									
		PMS 325	0.365	0.000	N/A									
		TSC	0.250	0.000	N/A									
Remarks:														

0

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7** | PROGRAM ELEMENT NAME AND NUMBER: **0305149N/COBRA JUDY** | PROJECT NUMBER AND NAME: **4021/CJR System Engineering**

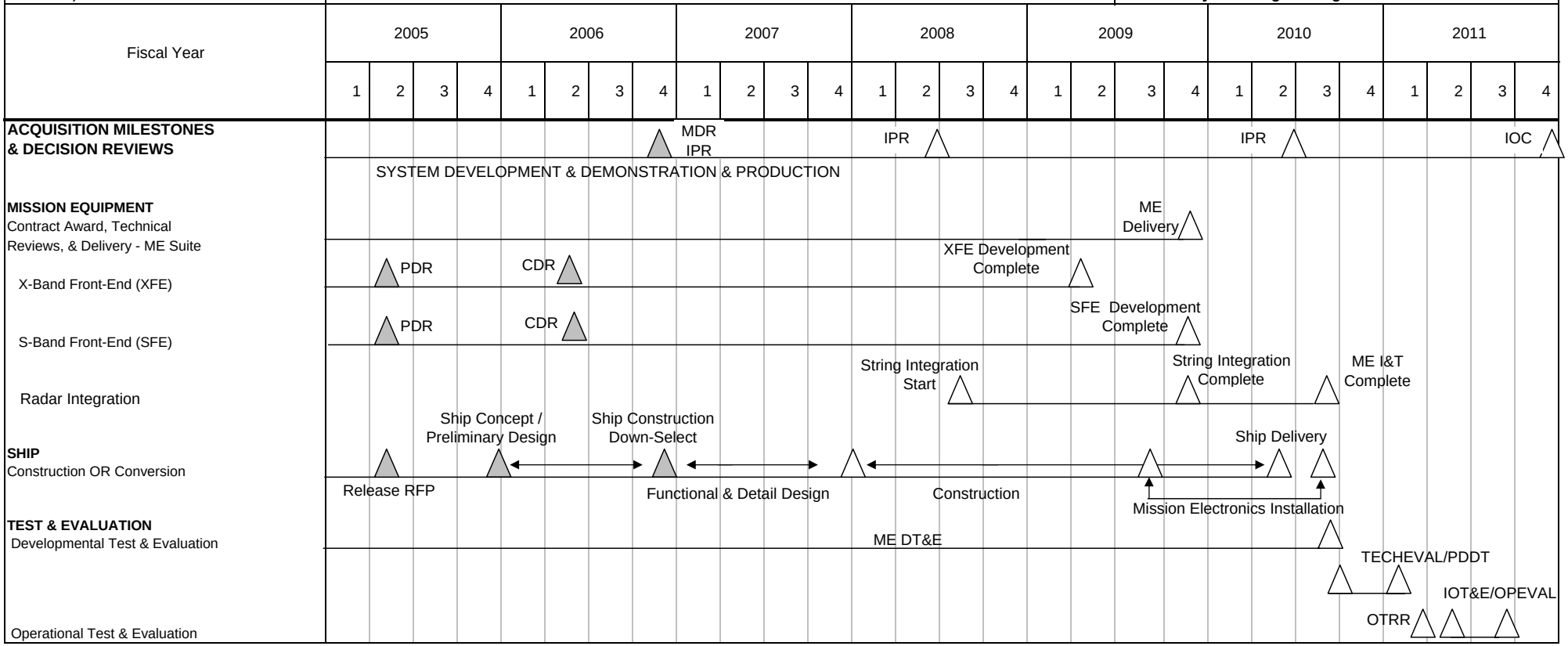
Test and Evaluation (Con'd)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation														
Operational Test & Evaluation														
Live Fire Test & Evaluation														
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E			2.403	1.195		0.307		0.410		0.410		Continuing	Continuing	TBD
Remarks:														
Contractor Engineering	WX/RX	Various	0.885											
	CPAF	BAE Systems	6.986	3.625	02/05									
	GSA	Computer Science Corp	3.155											
	GSA	Systems Planning & Analysis	1.900											
Program Management	CPAF	BAE Systems	8.476	2.375	02/05	1.880	TBD	1.805	TBD	1.867	TBD	Continuing	Continuing	TBD
	CPFF	DTI	0.435											
Travel			0.170	0.500	11/05	0.050	TBD	0.050	TBD	0.050	TBD			
Subtotal Management			22.007	6.500		1.930		1.855		1.917		Continuing	Continuing	TBD
Remarks:														
Total Cost			211.690	119.527		134.815		132.679		87.430		Continuing	Continuing	TBD
Remarks:														

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-7	**0305149N/COBRA JUDY**	**4021/CJR System Engineering**



* Not required for Budget Activities 1, 2, 3, and 6

LEGEND

CDR	Critical Design Review	OPEVAL	Operational Evaluation
DT&E	Developmental Test and Evaluation	OTRR	Operationl Test Readiness Review
IOC	Initial Operational Capability	PDR	Preliminary Design Review
IPR	Interim Progress Review	PDTT	Post Delivery Test & Trials
IOC	Initial Operational Capability	SDR	System Design Review
IOT&E	Initial Operational Test & Evaluation	TECHEVAL	Technical Evaluation
MS	Milestone		

CLASSIFICATION:

Exhibit R-4a, Schedule Detail							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N / BA-7**			PROJECT NUMBER AND NAME **4021/CJR System Engineering**					
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
ACQUISITION MILESTONES & DECISION REVIEWS								
Interim Progress Review (IPR)	4Q		2Q		2Q			
System Development & Demonstration & Production	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
Initial Operational Capability (IOC)						4Q		
MISSION EQUIPMENT								
Delivery				4Q				
X-Band Radar								
Preliminary Design Review (PDR)								
Critical Design Review (CDR)	2Q							
S-Band Radar								
Preliminary Design Review (PDR)								
Critical Design Review (CDR)	2Q							
Radar Integration								
String Integration Start			3Q					
String Integration Complete				4Q				
ME I&T Complete					3Q			
SHIP								
Release RFP								
Ship Concept/Preliminary Design	1Q-3Q							
Ship Construction Down Select	4Q							
Delivery					2Q			
TEST AND EVALUATION								
Mission Equipment Developmental Test & Evaluation (DT&E)	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q-3Q			
TECHEVAL / Post Delivery Test & Trials					3Q	1Q		
OTRR						1Q		
IOT&E/OPEVAL						2Q-3Q		

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**				R-1 ITEM NOMENCLATURE PE 0305160N Defense Meteorological Satellite Program (Space)				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**9.805**	**8.275**	**4.887**	**3.820**	**2.235**	**2.170**	**3.123**	**19.405**
0524 Navy METOC Support (Space)	**7.662**	**6.213**	**3.785**	**2.694**	**1.098**	**1.006**	**1.937**	**1.153**
1452 Geosat Follow-on	**1.185**	**1.066**	**1.102**	**1.126**	**1.137**	**1.164**	**1.186**	**18.252**
9999 Congressional Increases	**0.958**	**0.996**						

Quantity of RDT&E Articles

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

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 warfighter 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 are to develop hardware and software that will allow ground stations to receive, ingest and exploit the NPOESS Preparatory Project (NPP) data. Unique naval warfighter capabilities will be transitioned to NPOESS and planned upgrades to NPOESS. These requirements also include the development of alternatives and required capabilities to replace the Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) satellite which was launched on February 10, 1998 and is nearing end of life. A replacement to GFO is required to ensure continued support to naval operations.

These requirements include commitments to satellite, sensor, and operational demonstration/development activities as well as transition to fleet applications associated with four 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, and 4) the Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) funded entirely by Navy. GFO altimeter data are used to observe significant wave height, ocean thermal and acoustic structure. The Navy METOC Support (Space) 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' Conical Microwave Imaging Sensor (CMIS) instrument. Both the GEOSAT and Navy METOC Support (Space) projects fulfill Navy's obligation to develop naval service-unique, mission critical space-based METOC technology.

This budget reflects changes in investment line description beginning in FY07. This change supports acquisition and development investment lines that support the vision, operations concept, and capability requirements. Changes consolidate and better define RDT&E efforts as well as better reflect the new Commander Naval Meteorological and Oceanographic Command (CNMOC) reorganization.

FY06 included Congressional Add for the Reconfigurable Payload Processor for Staring Sensors (RPPSS) project to establish the viability of Field Programmable Object Array (FPOA) technology to reduce the risk of implementing full-earth staring/Wide Field of View (WFOV) and large Format Focal Plane Arrays (FFPAs) that are being considered for future strategic missile warning systems.

(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.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**	R-1 ITEM NOMENCLATURE PE 0305160N Defense Meteorological Satellite Program (Space)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY07 President's Budget	9.985	7.307	20.641	21.711
FY08 President's Budget	9.805	8.275	4.887	3.82
Total Adjustments	-0.180	0.968	-15.754	-17.891
Summary of Adjustments				
SBIR Tax	-0.174			
Sec 8125: Revised Economic Assumptions	-0.001			
Congressional Action 1% Reduction	-0.005			
Congressional Add: Radiation Hardened Vector Processor		1.000		
Sec 8106: Revised Economic Assumptions		-0.032		
Non-Purchase Inflation Adjustment			-0.030	0.013
Program Adjustments			-15.526	-17.711
CIVPERS/CS Adj for NETWARCOM Enterprise			-0.200	-0.200
Non-Enterprise related CIVPERS/CS Adjustments			-0.007	-0.007
FY08 / FY09 NWCF Rate Adjustment-NRL			0.009	0.014
Subtotal	-0.180	0.968	-15.754	-17.891

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME PE 305160N Defense Meteorological Satellite Program (Space)					PROJECT NUMBER AND NAME 0524 Navy METOC Support (Space)		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**7.662**	**6.213**	**3.785**	**2.694**	**1.098**	**1.006**	**1.937**	**1.153**
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 Navy METOC Support (Space) 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 project reflects changes in investment line description beginning in FY07. This change supports acquisition and development investment lines that support the vision, operations concept, and capability requirements. Changes consolidate and better define RDT&E efforts as well as better reflect the new Commander Naval Meteorological and Oceanographic Command (CNMOC) reorganization.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	PE 305160N Defense Meteorological Satellite Program (Space)	0524 Navy METOC Support (Space)	

(U) B. Accomplishments/Planned Program

WINDSAT/Sensor/Observing Systems (Space)	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	6.279	3.420	3.785	2.694
RDT&E Articles Quantity				

FY06 - Developed additional warfighter products (e.g. sea surface temperature) from the existing Navy Satellite Based Wind Speed (WindSat) data stream. Controlled Coriolis Satellite and monitored health of the WindSat on-orbit payload that provides Fleet ocean wind speed and direction data. Performed sensor calibration and data validation of environmental algorithms generated for Fleet use.
FY07: Determine system design for advanced altimetry mission. Develop additional Warfighter products (sea ice coverage); continue 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. Monitor Special Sensor Microwave Imager Sounder (SSMIS) performance and continue calibration and validation. Prepare for launch of F-18; Phase C Approval for Advanced Altimeter; Preliminary Design Review for Advanced Altimeter; Global Data Processing System (GDPS) update for sea ice; and F-17 SSMIS Calibration/Validation Final Report.
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.
FY09 - Complete F-18 SSMIS Cal/Val final report. Develop additional War fighter products (sea ice coverage); continue risk reduction to CMIS through WindSat data exploitation and ground control and operations of Coriolis and monitor state of health of the WindSat on-orbit payload. Monitor SSM/I and SSMIS performance and continue calibration and validation.

Calibration and Validation Activities/ Sensor/Observing Systems (Space)	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	1.153			
RDT&E Articles Quantity				

FY06 - Completed validation report for F17. Monitored Special Sensor Microwave/Imager (SSM/I) performance and continue calibration and validation support effort associated with the Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave Imager Sounder (SSMIS) and WindSat sensor.
FY07 - Efforts incorporated into the "Sensors/Observation Systems (Space)" investment line.

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE 305160N Defense Meteorological Satellite Program (Space)	0524 Navy METOC Support (Space)

(U) B. Accomplishments/Planned Program

Advanced Altimeter/ Sensors/Observing Systems (Space)	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.230			
RDT&E Articles Quantity				

FY06 - Performed Analysis of Alternatives including investigating the Centre Nationale Etudes Spatiale's (CNES) Altimeter Ka band (AltiKa) for littoral region application. Began concept development and market research for Advanced Altimeter and future sensors.
FY07 - Efforts incorporated into the "Sensors/Observation Systems (Space)" investment line.

NPOESS Assim/Prediction Models (Atm/Ocn)	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost		2.793		
RDT&E Articles Quantity				

FY07 - Deliver initial set of advanced National Polar-orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project (NPP)/NPOESS data assimilation algorithms. Conduct test and evaluation of these algorithms with NPP data.
FY08 - Effort to be incorporated under project 2342 - METOC Data Assimilation and Modeling beginning FY08.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE 305160N Defense Meteorological Satellite Program (Space)	0524 Navy METOC Support (Space)

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name

Not Applicable

(U) D. ACQUISITION STRATEGY:

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.

(U) E. MAJOR PERFORMERS:

FY06 - FY09 - Naval Research Laboratory, Washington D.C. 60% Satellite Mission and Technical Support, Sensor Calibration and Data Validation

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROGRAM ELEMENT PE 305160N 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	3.420		2.035		1.702		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		0.750		0.506		Continuing	Continuing	
*APMIR	CP	Various	1.590								1.590	
NPP/NPOESS Algorithms-Assimilation/Prediction Models (Atmosphere/Ocean)		NRLs		2.793		0.000				Continuing	Continuing	
Subtotal Support			99.404	6.213		3.785		2.694			5.344	
Total Cost			106.789	6.213		3.785		2.694			12.729	

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.

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																
																															DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**					PROGRAM ELEMENT NUMBER AND NAME PE 305160N Defense Meteorological Satellite Program (Space)												PROJECT NUMBER AND NAME 0524 Navy METOC Support (Space)															
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
X0524																																
WindSat / Sensor/Obs Sys (Space)	WindSat Application Development/Monitor Health/Cal/Val																															
CAL/VAL/ Sensor/Obs Sys (Space)	Monitor SSMI/SSMIS Health																															
Advanced Altimeter/ Sensor/Obs Sys (Space)	Concept				Begin DMSP F-17 SSMIS CAL/VAL				Begin DMSP F-18 SSMIS CAL/VAL								Begin DMSP F-19 SSMIS CAL/VAL								Begin DMSP F-20 SSMIS CAL/VAL							
Sensor/Obs Sys (Space)					WindSat Application Development/Monitor Health/Cal/Val WindSat, SSMI, SSMIS																											
Assim/Pred Models (Space)	NPP/NPOESS Data Assimilation Alg Development																															

* Airborne Polarimetric Microwave Imaging Radiometer(APMIR) Underflights will be conducted as part of the Special Sensor Microwave Image Sounder (SSMIS) Calibration and Validation.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-7**	PROGRAM ELEMENT PE 305160N Defense Meteorological Satellite Program (Space)					PROJECT NUMBER AND NAME 0524 Navy METOC Support (Space)		
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
WindSat/Sensor/Obs Sys (Space)								
CAL/VAL/Sensor/Obs Sys (Space)	4Q							
Advanced Altimeter/Sensor/Obs Sys (Space)	4Q							
Sensor/Obs Sys (Space)		1Q	3Q		3Q		3Q	
Assim/Pred Models (Space)								

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0305160N Navy Meteorological and Oceanographic Sensors - Space				PROJECT NUMBER AND NAME 1452 GEOSAT			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**1.185**	**1.066**	**1.102**	**1.126**	**1.137**	**1.164**	**1.186**	**18.252**
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 which was launched in February 1998 provides altimetry data until its end of life and if not replaced there will be a gap in altimetry coverage until an Advanced Altimeter or a National Polar-orbiting Operational Environmental Satellite System (NPOESS) altimeter is available.

This project reflects changes in investment line description beginning in FY07. This change supports acquisition and development investment lines that support the vision, operations concept, and capability requirements. Changes consolidate and better define RDT&E efforts as well as better reflect the new Commander Naval Meteorological and Oceanographic Command (CNMOC) reorganization.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA - 7	0305160N Navy Meteorological and Oceanographic Sensors - Space	1452 GEOSAT

(U) B. Accomplishments/Planned Program

Algorithm Development and Sensor Cal/Val/ Sensors/Observing Systems (Space)	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	1.185	1.066	1.102	1.126
RDT&E Articles Quantity				

FY06 - Investigated and implemented life extension solutions (e.g. developed work arounds for degraded components). Assessed on-orbit system performance, conducted payload calibration and data validation, refined orbits and resolved performance anomalies. Developed Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) metrics for warfighter applications.
FY07 - Investigate and implement life extension solutions to work arounds for degraded components. Assess on-orbit system performance, calibrate payload and validate data, resolve anomalies. Assess 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 meteorological and oceanographic (METOC) metric end of year report.
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.
FY09 - 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305160N Navy Meteorological and Oceanographic Sensors - Space	1452 GEOSAT

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name

Not Applicable

(U) D. ACQUISITION STRATEGY:

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 satisfy naval service unique altimetry requirements through a free-flying Advanced Altimeter or a National Polar-orbiting Operational Environmental Satellite System (NPOESS) altimeter.

(U) E. MAJOR PERFORMERS:

FY06 - Ball Aerospace, Boulder, CO 32% Satellite Mission Support; Computer Sciences Corporation (CSC), Monterey, CA 50% Sensor Calibration, Data Validation and Technical Support.
FY07 to FY09 - Ball Aerospace, Boulder, CO 32% Satellite Mission Support; performer pending contact award for 50% Sensor Calibration, Data Validation and Technical Support.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROGRAM ELEMENT 0305160N Navy Meteorological and Oceanographic Sensors - Space					PROJECT NUMBER AND NAME 1452 GEOSAT					
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
Software Development	CP	Ball Aerospace	85.984		N/A		N/A		N/A		85.984	
		Various	8.045		N/A		N/A		N/A		8.045	
Subtotal Product Development			94.029								94.029	
Remarks:												
Systems Engineering	CP	Ball Aerospace	3.241	0.370	N/A	0.250	N/A	0.260	N/A	Continuing	Continuing	
		Various	3.067	0.696	N/A	0.852	N/A	0.866	N/A	Continuing	Continuing	
Subtotal Support			6.308	1.066		1.102		1.126			9.602	
Remarks:												
Total Cost			100.337	1.066		1.102		1.126			103.631	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																
																					DATE: **February 2007**											
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**					PROGRAM ELEMENT NUMBER AND NAME 0305160N Navy Meteorological and Oceanographic Sensors - Space												PROJECT NUMBER AND NAME 1452 GEOSAT															
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
Algorithm Development/ Sensor/Obs Systems (Space)	Cal/Val GFO Metrics				Cal/Val End of Year Reporting												Cal/Val End of Year Reporting															
					Life Extension Solutions								Metric Assessment of OSTM								Execute GFO Life Extension Solutions											

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0305160N Navy Meteorological and Oceanographic Sensors - Space					PROJECT NUMBER AND NAME 1452 GEOSAT		
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Algorithm Development/Sensor/Obs Systems (Space) - Cal/Val.	4Q	4Q	4Q	4Q	4Q	4Q		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA - 7	0305160N Navy Meteorological and Oceanographic Sensors - Space	9999 Congressional Increases

(U) B. Accomplishments/Planned Program

9282 Congressional Adds - Reconfigurable Payload Processor for Staring Sensors	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.958			
RDT&E Articles Quantity				

FY06 - Congressional Add for Reconfigurable Payload Processor for Staring Sensors (RPPSS) project established the viability of Field Programmable Object Array (FPOA) technology to reduce the risk of implementing ful earth staring/Wide Field of View (WFOV) and large format Focal Plane Arrays (FPSs) that are being considered for future strategic missile warning systems.

9B01 Congressional Adds - Radiation Hardened Vector Processor	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost		0.996		
RDT&E Articles Quantity				

FY07 - Congressional Adds for Radiation Hardened Vector Processor. Demonstrated satellite based signal processing using Field Programmable Object Array (FPOA) technology. A 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.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-7**			R-1 ITEM NOMENCLATURE 0305188N - Joint C4ISR Battle Center (JBC)					
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**50.109**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
3043 - Joint Interoperability and Integration (JI&I)	**50.109**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Quantity of RDT&E Articles								

In accordance with the FY 2005 National Defense Authorization Act, RDT&E funding for Joint Forces Command transfers from Navy to Defense-Wide beginning in FY 2007. The new program element is changed from 0305188N BA 7 to 0607828D BA 7.

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

The Unified Command Plan 2002 assigned Commander, U.S. Joint Forces Command (USJFCOM) with the mission as the Joint Force Integrator. Additionally, the Chairman Joint Chiefs of Staff (CJCS) designated Commander, USJFCOM as lead agent to transform the Armed Forces. In support of these two missions, USJFCOM Joint Interoperability and Integration (JI&I), located within Headquarters USJFCOM, is responsible for joint interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. USJFCOM JI&I works closely with Combatant Commanders/Services/Agencies (C/S/A) to ensure warfighting deficiencies are identified, develops synchronized Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) capability plans to ensure the warfighter has interoperable capabilities.

In addition, on January 7, 2003, the Deputy Secretary of Defense directed expansion of the USJFCOM JI&I role to increase operational through tactical level joint integration of the following capabilities: Common Operational and Tactical Pictures; Combat Identification; Situational Awareness; Adaptive Mission Planning and Rehearsal; Interoperability among Service/Agency intelligence systems; Interoperable Joint Fires, Maneuver, and Intelligence; and Integrated Joint Battle Management Command and Control. Evidencing this increased mission, on December 22, 2004, the Deputy Secretary of Defense directed baseline funds of $10M in FY 2006 be provided for USJFCOM to develop a repeatable Joint Mission Thread interoperability test and assessment methodology for use in evaluating Joint Battle Management Command and Control Roadmap execution and to demonstrate this methodology in Joint Close Air Support.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under Operational Systems Development because it provides rapid assessment of required Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) interoperability, as well as rapid insertion of capabilities across the DOTMLPF spectrum that meet the joint war fighter's need.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043-Joint Interoperability and Integration (JI&I)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY 07 President's Budget	67,255	0	0	0
FY 08/09 President's Budget Submit	50,109	0	0	0
Total Adjustments	(17,146)			
Summary of Adjustments				
Program Adjustments	(16,000)			
SBIR Assessment	(1,470)			
Congressional Adjustments	324			
	(17,146)	0	0	0

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043-Joint Interoperability and Integration (JI&I)

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Integrated Combat Identification and Situational Awareness Capabilities	3.498			
RDT&E Articles Quantity				

FY06 Accomplishments: Implementation of these capabilities through ongoing strategic to tactical situational awareness initiatives are required to eliminate blue force fratricide. USJFCOM JI&I continued to execute the Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders with interoperable combat identification and situational awareness capabilities among United States Forces, Inter-Agency, and Allied, and Coalition Forces in support of the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY 06	FY 07	FY 08	FY 09
Interoperable Joint Fires and Intel Capabilities	19.790			
RDT&E Articles Quantity				

FY06 Accomplishments: USJFCOM JI&I continued to execute the Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders with interoperable Joint Fires (Time Sensitive Targets, Precision Engagement, and Close Air Support) and intelligence capabilities among United States Forces, Inter-Agency, and Allied, and coalition Forces in support of the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY 06	FY 07	FY 08	FY 09
Common Operational and Tactical Pictures Capabilities	9.514			
RDT&E Articles Quantity				

FY06 Accomplishments: USJFCOM JI&I continued to execute the Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders with Common Operational and Tactical Pictures capabilities among United States Forces, Inter-Agency, and Allied, and Coalition Forces in support of the Global War on Terrorism (GWOT) and in multiple theaters of operations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043 - Joint Interoperability and Integration (JI&I)

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Integrated Joint Battle Management C2 Capabilities	6.132			
RDT&E Articles Quantity				

FY06 Accomplishments: Completed and signed by CDR USJFCOM, OUSD (AT&L) and Vice-Chairman, Joint Chiefs of Staff (VCJCS) the Joint Battle Management Command and Control (JBMC2) Roadmap Version 2.0 (20 Jan 06), developed JBMC2 Campaign Plan, developed Joint Close Air Support (JCAS) Integrated Product Team charters, developed Desk Top Analysis handbook, baselined the Joint Capabilities Mapping Environment (architecture tool), executed JCAS Desktop Analysis, developed JCAS Assessment Annex A to Campaign Plan, developed JCAS Test Plan and Procedures for Events 1-2, developed JCAS Analysis Plan for Events 1-2, developed Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) Change Requests resulting from the JCAS Desktop Analysis efforts, participated in the Command and Control (C2) Capabilities Based Assessment (CBA) development effort, participated in the Integrated Air and Missile Defense (IAMD)Capabilities Based Assessment (CBA) development effort, developed Single Integrated Air Picture (SIAP) Capability Development Document (CDD), baselined Joint Task Force (JTF) Core HQ Architecture Increment #1, developed and approved the Global Joint Battle Management Command and Control (GJBMC2) Operational Concept, developed the GJBMC2 Concept of Operations (CONOPs), established Time Sensitive Targeting Community of Interest (COI), and developed the Roadmap Coalition Chapter/Annex. Executed JCAS operators' digital JCAS capability requirements surveys with the Combatant Commanders (COCOMs) to identify the priority issues to scope future Joint Digital Close Air Support (CAS) assessment and also determine the use rate of current Joint Terminal Attack Controller (JTAC) digital suites with JCAS Aircraft (what was not used and determined why). Investigated doctrinal and Tactical Technical Procedures (TTP) shortfalls with respect to digital CAS (e.g., target centric approach vs. initial point). Recommend updates to Joint Publication (JP) 3-09.3, Air Land Sea Application Center (ALSA) Joint Fires Pub, JCAS Mission Area (MA) Initial Capabilities Document (ICD). Participated in Joint Effects Targeting System (JETS) ICD and Analysis of Alternatives (AoA) efforts to ensure COCOM identified issues are addressed for this next generation solution for Joint Digital CAS (continued liaison with JETS Team/F-35 Program Managers (PMs). Conducted warfighter assessment (low cost improvements) for enhancing CAS (e.g. Strikelink capability in aircraft, JTAC to AC-130, Gateways, and Imagery & video (Franken Pod/Lightening Rod Pod) ROVER III).

	FY 06	FY 07	FY 08	FY 09
Joint Operational Concepts and Integrated Architectures	3.297			
RDT&E Articles Quantity				

FY06 Accomplishments: In support of Joint Battle Management Command and Control (JBMC2), USJFCOM JI&I continued to develop, maintain, and update Joint Mission Area Joint Operational Concepts and Integrated Architectures which provided support to the warfighter across the "Range of Military Operations." This Joint Operational Concept described the doctrinally based tasks and activities, operational elements, and the time-phased information flows required to accomplish joint military operations. The Joint Integrated Architecture efforts were utilized to assess and analyze doctrine, Concept of Operations (CONOPS), Tactical Technical Procedures (TTPs), system and procedural interoperability, processes, and synchronization issues that impact Joint Forces. The Joint Operational Concepts and Integrated Architectures provided the baseline to identify warfighter requirements and were developed in close coordination with OSD, Joint Staff, COCOMs, and Services.

	FY 06	FY 07	FY 08	FY 09
Integrated Service and Agencies Intelligence Capabilities	2.626			
RDT&E Articles Quantity				

FY06 Accomplishments: USJFCOM JI&I continued to execute the Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders with integrated Service and Agencies Intelligence capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support of the Global War on Terrorism (GWOT) and in multiple theaters of operations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043-Joint Interoperability and Integration (JI&I)

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Ability to Exchange Information Between Multiple Security Domains	2.037			
RDT&E Articles Quantity				

FY06 Accomplishments: USJFCOM JI&I continued to execute the Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders the ability to exchange information between multiple security domains among United States Forces, Interagency, and Allied, and Coalition Forces in support of the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY 06	FY 07	FY 08	FY 09
Define Operational Requirements and Functional Concepts	1.316			
RDT&E Articles Quantity				

FY06 Accomplishments: USJFCOM JI&I continued to execute the Secretary of Defense and Chairman Joint Chiefs of Staff directives to define operational requirements and functional concepts for Department of Navy Deployable Joint Command and Control which supports integration with Joint BMC2, Standing Joint Force Headquarters, and Service Battle Management Command and Control capabilities and goals.

	FY 06	FY 07	FY 08	FY 09
Enroute Mission Capabilities	0.565			
RDT&E Articles Quantity				

FY06 Accomplishments: Continued efforts to provide command and control communications (both onsite and remote) capabilities across the Regional Combatant Commanders and Service Components to support the Global War on Terrorism (GWOT) and in multiple theaters of operations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043-Joint Interoperability and Integration (JI&I)

(U) B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Combatant Commander Capability Office (C3O)	0.154			
RDT&E Articles Quantity				

FY06 Accomplishments: USJFCOM JI&I continued to identify the Combatant Commanders' warfighting shortfalls. The C3O collect and identify commander requirements, coordinate the prioritization of the information into COCOM issue categories, and subsequently worked with Services and Agencies to identify and define DOTMLPF capability solutions. The C3O identifies the operational problems applicable from the Joint Task Force down to the Tactical Level and those areas where assistance is necessary to achieve operational enhancements with US, Allied, and Coalition forces.

	FY 06	FY 07	FY 08	FY 09
T2 Architecture Support of Joint Training Environment	1.180			
RDT&E Articles Quantity				

FY06 Accomplishments: USJFCOM JNTC developed the new overarching Training Transformation (T2) architecture to support the Joint training environment as tasked by the Deputy Secretary of Defense (DEPSECDEF) in the DoD T2 Implementation Plan. Mission planning and rehearsal capabilities was developed within the operational environment utilizing rapid spiral development methodology to establish a real-time simulation emphasizing crisis-action planning, joint force organization, and mission rehearsal to meet Combatant Commanders' requirements while providing a realistic system that enables the warfighter to learn, improvise, and adapt rapidly to constantly changing threats.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043-Joint Interoperability and Integration (JI&I)

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006
Not Applicable	

(U) E. ACQUISITION STRATEGY:

Not Applicable

(U) F. MAJOR PERFORMERS:

NONE

(U) G. PERFORMANCE METRICS:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**			PROGRAM ELEMENT 0305188N - Joint C4ISR Battle Center (JBC)					PROJECT NUMBER AND NAME 3043-Joint Interoperability and Integration (JI&I)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY07 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											0.000	0.000
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Development Support											0.000	0.000
Software Development											0.000	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2007**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**			PROGRAM ELEMENT 0305188N - Joint C4ISR Battle Center (JBC)					PROJECT NUMBER AND NAME 3043-Joint Interoperability and Integration (JI&I)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY07 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 Support	C-CPFF	Science Application International Corp.	5.100							Continuing	Continuing	0.000
Government Support	MIPR	Various DoD	42.539							Continuing	Continuing	0.000
Contractor Support	C-CPFF	Old Dominion University	2.010							Continuing	Continuing	0.000
Contractor Support	C-CPFF	General Dynamics	0.358							Continuing	Continuing	0.000
Travel		Various DoD	0.102							Continuing	Continuing	0.000
												0.000
Subtotal T&E			50.109							Continuing	Continuing	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Total Cost			50.109	0.000		0.000		0.000		Continuing	Continuing	0.000
Remarks:												

Exhibit R-3, Project Cost Analysis

EXHIBIT R4, Schedule Profile																										DATE: February 2007							
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**									PROGRAM ELEMENT NUMBER AND NAME 0305188N - Joint C4ISR Battle Center (JBC)												PROJECT NUMBER AND NAME 3043-Joint Interoperability and Integration (JI&I)											
Fiscal Year	2006																																
	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.)			NO TITLE 10 ACQUISITION AUTHORITY / FORM NOT APPLICABLE																														
Equipment Delivery (e.g., EDM Radar Delivery)																																	
Software 1XXSW Delivery 2XXSW Delivery																																	
Test & Evaluation Milestones Development Test Operational Test																																	
Production Milestones LRIP I LRIPII FRP																																	
Deliveries																																	

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-7**	PROGRAM ELEMENT 0305188N - Joint C4ISR Battle Center (JBC)				PROJECT NUMBER AND NAME 3043-Joint Interoperability and Integration (JI&I)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab	**NO TITLE 10 ACQUISITION AUTHORITY / FORM NOT APPLICABLE**							
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initial Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

Exhibit R-4a, Schedule Detail

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0305204N TACTICAL UNMANNED AERIAL VEHICLES		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	114.998	119.098	50.185	22.393	15.608	12.671	12.872	13.079
2478 Tactical Control System	10.771	9.121	9.390	8.919	9.081	9.520	9.666	9.813
2768 VTUAV	76.470	104.727	32.961	4.088	1.717	1.355	1.374	1.395
2910 Joint Technology Center/ Sys Integ Lab	1.636	1.664	1.690	1.725	1.759	1.796	1.832	1.871
3135 USMC VUAV	3.943							
3192 STUAS			6.144	7.661	3.051			
9999 Congressional Adds	22.178	3.586						

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

Tactical Control System (TCS): TCS provides interoperability for command and control of the present and future Tactical and Medium Altitude Endurance (MAE) UAVs and their payloads utilized for Intelligence, Surveillance, Reconnaissance, & Target Acquisition (ISR&TA) and combat assessment. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station (GCS), implementation of NATO (North Atlantic Treaty Organization) Standardization Agreement (STANAG) 4586, and through the use of the Tactical Common Data Link (TCDL). TCS provides connectivity to designated Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems for the Navy Vertical Takeoff and Landing (VTOL) Tactical UAV (VTUAV). TCS and VTUAV will implement NATO STANAG 4586 compliance, and weaponization and plug-and-play functionality. TCS will also be evaluated for future Naval UAVs.

VTUAV (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 and 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 electra-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.

Navy Small Tactical Unmanned Aircraft System (STUAS) / Tier II UAS: STUAS / Tier II UAS will provide persistent Intelligence, Surveillance, and Reconnaissance (ISR) support for tactical level maneuver decisions and unit level force defense/force protection for Navy ships and Marine Corps land forces. This system will fill the ISR capability shortfalls identified by the Navy 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 Global War on Terror (GWOT), and the Marine Corps close range UAS enabling enhanced decision-making and improved integration with ground schemes of maneuver.

Note: STUAS / Tier II UAS is a new start program.

JTC/SIL: The Joint Technology Center/System Integration Laboratory provides experimentation for UAV technology assessment, insertion, demonstration, transfer, as well as simulation and exercise support.

USMC Vertical Unmanned Aerial Vehicle (VUAV): The USMC VUAV will provide the Marine Corps a Tier III UAV supporting Marine Expeditionary Force (MEF) and Joint Task Force (JTF) level commanders with the required speed and survivability to support USMC Expeditionary Maneuver Warfare (EMW) operations. The system will build on Navy VTUAV and Coast Guard Eagle Eye technology.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0305204N TACTICAL UNMANNED AERIAL VEHICLES

Congressional Adds.(FY06)

Joint Operational Test Bed System (JOTBS)
JOTBS is an experimental, ground-based control system that is designed to fly, operate and receive data from all the services and individual UAVs from a single interface.

VTUAV (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 and 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 electra-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.

Advanced Airship Flying Laboratory Phase II
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 broad-area Intelligence, Surveillance, and Reconnaissance (ISR).

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 broad-area 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 light weight 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.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0305204N TACTICAL UNMANNED AERIAL VEHICLES

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	115.173	115.950	40.510	11.647
Current President's Budget:	114.998	119.098	50.185	22.393
Total Adjustments	-0.175	3.148	9.675	10.746

Summary of Adjustments				
Congressional Reductions	-0.205	-0.452		
Congressional Rescissions				
Congressional Increases		3.600		
Economic Assumptions			-0.093	0.224
Miscellaneous Adjustments	0.030		9.768	10.522
Subtotal	-0.175	3.148	9.675	10.746

Technical:
Not Applicable

Schedule:

VTUAV - Award of 2006 Congressional Add delayed to 1st Quarter 2007 vice 4th Quarter 2006 due to contract negotiations. MS C moved to 2nd Quarter 2007 vice 1st Quarter 2007 to facilitate the generation of the CPD in accordance with Joint Capabilities Integration & Development System. Lot I LRIP contract award was moved accordingly. Added Coastal Battlefield Reconnaissance and Analysis (COBRA) payload integration effort. Added Full Rate Production (FRP) contract and delivery information.

TCS - added VTUAV LCS Integration and Software Support for VTUAV beginning FY08 to provide clarification of previously planned effort.

STUAS/Tier II UAS - a new start program in FY08.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 2478, Tactical Control System	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2478 Tactical Control System	10.771	9.121	9.390	8.919	9.081	9.520	9.666	9.813
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Tactical Control System (TCS) is developing 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 Navy Unmanned Aerial Vehicles (UAVs), including the Navy Vertical Take-off and Landing Tactical UAV (VTUAV). Interoperability is achieved through the use of the Tactical Control System (TCS) software in the Ground Control Station (GCS), NATO STANAG-4586 compliance, and through the use of the Tactical Common Data Link (TCDL).

TCS and VTUAV will implement NATO STANAG 4586 and plug-and-play functionality. TCS will also be evaluated for future Naval UAVs.

TCS provides a full range of scaleable Unmanned Air System (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 UAV data from different UAS types for reconnaissance, surveillance, and combat assessment.

TCS provides UAS command, control and processing from land and sea based ground control stations. TCS development continues to meet the updated VTUAV Operational Requirements Document (ORD) and add key technologies that will be used by UAS.

TCS maximizes the use of contractor and government off-the shelf hardware and software whenever possible. TCS software is interoperable, and is compliant with the OSD Command and Control, Communications, Intelligence (C3I) Joint Technical Architecture (JTA), and Distributed Common Ground System (DCGS) standards.

B. ACCOMPLISHMENTS / PLANNED PROGRAM

TCS DEVELOPMENT AND INTEGRATION	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	7.360	7.656	7.953	7.582
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.411	1.465	1.437	1.337
RDT&E Articles Qty				

Continue government engineering support, contractor support, program support, and travel for the TCS program.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Not Applicable										

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 2478, Tactical Control System

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) in 4th Quarter FY08, 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).

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0305204N TACTICAL UNMANNED AERIAL VEHICLES				PROJECT NUMBER AND NAME 2478, Tactical Control System						
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, VA	7.445	.655	11/06	.500	11/07	.400	11/08	1.050	10.050	10.050
Primary Hdw Development	C/CPAF	RAYTHEON COMPANY, FALLS CHURCH, VA	89.400	7.001	11/06	7.453	11/07	7.182	11/08	28.730	139.766	139.766
SUBTOTAL PRODUCT DEVELOPMENT			96.845	7.656		7.953		7.582		29.780	149.816	149.816

Remarks:

SUPPORT												
SUBTOTAL SUPPORT												

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	VARIOUS	1.200	.030	11/06	.030	11/07	.030	11/08	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			1.200	.030		.030		.030		Continuing	Continuing	

Remarks:

MANAGEMENT												
Contractor Eng Sup	VARIOUS	VARIOUS	1.235	.500	11/06	.391	11/07	.337	11/08	Continuing	Continuing	
Government Eng Sup	WX	VARIOUS	6.087	.545	11/06	.626	11/07	.580	11/08	Continuing	Continuing	
Program Mgmt Sup	VARIOUS	VARIOUS	2.379	.340	11/06	.340	11/07	.340	11/08	Continuing	Continuing	
Travel	TO	NAVAIR, PAXTUXENT RIVER MD	.048	.050	11/06	.050	11/07	.050	11/08	Continuing	Continuing	
SUBTOTAL MANAGEMENT			9.749	1.435		1.407		1.307		Continuing	Continuing	

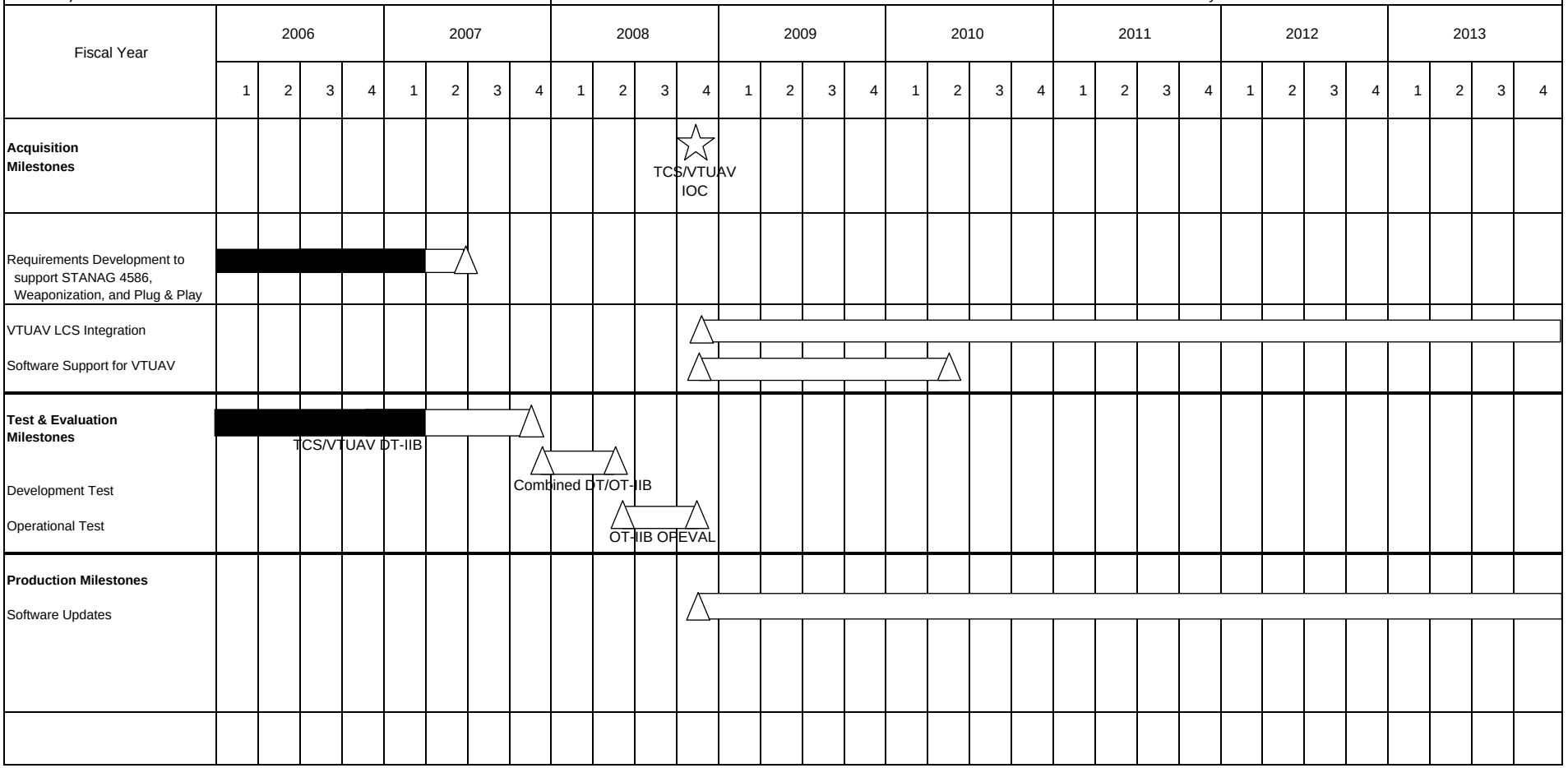
Remarks:

Total Cost			107.794	9.121		9.390		8.919		Continuing	Continuing	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305204N TACTICAL UNMANNED AERIAL VEHICLES	2478 Tactical Control System



R-1 SHOPPING LIST - Item No. 203

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0305204N TACTICAL UNMANNED AERIAL VEHICLES				PROJECT NUMBER AND NAME 2478 Tactical Control System			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones TCS/VTUAV IOC			4Q					
Requirements Development to Support								
STANAG 4586, Weaponization, and Plug and Play	1Q-4Q	1Q-2Q						
VTUAV LCS Integration			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Software Support for VTUAV			4Q	1Q-4Q	1Q-2Q			
Test & Evaluation Milestones								
TCS/VTUAV DT-IIB	1Q-4Q	1Q-4Q						
Combined DT/OT-IIB		4Q	1Q-2Q					
OT-IIB OPEVAL			2Q-4Q					
Software Upgrades			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

R-1 SHOPPING LIST - Item No. 203

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2007		
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2768 VTUAV	76.470	104.727	32.961	4.088	1.717	1.355	1.374	1.395
RDT&E Articles Qty	5*							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
VTUAV (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 and 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 electra-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.

A VTUAV system is comprised of air vehicles, electro-optical/infrared/laser designator-rangefinder payloads, Ground Control Stations (with TCS and TCDL integrated for interoperability), and a UAV Common Automatic Recovery System (UCARS) for automatic take-off and landings, and associated spares and support equipment.

A program to continue development of the VTUAV to meet the Littoral Combat Ship (LCS) mission requirements was initiated in FY04. Engineering and Manufacturing Development (EMD) is continuing in FY08 and will include design activities for system upgrades and TCS integration. Procurement of two EMD MQ-8B Air Vehicles was initiated in FY04, two additional EMD MQ-8B Air Vehicles initiated in FY05, and five EMD MQ-8B Air Vehicles initiated in FY06. As of 15 Dec 06, VTUAV has completed 245 flights, accumulating more than 213 flight hours.

Program funding in FY08-10 includes effort required to integrate the Coastal Battlefield Reconnaissance and Analysis (COBRA) payload, a mine detection sensor, under development by PMS-495.

The Air Vehicle was redesignated from RQ-8B to MQ-8B on 24 June 2005 per letter from HQ USAF/XPPE.

The VTUAV system is scheduled for a 2nd quarter FY07 Milestone C LRIP decision.

The U.S. Army has selected the MQ-8B as their Class IV UAV for the Future Combat System (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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 2768, VTUAV

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

SD&D - HARDWARE AND SYSTEM DEVELOPMENT	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	58.970	89.994	23.900	3.300
RDT&E Articles Qty	5*			

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. Integration of the Coastal Battlefield Reconnaissance and Analysis (COBRA) payload. *Two of the five articles initiated in FY06 are funded by a Congressional Add, and identified in project 9999 of this exhibit.

ILS AND TRAINING SYSTEMS	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.600	4.450	3.061	
RDT&E Articles Qty				

Continue ILS, technical data, and training system development. Procurement of trainers and spares to support OPEVAL.

DEVELOPMENT TESTING	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.500	3.093	1.531	.578
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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	10.400	7.190	4.469	.210
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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 2768, VTUAV

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN: 044300: 0305204N VTUAV		37.419	37.687	73.155	73.774	75.979	95.888	102.304	982.895	1,479.101
APN Initial Spares: 060510: 0305204N VTUAV		5.109	1.118	1.875	0.490	0.501	0.767	0.784	90.842	101.486

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. Nine EMD MQ-8B Air Vehicles will be procured. A Milestone C LRIP decision is scheduled for 2Q, FY07. A FRP and IOC will follow completion of OPEVAL.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
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 , SAN DIEGO, CA	286.704	89.994	11/06	23.900	11/07	3.300	11/08	2.635	406.533	406.533
SUBTOTAL PRODUCT DEVELOPMENT			286.704	89.994		23.900		3.300		2.635	406.533	406.533
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	
TEST & EVALUATION												
Dev Test & Eval	WX	VARIOUS	5.387	1.546	11/06	.765	11/07	.438	11/08	Continuing	Continuing	
Oper Test & Eval	WX	VARIOUS		1.547	11/06	.766	11/07	.140	11/08	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			5.387	3.093		1.531		.578		Continuing	Continuing	
MANAGEMENT												
Government Eng Sup	WX	Various	21.920	4.957	Various	2.417	Various	.160	Various	Continuing	Continuing	
Program Mgmt Sup	Various	Various	17.639	2.183	Various	2.002	Various			Continuing	Continuing	
Travel	TO	NAVAIR, PAXTUXENT RIVER MD	.617	.050	Various	.050	Various	.050	Various	Continuing	Continuing	
SUBTOTAL MANAGEMENT			40.176	7.190		4.469		.210		Continuing	Continuing	
Total Cost			348.490	104.727		32.961		4.088		Continuing	Continuing	

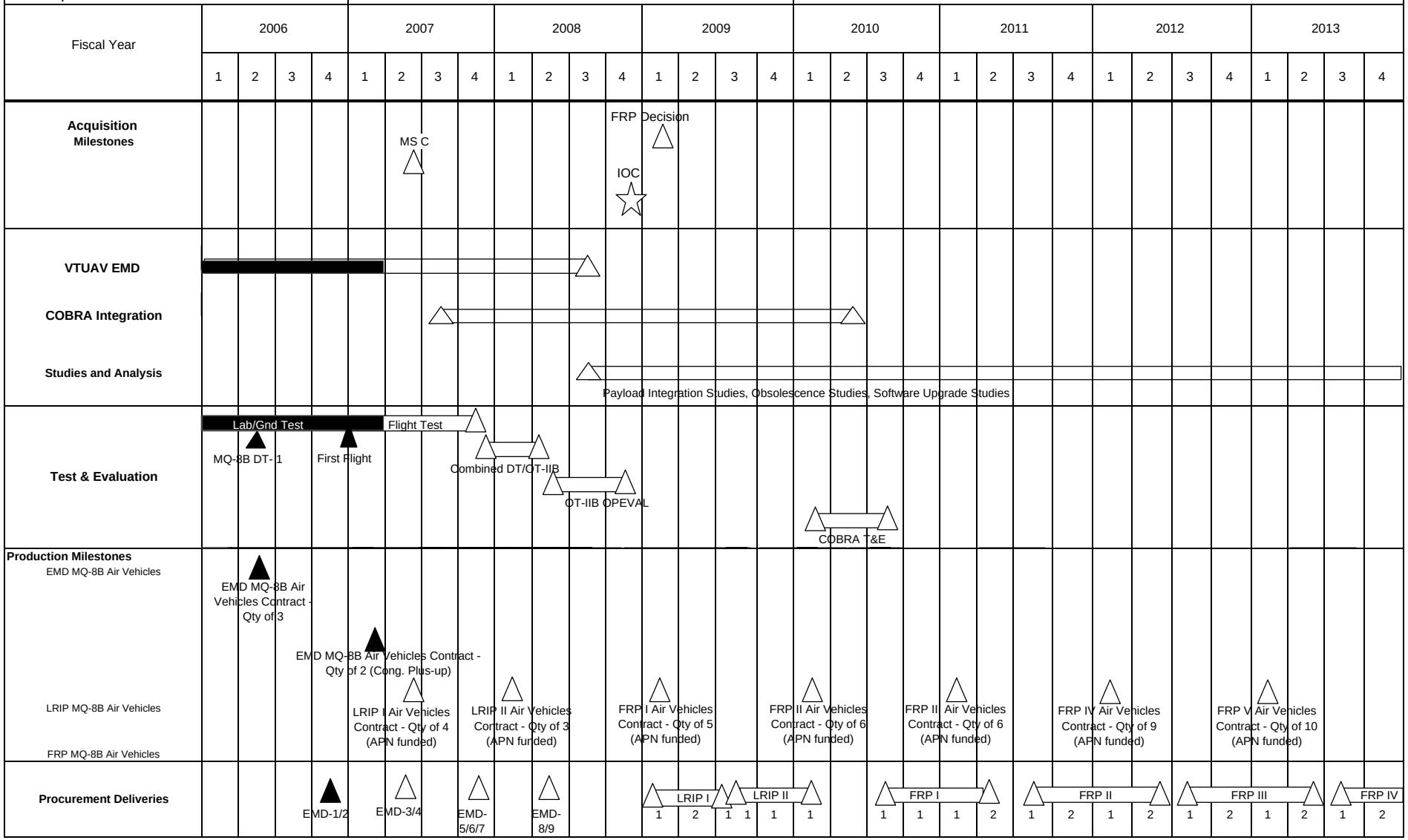
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA -7**

PROGRAM ELEMENT NUMBER AND NAME: 0305204N TACTICAL UNMANNED AERIAL VEHICLES

PROJECT NUMBER AND NAME: 2768 VTUAV



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0305204N, TACTICAL UNMANNED MARITIME SYS			PROJECT NUMBER AND NAME 2768 VTUAV				
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones								
Milestone C		2Q						
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 Operating Capability (IOC)			4Q					
Full Rate Production (FRP)				1Q				
VTUAV EMD (MQ-8B)	1Q-4Q	1Q-4Q	1Q-3Q					
Test & Evaluation Milestones								
DT I	1Q-4Q	1Q-4Q						
Combined DT/OT IIB		4Q	1Q-2Q					
OPEVAL			2Q-4Q					
COBRA T&E					1Q-3Q			
Production Milestones								
3 EMD MQ-8B Air Vehicles	2Q							
2 EMD MQ-8B Air Vehicles (Congressional Plus-Up)		1Q						
4 LRIP I MQ-8B Air Vehicles (APN funded)		2Q						
3 LRIP II MQ-8B Air Vehicles (APN funded)			1Q					
FRP Production Initiated				1Q	1Q	1Q	1Q	1Q
Delivery								
Air Vehicles -- FY04 EMD (2 A/V)	4Q							
Air Vehicles -- FY05 EMD (Congressional Plus-Up 2 A/V))		2Q						
Air Vehicles -- FY06 EMD (3 A/V)		4Q						
Air Vehicles -- FY06 EMD (Congressional Plus-Up 2 A/V))			2Q					
Air Vehicles -- FY07 LRIP (APN funded)(4 A/V)				1Q-3Q				
Air Vehicles -- FY08 LRIP (APN funded)(3 A/V)				3Q-4Q	1Q			
Air Vehicles -- FRP (APN funded)					3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2910 JOINT TECH CENTER/SYSTEMS INTEG LAB	1.636	1.664	1.690	1.725	1.759	1.796	1.832	1.871
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 Reconnaisance (C4ISR) optimization. The cornerstone of its diverse tool set is the Mulitiple 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 Pioneer 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.796	.824	.830	.851
RDT&E Articles Qty				

MUSE Development - Initial 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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

ENGINEERING AND MAINTENANCE ACTIVITIES	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.500	.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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.340	.340	.360	.374
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 2006	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

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0305204N TACTICAL UNMANNED AERIAL VEHICLES				PROJECT NUMBER AND NAME 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 AV M, REDSTONE ARSENAL AL	4.294	.824	11/06	.830	11/07	.851	11/08	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT			4.294	.824		.830		.851		Continuing	Continuing	

Remarks:

SUPPORT												
Develop Support Equip	MIPR	USA AV M, 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												

MANAGEMENT												
Government Eng Sup	MIPR	USA AV M, REDSTONE ARSENAL AL	1.600	.340	11/06	.360	11/07	.374	11/08	Continuing	Continuing	
SUBTOTAL MANAGEMENT			1.600	.340		.360		.374		Continuing	Continuing	

Remarks:

Total Cost			8.794	1.664		1.690		1.725		Continuing	Continuing	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																
																															DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**									PROGRAM ELEMENT NUMBER AND NAME 0305204N TACTICAL UNMANNED AERIAL VEHICLES												PROJECT NUMBER AND NAME 2910 Joint Technology Center/Systems Integration Lab											
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																																
Test & Evaluation Milestones																																
Provide MUSE Support to UAV developers																																

R-1 SHOPPING LIST - Item No. 203

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0305204N TACTICAL UNMANNED AERIAL VEHICLES				PROJECT NUMBER AND NAME 2910 Joint Technology Center/Systems Integration Lab			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MUSE Support to UAV Developers	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

R-1 SHOPPING LIST - Item No. 203

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N TACTICAL UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 3135, USMC VUAV	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3135 USMC VUAV	3.943							
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The USMC Vertical Unmanned Aerial Vehicle (VUAV) will provide the Marine Corps a Tier III UAV supporting Marine Expeditionary Force (MEF) and Joint Task Force (JTF) level commanders with the required speed and survivability to support USMC Expeditionary Maneuver Warfare (EMW) operations. The system will build on Navy Vertical Takeoff and Landing Tactical UAV and Coast Guard Eagle Eye technology. FY06 funds supported an Analysis of Alternatives (AoA) for a subsequent acquisition program.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

ANALYSIS OF ALTERNATIVES (AOA)	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.943			
RDT&E Articles Qty				

Conduct studies and analysis, government engineering support, and program management support for the USMC VUAV program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3192 STUAS			**6.144**	**7.661**	**3.051**			
RDT&E Articles Qty			**1**					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Navy Small Tactical Unmanned Aircraft System (STUAS) / Tier II UAS

The Navy Small Tactical Unmanned Aircraft System (STUAS) / Tier II UAS will provide persistent Intelligence, Surveillance, and Reconnaissance (ISR) support for tactical level maneuver decisions and unit level force defense/force protection for Navy ships and Marine Corps land forces. This system will fill the ISR capability shortfalls identified by the Navy Small Tactical Unmanned Aircraft System (STUAS) and Marine Corps Tier II UAS efforts. Consisting of 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 Global War on Terrorism (GWOT), and the Marine Corps close range UAS, enabling enhanced decision-making and improved integration with ground schemes of maneuver.

The STUAS and Tier II UAS program is a combined program, and funded through separate USN and USMC Program Elements. USMC RDTEN funding is located in PE 0206313M, R-1 #186.

Note: STUAS / Tier II UAS is a new start program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305204N TACTICAL UNMANNED AERIAL VEHICLES	3192 STUAS

B. Accomplishments/Planned Program

SD&D DEVELOPMENT	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			4.600	5.600
RDT&E Articles Quantity			1	

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 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			1.544	2.061
RDT&E Articles Quantity				

Government Technical Engineering Support, Logistics Support, Contractor Support Services, Program Management Support and travel.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305204N TACTICAL UNMANNED AERIAL VEHICLES	3192 STUAS

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN: 044400 STUAS				21.242	25.099	24.859	24.511	13.548		109.259
APN: Initial Spares: 060510 STUAS				1.038	1.300	1.328	0.056	0.057		3.779
OPN: 4272 STUAS Support Equipment				8.575	8.575	4.542	4.029	4.016		29.737
PMC: BLI 464000, Tier II UAS				13.486	20.305	9.513	18.858	15.757		Continuing
RDT&E,N: 0206313M, Proj C2273 Tier II UAS			5.742	7.076	9.642	5.15	3.378	1.865		Continuing

D. ACQUISITION STRATEGY:

Conduct an open competition for the fulfillment of this requirement. Milestone B decision is scheduled for 2Q, FY08. Milestone C and LRIP decision is scheduled for 3Q, FY09. FRP is scheduled for 3Q, FY10, and IOC in 4Q, FY10.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0305204N TACTICAL UNMANNED AERIAL VEHICLES				PROJECT NUMBER AND NAME 3192 STUAS						
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 Hardware Development	CPFF	TBD				4.600	2/08	5.600	11/08	1.500	11.700	11.700
SUBTOTAL PRODUCT DEVELOPMENT						4.600		5.600		1.500	11.700	11.700

Remarks:

SUPPORT												
SUBTOTAL SUPPORT												
Integrated Logistics Support	WX	TBD				.250	12/07	.250	11/08	Continuing	Continuing	
SUBTOTAL SUPPORT						.250		.250		.000	.000	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	TBD	TBD						.502	11/08	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION								.502		Continuing	Continuing	

Remarks:

MANAGEMENT												
Government Eng Sup	WX	NAWCAD Pax River MD				.603	12/07	.624	11/08	Continuing	Continuing	
Program Mgmt Sup	TBD	VARIOUS				.656	01/08	.650	12/08	Continuing	Continuing	
Travel	TO	NAVAIR, PAXTUXENT RIVER MD				.035	10/07	.035	10/08	Continuing	Continuing	
SUBTOTAL MANAGEMENT						1.294		1.309		Continuing	Continuing	

Remarks:

Total Cost						6.144		7.661		Continuing	Continuing	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2007**

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	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										MS B					MS C				FRP	IOC												
Contracting Activities							RFP			CA					LRIP Option				FRP I Option				FRP II Option				FRP III Option				FRP IV CA	
EDM Deliveries													1																			
Systems Engineering Activities												CDR			PRR																	
Test & Evaluation Milestones													TRR		Combined DT/OT		OPEVAL															
Production Milestones																			LRIP I (APN)													
LRIP																																
FRP																							FRP I				FRP II				FRP III	
Production System Deliveries																			4	4	4	5	5	5	5	5	5	5	5	5	5	5

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REMARK: Schedule shown above reflects only Navy portion of STUAS/Tier II UAS funding.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0305204N TACTICAL UNMANNED AERIAL VEHICLES				PROJECT NUMBER AND NAME 3192 STUAS			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones								
Contract Award Activities		3Q	2Q	3Q	3Q	3Q	3Q	3Q
Milestone B			2Q					
Systems Engineering Critical Design Review (CDR)			4Q					
EMD Delivery				1Q				
Production Readiness Review (PRR)				3Q				
Milestone C				3Q				
Full Rate Production (FRP)					3Q			
Initial Operating Capability (IOC)					4Q			
Test & Evaluation Milestones								
Test Readiness Review				1Q				
Combined DT/OT				1Q-3Q				
OPEVAL				4Q	1Q-2Q			
Production Milestones								
LRIP I (APN)					3Q-4Q	1Q-2Q		
FRP I/II/III						3Q-4Q	1Q-4Q	1Q-4Q
Production System Deliveries					3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
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			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9999 Congressional Adds	**22.178**	**3.586**						
RDT&E Articles Qty	**2***							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds.

Joint Operational Test Bed System (JOTBS)
The Joint Operational Test Bed System is an experimental, ground-based control system that is designed to fly, operate and receive data from all the services; individual UAVs from a single interface.

Fire Scout RQ-8B (MQ-8B)
The Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) was designed to provide real-time intelligence, surveillance and reconnaissance data to tactical users without the use of manned aircraft or reliance on limited joint theater or national assets. The VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay). The VTUAV launches and recovers vertically and can operate from all 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 ability to incorporate 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, through implementation of NATO Standardization Agreement (STANAG) 4586 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 program to continue development of the VTUAV to meet the Littoral Combat Ship (LCS) mission requirements was initiated in FY04. Engineering and Manufacturing Development (EMD) is continuing in FY07 and will include design activities for system upgrades, and TCS integration. Fabrication of the RQ-8A LRIP 1 system was completed in FY03. Procurement of two EMD MQ-8B Air Vehicles was initiated in FY04, two additional EMD MQ-8B Air Vehicles initiated in FY05, and five EMD MQ-8B Air Vehicles will be initiatied in FY06. Two of the five articles initiated in FY06 are funded by this Congressional plus-up, and identified in this exhibit.
* These quantities are also reflected in project 2768 for display purposes. The total quantity in FY06 is 5 air vehicles.

Advanced Airship Flying Laboratory Phase II
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 broad-area Intelligence, Surveillance, and Reconnaissance(ISR).

R-1 SHOPPING LIST 203

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-7**	R-1 ITEM NOMENCLATURE 0305204N TACTICAL UNMANNED AERIAL VEHICLES

Congressional Adds.

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 persisitant broad-area 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 light weight low power Nuclear, Chemical and Biological (NBC) sensors and isotope identification techniques 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.

R-1 SHOPPING LIST - Item No.203

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7	0305204N TACTICAL UNMANNED AERIAL VEHICLES	9999 Congressional Adds

B. Accomplishments/Planned Program

2478C JOTBS ACTIVITIES	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.957			
RDT&E Articles Quantity				

Joint Operational test bed systems. JOTBS enhancements and support of UAV experimentation.

2768C SD&D ACTIVITIES	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	16.757			
RDT&E Articles Quantity	2			

Fire Scout RQ-8B (MQ-8B): Procurement, development, and integration of VTUAV EMD MQ-8B Air Vehicles to support the Engineering and Manufacturing Development (EMD) program.

9650C ADVANCED AIRSHIP LAB ACTIVITIES	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.464	0.996		
RDT&E Articles Quantity				

Advanced airship flying laboratory Phase II. 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.

R-1 SHOPPING LIST- Item No. 203

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7	0305204N TACTICAL UNMANNED AERIAL VEHICLES	9999 Congressional Adds

B. Accomplishments/Planned Program Continued:

9B02 NBC Payload Detection	FY 06	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.

9B03 TCS Open Architecture	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.996		
RDT&E Articles Quantity				

Develop and accelerate Open Architecture Technology Insertion solution . Government Engineering Support, contractor support services, and travel.

R-1 SHOPPING LIST- Item No. 203

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**					R-1 ITEM NOMENCLATURE 0305205N Endurance Unmanned Aerial Vehicles			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		**26.238**	**116.666**	**480.323**	**560.908**	**466.233**	**386.607**	**281.561**
4020 BAMS UAV		**26.238**	**116.666**	**480.323**	**560.908**	**466.233**	**386.607**	**281.561**

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.

Broad Area Maritime Surveillance (BAMS) UAV. The BAMS UAV, which is an adjunct to the MMA/P-3, is integral in recapitalizing the Navy's airborne ISR force. BAMS UAV will play a significant role in the Sea Shield and FORCEnet pillars of Sea Power 21. In its Sea Shield role, BAMS UAV on-station time and range enables unmatched awareness of the maritime battlespace by sustaining the common operational picture 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 (IPE).

BAMS UAV will include an endurance-class UAV that will operate from land-based sites around the world. Sufficient air vehicles at each operating location will provide persistent maritime ISR by being airborne 24 hours a day, 7 days a week out to ranges of 2000 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 UAV and the MMA/P-3 have related complementary missions, it is intended that BAMS UAV will leverage the Maritime Patrol and Reconnaissance Forces (MPRF) community to enhance manpower, training and maintenance efficiencies.

BAMS UAV sensors will provide detection, classification, tracking and identification of maritime targets. Anticipated sensors to fulfill mission requirements include a maritime radar, electro-optical/infrared (EO/IR) and Electronic Support Measures (ESM) systems. Additionally, BAMS UAV 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 UAV will provide the Fleet Commander a Common Operational Tactical Picture (COTP) of the battlespace day and night. The UAV will queue other Navy assets for further situational investigation and/or attack and will also provide battle damage assessment of the area of interest. Data analysis will occur in real-time at shore-based Mission Control Systems via satellite communications. Further exploitation can be conducted at shore-based sites or aboard Carrier Vessel Nuclear (CVN)/ Landing Helicopter Dock (LHD)ships.

Note: BAMS FY05 funding supported FY06 activities.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**	R-1 ITEM NOMENCLATURE 0305205N Endurance Unmanned Aerial Vehicles

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 06	FY 07	FY 08	FY 09
Previous President's Budget:	0.000	26.357	118.964	251.780
Current President's Budget:	0.000	26.238	116.666	480.323
Total Adjustments	0.000	-0.119	-2.298	228.543
Summary of Adjustments				
Congressional Reductions		-0.119		
Congressional Rescissions				
Congressional Increases				
Economic Assumptions			-0.093	0.224
Miscellaneous Adjustments			-2.205	228.319
Subtotal	0.000	-0.119	-2.298	228.543

Schedule:

Due to program restructuring, Initial Operational Capability (IOC) will be FY2014. Preliminary Design Review (PDR), Critical Design Review (CDR), and Integrated Test and Evaluation realigned to support FY2014 IOC.

Technical:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305205N, ENDURANCE UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 4020, BAMS UAV	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
4020 BAMS UAV		26.238	116.666	480.323	560.908	466.233	386.607	281.561
RDT&E Articles Qty				2		4		

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Along with the Multi-mission Maritime Aircraft (MMA), the BAMS UAV is integral in recapitalizing the Navy's airborne Intelligence, Surveillance and Reconnaissance (ISR) force. BAMS UAV will provide a persistent maritime ISR capability that will play a significant role in the Sea Shield and FORCEnet pillars of Sea Power 21. In its Sea Shield role, BAMS UAV's on-station time enables unmatched awareness of the maritime battlespace by sustaining the maritime Common Operational Tactical Picture 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 for the Environment (IPE).

BAMS UAV will include an endurance-class UAV that will operate from land-based sites around the world. Sufficient air vehicles at each operating location will provide persistence by being airborne 24 hours a day, 7 days a week out to ranges of 2000 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 UAV and the MMA/P-3 have related, complementary missions, it is intended that BAMS UAV will leverage the Maritime Patrol Reconnaissance Forces community to enhance manpower, training and maintenance efficiencies.

BAMS UAV sensors will provide detection, classification and identification of maritime targets. Anticipated sensors to fulfill mission requirements include a maritime radar, electro-optical/infrared (EO/IR) and Electronic Support Measures (ESM) systems. Additionally, BAMS UAVs 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 UAV will provide the Fleet Commander a common operational tactical picture of the battlespace day and night. It will queue other Navy assets for further situational investigation and/or attack and also will provide battle damage assessment. Data analysis will occur in real-time at shore-based Mission Control Systems via satellite communications. Further exploitation can be conducted at shore-based sites or aboard Carrier Vessel Nuclear/Landing Helicopter Dock ships.

The BAMS UAV will be an evolutionary based acquisition, using an incremental development approach. The program is in a pre-Milestone B phase during FY2005-2007, to address technical risk reduction through studies and demonstrations, System Development Demonstration (SDD) contract preparation and Milestone B documentation development activities. Milestone B is planned for late FY 2007and SDD award in 1Q FY 2008. The SDD contract will be based on a competitive selection process for a Prime Contractor. The first Low Rate Initial Production (LRIP) procurement is planned for FY2011, with deliveries supporting an Initial Operational Capability (IOC) in FY2014.

Two Mission Need Statements (MNS) support the requirement; 1) BAMS and Littoral Armed ISR MNS, and 2) Long Endurance, Reconnaissance, Surveillance and Target Acquisition (RSTA) Capability MNS. The BAMS UAV ORD was signed by the CNO 17 May 2004. BAMS UAV requirements are currently being updated through the Joint Capabilities Integration and Development System (JCIDS) process resulting in a Capabilities Development Document (CDD) in time to support the Milestone B decision.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

SD&D CONTRACT	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		5.518	97.000	458.856
RDT&E Articles Qty				2

Award contract to initiate the System Development Demonstration (SDD) efforts for the BAMS UAV program in 1Q FY 2008. The Prime Contractor will be responsible for overall system development and performance as well as associated management, engineering and logistics activities.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305205N, ENDURANCE UNMANNED AERIAL VEHICLES	PROJECT NUMBER AND NAME 4020, BAMS UAV

SENSORS, AND MODELING & SIMULATION	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		4.900	3.691	2.675
RDT&E Articles Qty				

Continue sensor risk reduction, modeling & simulation integrated logistics support, and technical data to support fielding of the BAMS UAV capabilities.

ENGINEERING AND TECHNICAL SERVICES	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		15.820	15.975	16.252
RDT&E Articles Qty				

Continue 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost				2.540
RDT&E Articles Qty				

Initiate developmental test to support fielding of the BAMS UAV in FY2014

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	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	0	20.009	363.877	359.917		743.803
APN Initial Spares: 060510 BAMS UAV	0	0	0	0	0	0	16.183	19.192		35.375

D. ACQUISITION STRATEGY:
The BAMS UAV program will develop and field a persistent maritime Intelligence Surveillance Reconnaissance capability. Commonality with existing unmanned and manned systems will be utilized to the greatest extent possible for all segments of the BAMS UAV program (i.e., air-vehicle, ground segment and payloads).

The BAMS UAV will be an evolutionary based acquistion, using an incremental development approach. The program is in a pre-Milestone B phase between FY2005-2007 to address technical risk reduction through studies and demonstrations, prepare the SDD contract and develop Milestone B documentation. Milestone B is planned for late FY2007 and SDD award in 1Q FY 2008. The SDD contract will be based on a competitive selection process for a Prime Contractor. The first Low Rate Initial Production (LRIP) contract is planned for FY2011, with deliveries supporting an Initial Operational Capability (IOC) in FY2014.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0305205N, ENDURANCE UNMANNED AERIAL VEHICLES				PROJECT NUMBER AND NAME 4020, BAMS UAV						
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												
Ancilliary Hdw Development	C/CPAF	TBD				3.200	11/07	23.650	11/08	Continuing	Continuing	
Primary Hdw Development	VARIOUS	VARIOUS	16.469								16.469	
Primary Hdw Development	C/CPAF	TBD				93.800	11/07	435.206	11/08	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT			16.469			97.000		458.856		Continuing	Continuing	

Remarks:
A competitively selected SDD contract will be awarded in 4Q FY2007. Award fee values will be established during contract negotiations. Funding in FY2007 will support program initiation to enable the Prime Contractor to establish team manning, program controls and system engineering processes.

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	2.221	11/07	1.125	11/08	Continuing	Continuing	
Studies & Analysis	MP	MASS INST TECH, CAMBRIDGE MA	.500								.500	
SUBTOTAL SUPPORT			4.648	4.900		3.691		2.675		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 Sup	VARIOUS	VARIOUS		2.972	11/06	1.944	11/07	2.140	11/08	Continuing	Continuing	
Government Eng 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	4.597	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		16.252		Continuing	Continuing	

Remarks:

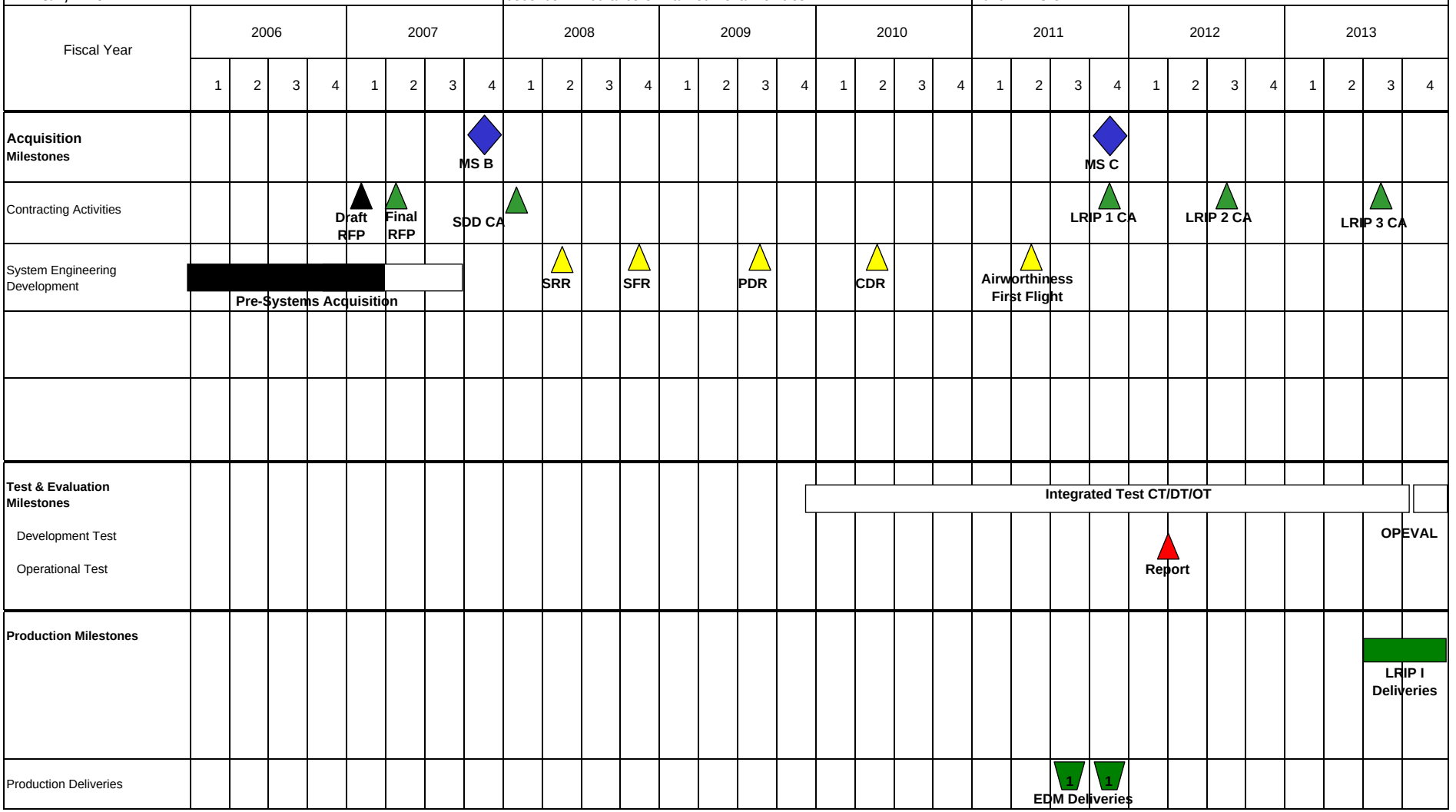
Total Cost			57.270	26.238		116.666		480.323		Continuing	Continuing	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305205N Endurance Unmanned Aerial Vehicles	4020 BAMS UAV



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0305205N Endurance Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME 4020 BAMS UAV			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Pre-Systems Acquisition	1Q-4Q	1Q-3Q						
Draft RFP		1Q						
Final RFP		2Q						
Milestone B (MS-B)		4Q						
System Development Demonstration (SDD/CA)			1Q					
System Readiness Review (SRR)			2Q					
System Financial Review (SFR)			4Q					
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		
System Development Demonstration Delivery (EDM)						3Q & 4Q		
Low Rate Initial Production 1 (LRIP 1) CA						4Q		
Milestone C (MS-C)						4Q		
Low Rate Initial Production 2 (LRIP 2) CA							3Q	
Low Rate Initial Production 3 (LRIP 3) CA								3Q
Low Rate Initial Production 1 Delivery								3Q-4Q
OPEVAL								4Q

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	36.564	38.991	50.677	55.761	26.655	26.932	27.347	28.057
2694 ADVANCED SIGNAL RECOGNITION	32.720	34.906	50.677	55.761	26.655	26.932	27.347	28.057
9999 CONGRESSIONAL ADD	3.844	4.085						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
In FY05, the advanced sensor developments provided the technology transition modules for operational use necessary to support the EP-3E JMOD Common Configuration (JCC) program and provide the mechanism required for timely dissemination of intelligence information to operational forces.

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 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 (ARTPP), published in November 1994. Congress added funds in FY 2005 to (1) Initiate flight test preparations for Advanced Camera, (2) assess effectiveness of target detection and false alarm rejection algorithms.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	31.399	35.038	35.417	36.629
Current President's Budget:	36.564	38.991	50.677	55.761
Total Adjustments	5.165	3.953	15.260	19.132
Summary of Adjustments				
Congressional Reductions	-0.024			
Congressional Rescissions				
Congressional Undistributed Reductions	-0.011	-0.147		
Congressional Increases		4.100		
Economic Assumptions			-0.059	0.130
Miscellaneous Adjustments	5.200		15.929	19.002
Subtotal	5.165	3.953	15.870	19.132

Schedule: JCC Contract Spiral 2 EDM contract award moved from 3rd quarter FY06 to 4th quarter FY06 due to longer than anticipated contract negotiation.

Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS	PROJECT NUMBER AND NAME 2694, ADVANCED SIGNAL RECOGNITION	

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2694 ADVANCED SIGNAL RECOGNITION	32.720	34.906	50.677	55.761	26.655	26.932	27.347	28.057
RDT&E Articles Qty	1		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 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, 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. Funds were added to ensure EP-3E relevance beyond FY17 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-Off-The-Shelf and Commercial-Off-The-Shelf (GOTS/COTS) systems.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS	PROJECT NUMBER AND NAME 2694, ADVANCED SIGNAL RECOGNITION

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Spiral 1 integration/test collection subsys	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.056			
RDT&E Articles Qty				

Spiral 1 integration and test includes high band and special collection subsystems (Story Finder and MPEG) and data dissemination (Story Teller), developed under 2694 in previous years.

Spiral 2 development collection signal	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	10.940	2.586	.862	.500
RDT&E Articles Qty	1			

Restructured Spiral 2 development includes, obsolescence and data fusion capabilities. Additional special collection signal capabilities, Data Fusion and MPEG frequency extension development. Procure one Engineering Development Model (EDM) in FY06 for FY07 Developmental Testing (DT).

Spiral 3 development RFD, DF, I/O, ECS	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	5.152	17.265	23.315	23.682
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.

Technical Refresh dev for obsolete sys	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.211	6.820	2.585	2.269
RDT&E Articles Qty				

The Technical Refresh development of replacement technology for obsolete and unsupportable collection and support mission systems.

Develop Spiral upgrades to collection subsys	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	12.361	8.235	6.980	7.344
RDT&E Articles Qty				

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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS	PROJECT NUMBER AND NAME 2694, ADVANCED SIGNAL RECOGNITION

QRC for emergent threat technology	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost				2.500
RDT&E Articles Qty				

Quick Response Capabilities (QRC) are for development of capabilities to meet requirements for emergent threat technology.

EP-3E Recap capabilities migration	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			16.935	19.466
RDT&E Articles Qty				

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:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Line Item # 37 APN-5 EP-3E	43.456	60.752	47.029	72.477	197.624	105.949	108.035	79.981	69.886	785.189
Line Item # 48 Special Projects Aircraft	26.205	17.131	13.707	14.156	15.384	15.680	15.981	16.289	84.211	218.744

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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS				PROJECT NUMBER AND NAME 2694, ADVANCED SIGNAL RECOGNITION						
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												
Recapitalization Capabilities	SS-CPFF	TBD				14.435	Jan 2008	16.966	Jan 2009		31.401	31.401
Ancillary Hdw Develop - OBS	SS-CPFF	L-3 COM. INTEGRATED SYS WACO,TX		5.430	Dec 2006	2.110	Dec 2007	1.670	Dec 2008	2.950	12.160	12.160
Ancillary Hdw Develop - OBS	SS-CPFF	VARIOUS	2.050	.600	Dec 2006		Dec 2007				2.650	2.650
Ancillary Hdw Develop - QRC	SS-CPFF	TBD						2.350	Dec 2008	15.200	17.550	17.550
Ancillary Hdw Develop - SPA	SS-CPFF	ARGON ST, INC, FAIRFAX, VA	9.700	3.750	Dec 2006	1.100	Dec 2007	1.100	Dec 2008	3.300	18.950	18.950
Ancillary Hdw Develop - SPA	SS-CPFF	L-3 COM. INTEGRATED SYS WACO,TX	2.240	.400	Dec 2006	2.285	Dec 2007	1.800	Dec 2008	5.400	12.735	12.735
Ancillary Hdw Develop - SPA	SS-CPFF	ZETA ASSOCIATES, INC, FAIRFAX, VA	.648	.900	Dec 2006	.900	Dec 2007	1.100	Dec 2008	3.300	6.848	6.848
Ancillary Hdw Develop - SPA	SS-CPFF	VARIOUS	.300	.200	Dec 2006						.500	.500
Ancillary Hdw Dev - Spiral 2	SS-CPFF	L-3 COM. INTEGRATED SYS WACO,TX	9.167	1.480	Dec 2006						10.647	10.647
Ancillary Hdw Dev - Spiral 3	SS-CPFF	L-3 COM. INTEGRATED SYS WACO,TX		13.138	Dec 2006	18.103	Dec 2007	15.463	Dec 2008		46.704	46.704
Ancillary Hdw Dev - Spiral 3	SS-CPFF	RAYTHEON TECH SVCS, INDIANAPOLIS,IN	5.116								5.116	5.116
Primary Hdw Development	SS-CPFF	TBD								110.248	110.248	110.248
SUBTOTAL PRODUCT DEVELOPMENT			29.221	25.898		38.933		40.449		140.398	275.509	

Remarks:

SUPPORT												
Recapitalization Capabilities	VARIOUS	TBD				1.000	Dec 2007	1.000	Dec 2008		2.000	
Develop Support - OBS	VARIOUS	VARIOUS	1.106	.600	Dec 2006						1.706	
Develop Support - SPA	VARIOUS	VARIOUS	1.981	1.995	Dec 2006	1.540	Dec 2007	2.340	Dec 2008		7.856	
Develop Support - Spiral 1	VARIOUS	VARIOUS	2.965								2.965	
Develop Support - Spiral 2	VARIOUS	VARIOUS	1.956	.320	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		3.479	Dec 2006	.978	Dec 2007	.995	Dec 2008	Continuing	Continuing	
ETS (NON-FFRDC) SP2	VARIOUS	A T & T GOVT SOLUTIONS, INC, VIENNA, V	.600								.600	
ETS (NON-FFRDC) SP3	VARIOUS	A T & T GOVT SOLUTIONS, INC, VIENNA, V		.539	Dec 2006	.550	Dec 2007	.562	Dec 2008	Continuing	Continuing	
ETS (NON-FFRDC) SPA	VARIOUS	A T & T GOVT SOLUTIONS, INC, VIENNA, V	.600	.335	Dec 2006	.400	Dec 2007	.400	Dec 2008	Continuing	Continuing	
SUBTOTAL SUPPORT			9.208	7.268		6.203		6.686		Continuing	Continuing	

Remarks:

TEST & EVALUATION												
Recapitalization Capabilities	VARIOUS	TBD				1.000	Dec 2007	1.000	Dec 2008		2.000	
DT/Eval - SPA	VARIOUS	VARIOUS	.636	.600	Dec 2006	.700	Dec 2007	.550	Dec 2008	Continuing	Continuing	
DT/OT & Eval - Spiral 1	VARIOUS	NAWCAD, PATUXENT RIVER MD	.056								.056	
DT/OT & Eval - Spiral 2	VARIOUS	NAWCAD, PATUXENT RIVER MD	1.262	.750	Dec 2006	.500	Dec 2007	.500	Dec 2008		3.012	
DT/OT & Eval - Spiral 3	VARIOUS	NAWCAD, PATUXENT RIVER MD				.766	Dec 2007	3.783	Dec 2008	Continuing	Continuing	
Test & Eval - QRC	VARIOUS	NAWCAD, PATUXENT RIVER MD						.150	Dec 2008		.150	
SUBTOTAL TEST & EVALUATION			1.954	1.350		2.966		5.983		Continuing	Continuing	

Remarks:

Exhibit R-3 Cost Analysis (page 1)			DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0305206N, AIRBORNE RECONNAISSANCE SYSTEMS	PROJECT NUMBER AND NAME 2694, ADVANCED SIGNAL RECOGNITION	

MANAGEMENT												
Recapitalization Capabilities	WX	TBD				.500	Dec 2007	.500	Dec 2008		1.000	
Systems Eng Spt - OBS	WX	NAWCAD, PATUXENT RIVER MD		.190	Dec 2006	.421	Dec 2007	.544	Dec 2008	Continuing	Continuing	
Systems Eng Spt - Spiral 2	WX	NAWCAD, PATUXENT RIVER MD	.651								.651	
Systems Eng Spt - Spiral 3	WX	NAWCAD, PATUXENT RIVER MD				1.454	Dec 2007	1.401	Dec 2008	Continuing	Continuing	
Travel - SPA	TO	NAWCAD, PATUXENT RIVER MD	.244	.055	Dec 2006	.054	Dec 2007	.053	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	.390		2.575		2.643		Continuing	Continuing	

Remarks:

Total Cost			41.528	34.906		50.677		55.761		Continuing	Continuing	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: February 2007

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 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
EP-3 Program Milestones **Milestones**						Spiral 2 - LRIP		△			Spiral 2 - FRP	△			Spiral 3 - LRIP	△			Spiral 3 - FRP	△														
Engineering **Milestones**																																
Test & Evaluation Milestones Development Test						Spiral 2 - DT		△							Spiral 3 - DT	△																
Development Test/ Operational Test	Spiral 1 - OT	△									Spiral 2 - OT	△							Spiral 3 - OT	△												
Contract Milestones			*JCCContract Spiral 2 EDM	▲				Spiral 3 EDM-1	△					Spiral 3 EDM-2	△																			
*** JCC Contract award includes Spiral 1, Spiral 2, and Spiral 3**																																
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Spiral 2 LRIP Decisions		4Q						
Spiral 2 FRP Decisions			4Q					
Spiral 3 LRIP Decisions				4Q				
Spiral 3 FRP Decisions					4Q			
Spiral 1 OT	1Q-2Q							
Spiral 2 DT		2Q-4Q						
Spiral 2 OT			3Q-4Q					
Spiral 3 DT				2Q-4Q				
Spiral 3 OT					3Q-4Q			
Spiral 2 EDM	4Q							
Spiral 3 EDM-1			1Q					
Spiral 3 EDM-2				1Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2007	
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9999N Congressional Add	**3.844**	**4.085**						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305206N, AIRBORNE RECONNAISSANCE SYSTEMS	9999 Congressional Add

B. Accomplishments/Planned Program:

9437C	FY 06	FY 07	FY 08	FY 09
Accomplishments / Effort / Sub-total Co	3.844	1.640		
RDT&E Articles Quantity				

FY2006: This effort developed and demonstrated advanced Intelligence, Surveillance, and Reconnaissance (ISR) systems for small-to-large UAV/manned platforms and ground/air-based control and display systems (CADS) providing screening, control, exploitation, and networked dissemination of simultaneous multiple dissimilar sensor ISR systems. FY2007: Continue the development and flight demonstration of advanced ISR avionics for small-to-large unmanned/manned air systems platforms and ground/air-based control and display systems (CADS). These will provide screening/control/exploitation/ dissemination of simultaneous multiple dissimilar sensor ISR systems.

9437C	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.000		
RDT&E Articles Quantity				

Development of passive collision avoidance and reconnaissance system. This development targets the UAV mission to provide situational awareness and sense and avoid capability. Passive uncooled 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.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305206N, AIRBORNE RECONNAISSANCE SYSTEMS	9999 Congressional Add

B. Accomplishments/Planned Program (Cont.)

9B04N	FY 06	FY 07	FY 08	FY 09
Accomplishments / Effort / Sub-total Cost		1.445		
RDT&E Articles Quantity				

Provide non-recurring engineering development for a Navy low band airborne system trainer.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: **February 2007**			
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**12.134**	**17.801**	**19.350**	**19.899**	**13.820**	**14.281**	**21.147**	**21.517**
2174 DCGS-N	**12.134**	**16.506**	**19.350**	**19.899**	**13.820**	**14.281**	**21.147**	**21.517**
9999 CONGRESSIONAL ADDS	**0.000**	**1.295**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

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

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) 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.

The DCGS-N system represents the integration of: 1) The processing and exploitation of tactical Imagery Intelligence (IMINT) and Signal Intelligence (SIGINT) as well as the multi-intelligence correlation capability of Tactical Exploitation System-Navy (TES-N); 2) The precision target geopositioning, mensuration, and imagery dissemination capabilities of the Joint Services Imagery Processing System – Navy (JSIPS-N); 3) Selected national IMINT requirements and processing capabilities from the National Geospatial Intelligence Agency (NGA); and 4) Exchange of Intelligence, Surveillance, Reconnaissance and Targeting (ISR&T) and Command and Control (C2) information with the Global Command and Control System – Maritime (GCCS-M).

DCGS-N will become part of the DoD DCGS Network Enterprise via the DCGS Integration Backbone (DIB). As the DIB is developed by the Air Force, DCGS-N will stay abreast of expanding requirements and ensure compliance with the DoD DCGS network architecture. Engineering work is funded to migrate legacy Joint Fires Network (JFN)/JSIPS-N systems to this network environment. The government is the integrator for the DCGS-N system.

The Navy is focusing on establishing an ISR Enterprise way ahead that will emphasize a reach back strategy with a focus on MHQ/MOC activities providing intelligence products to support deployed ship and shore operations. As a result the funding profile and procurement schedule were modified to reflect this way ahead.

Planned procurements include three (3) Tier 1 systems in FY08, two (2) Tier 1 and four (4) Tier 2 systems in FY09, two (2) Tier 1 and eight (8) Tier 2 systems in FY10, seven (7) Tier 2 and four (4) Tier 3 systems in FY11, nine (9) Tier 2 and four (4) Tier 3 systems in FY12 and ten (10) Tier 3 systems in FY13. These new installations will replace the existing legacy JSIPS N/JFN systems currently fielded.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: **February 2007**
APPROPRIATION/BUDGET AC	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

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2006	FY 2007	FY 2008	FY 2009
FY07 President's Budget:	12.141	16.587	10.748	8.226
FY08 President's Budget	12.134	17.801	19.350	19.899
Total Adjustments	-0.007	1.214	8.602	11.673
Summary of Adjustments				
Congressional Reductions		-0.086		
Congressional Rescissions				
Congressional Increases	0.008			
Economic Assumptions			-0.049	0.089
Miscellaneous adjustments	-0.015	1.300	8.651	11.584
Subtotal	-0.007	1.214	8.602	11.673

(U) Schedule:

POM 08 was the first opportunity to conduct a bottom-up review of the DCGS-N program since its inception in January 2004. The overall knowledge gained as a result of the review and implementation of revised management processes based on the experience from initial DCGS-N development efforts led to moving Increment 2 development to FY11. Corresponding testing events have also been adjusted on the schedule.

(U) Technical: not applicable

CLASSIFICATION:
UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVIT **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			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**12.134**	**16.506**	**19.350**	**19.899**	**13.820**	**14.281**	**21.147**	**21.517**
2174 DCGS-N	**12.134**	**16.506**	**19.350**	**19.899**	**13.820**	**14.281**	**21.147**	**21.517**

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

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) 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.

The DCGS-N system represents the integration of: 1) The processing and exploitation of tactical Imagery Intelligence (IMINT) and Signal Intelligence (SIGINT) as well as the multi-intelligence correlation capability of Tactical Exploitation System-Navy (TES-N); 2) The precision target geopositioning, mensuration, and imagery dissemination capabilities of the Joint Services Imagery Processing System – Navy (JSIPS-N); 3) Selected national IMINT requirements and processing capabilities from the National Geospatial Intelligence Agency (NGA); and 4) Exchange of Intelligence, Surveillance, Reconnaissance and Targeting (ISR&T) and Command and Control (C2) information with the Global Command and Control System – Maritime (GCCS-M).

DCGS-N will become part of the DoD DCGS Network Enterprise via the DCGS Integration Backbone (DIB). As the DIB is developed by the Air Force, DCGS-N will stay abreast of expanding requirements and ensure compliance with the DoD DCGS network architecture. Engineering work is funded to migrate legacy Joint Fires Network (JFN)/JSIPS-N systems to this network environment. The government is the integrator for the DCGS-N system.

The Navy is focusing on establishing an ISR Enterprise way ahead that will emphasis a reach back strategy with an emphasis on MHQ/MOC activities providing intelligence products to support deployed ship and shore operations. As a result the funding profile and procurement schedule were modified to reflect this way ahead.

Planned procurements include three (3) Tier 1 systems in FY08, two (2) Tier 1 and four (4) Tier 2 systems in FY09, two (2) Tier 1 and eight (8) Tier 2 systems in FY10, seven (7) Tier 2 and four (4) Tier 3 systems in FY11, nine (9) Tier 2 and four (4) Tier 3 systems in FY12 and ten (10) Tier 3 systems in FY13. These new installations will replace the existing legacy JSIPS-N/JFN systems currently fielded.

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
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

(U) B. Accomplishments/Planned Program

DCGS-N Increment Development:	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	6.544	6.093	3.675	6.512
RDT&E Articles Quantity				

Primary and ancillary system software design/development and related activities for the DCGS-N Increment 1.
FY06: Continued development of DCGS-N Tier 1
FY07: Begin Tier 2 development effort
FY08: Continue Tier 2 development
FY09: Begin Tier 3 development effort

DCGS-N Systems Engineering:	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.432	4.325	3.606	3.826
RDT&E Articles Quantity				

Requirements derivation and integration activities related to the DCGS-N Increment 1.
FY06: Continued integration and engineering efforts for DCGS-N Tier 1
FY07: Develop initial requirements and conduct initial engineering for DCGS-N Tier 2; continue engineering/integration efforts for DCGS-N Tier 1
FY08: Develop Technical Requirements for DCGS-N Tier 3; Conduct integration of DCGS-N Tier 2
FY09: Begin integration of DCGS-N Tier 3

DCGS-N Test and Evaluation:	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.158	1.338	7.319	6.311
RDT&E Articles Quantity				

Combined system Testing & Engineering (T&E) activities, both ashore and afloat for the Increment 1 DCGS-N systems.
FY06: Conducted contractor, program-level, and government developmental testing of DCGS-N Tier 1 system
FY07: Prepare for DCGS-N Tier 1 DT/ OA events
FY08: Conduct DCGS-N Tier 1 DT/ OA events; prepare for DCGS-N Tier 2 DT/OA events.
FY09: Conduct DCGS-N Tier 2 DT/ OA events

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
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

(U) B. Accomplishments/Planned Program

DCGS-N Testbeds:	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		3.000	3.000	1.500
RDT&E Articles Quantity				

Funds the Navy's contribution to the Distributed Development, Test, Demonstration, and Experimentation Network.
FY07: Begin 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: Conduct interoperability T&E among service and agency DCGS labs, test facilities, etc.
FY09: 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 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.000	1.000	1.000
RDT&E Articles Quantity				

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: 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; Participation in development and demonstration pilots of Core Enterprise Services (CES) and in the Enterprise Services Working Group (ES WG)
FY08: 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: 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 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.750	0.750	0.750
RDT&E Articles Quantity				

FY07-FY09: Development of a 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 2007**
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

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN LI 2914	41.550	42.569	63.973	70.479	77.002	70.031	95.083	87.682	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 System (TES) and Joint Services Imagery Processing System – Navy (JSIPS-N) programs. The Navy plan is to adapt these programs and develop interoperability with the USAF DCGS Integration Backbone (DIB) for support of Navy Network Centric Warfare Time Critical Targeting. The government is the system integrator for the DCGS-N system.

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2007**

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	3.606	Various	3.826	Various	Continuing	Continuing	
Systems Engineering												
Systems Engineering												
Prime Mission Product												
Subtotal Product Development			4.432	4.325		3.606		3.826		Continuing	Continuing	

Remarks:

Development Support	MIPR	NAWC CL, Various		1.750	Various	1.750	Various	1.750	Various	Continuing	Continuing	
Software Development	various	BAE, NGES, Various	6.544	6.093	Various	3.675	Various	6.512	Various	Continuing	Continuing	
Integrated Logistics Support												
Documentation												
Technical Data												
Studies and Analysis												
Subtotal Support			6.544	7.843		5.425	TBD	8.262	TBD	Continuing	Continuing	

Remarks:

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2007**

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	NGES, NAWC CL, Various	1.158	3.000	Various	8.444	Various	4.918	Various			
Operational Test & Evaluation	MIPR	NAWC CL, Various		1.338	Various	1.875	Various	2.893	Various			
Operational Test & Evaluation												
Subtotal T&E			1.158	4.338		10.319		7.811		Continuing	Continuing	

Remarks:

Maritime Intelligence Integration			0.000	1.295	Various							
Subtotal Maritime Intel			0.000	1.295		0.000		0.000		Continuing	Continuing	

Remarks:

Total Cost			12.134	17.801		19.350		19.899		Continuing	Continuing	

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R4, Schedule Profile			DATE: **February 2007**
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

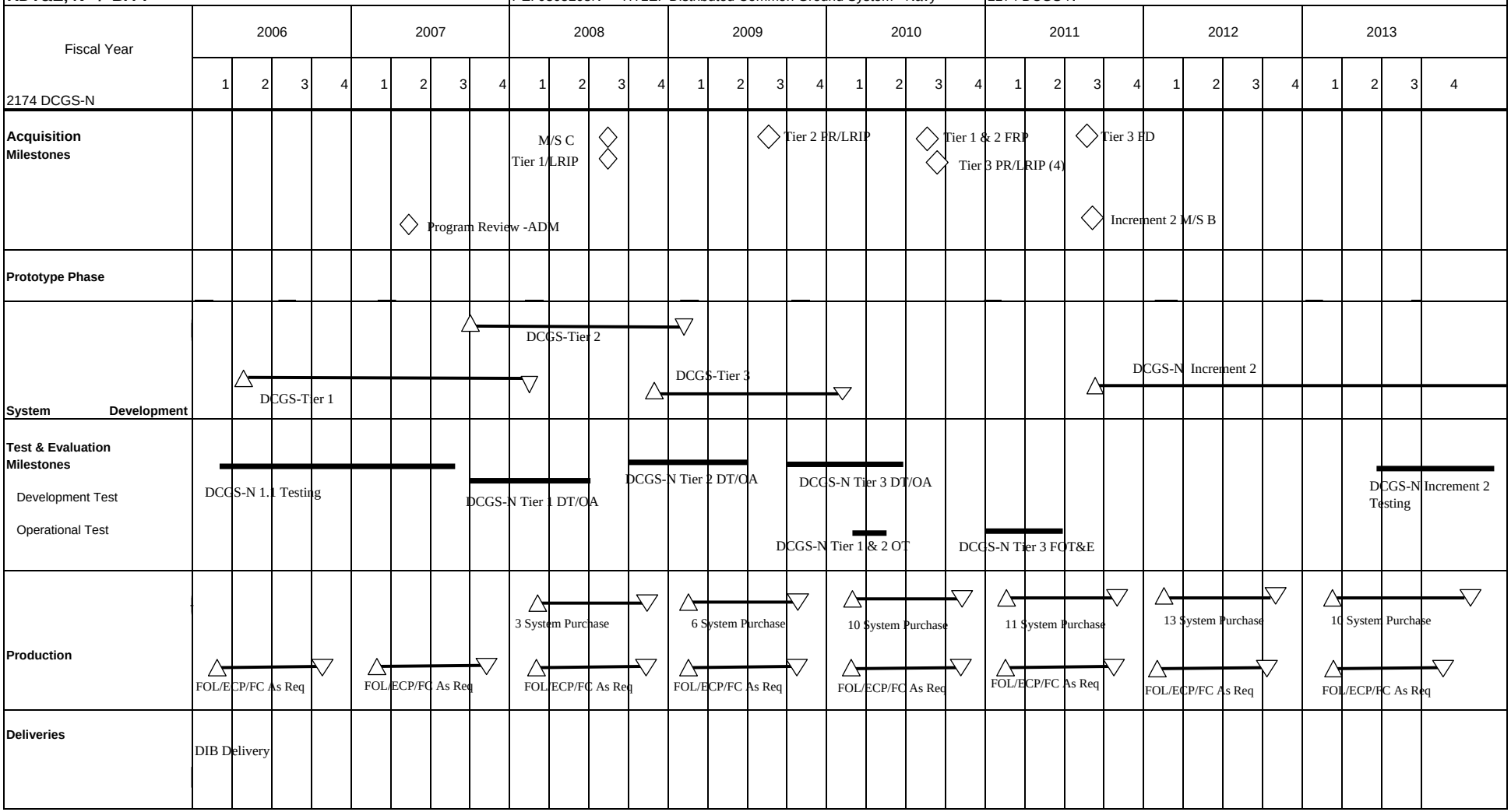


Exhibit R-4, Schedule Profile

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-4a, Schedule Detail					DATE: **February 2007**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**					PROJECT NUMBER AND NAME 2174 DCGS-N			
Schedule Profile	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
Fleet Experiments								
DCGS-N Tier 1 DT/OA		4Q ····· 2Q						
DCGS-N Tier 2 DT/OA			4Q ····· 2Q					
DCGS-N Tier 3 DT/OA				4Q ····· 2Q				
Spiral development								
DCGS-N Tier 1 Development	2Q ····· 1Q							
DCGS-N Tier 2 Development		4Q ····· 1Q						
DCGS-N Tier 3 Development			4Q ····· 1Q					
DCGS-N Increment 2 Development						4Q ·····		
DCGS-N Tier 1 & 2 OT					1Q-2Q			
DCGS-N Tier 3 FOT&E						1Q-2Q		
Acquisition Program								
Fact of Life Upgrades/ECPs/Field Changes to Legacy Equipmen	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
DCGS-N Procurement			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Program Review - ADM		2Q						
Increment 1 M/S C Decision			3Q					
Increment 2 MS B Decision						3Q		

Exhibit R-4, Schedule Detail

CLASSIFICATION:
UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification — DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVIT	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	PE: 0305208N TITLE: Distributed Common Ground System - Navy	9999 Congressional Add

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**0.000**	**1.295**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9999 Congressional Add	**0.000**	**1.295**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

Congressional Add: Maritime intelligence integration for shared situational awareness.

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
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	9999 Congressional ADD

(U) B. Accomplishments/Planned Program

Maritime Intelligence Integration-Shared Situational Awareness:	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost 9B08N		1.295		
RDT&E Articles Quantity				

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 ISR data for increased Maritime Intelligence Integration and sharing of Maritime Domain Situational Awareness.
FY 07: Exercise support for EMPIRE CHALLENGE 07 to demonstrate maritime domain awareness and maritime operations center interoperability with other Service DCGS systems, JIATF South and a surrogate DCGS-N Afloat and to enhance maritime domain awareness interoperability with JIATF South .

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0307207N, AERIAL COMMON SENSOR		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	4.793	17.117	16.606	74.726	102.829	253.509	263.000	269.000
3015 AERIAL COMMON SENSOR	3.807	17.117	16.606	74.726	102.829	253.509	263.000	269.000
9999 Congressional Add	.986							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
Provides funding for the Navy's Aerial Common Sensor (ACS) program. Provide funds for Navy ACS platform development. ACS is the Navy's recapitalization of existing EP-3E capabilities and offers a transformational platform to fulfill the Navy and OSD requirements for migration to the Joint Airborne SIGINT Architecture (JASA). RDT&E efforts under ACS will ensure connectivity to multi-service platforms and ground stations, procure five ACS test platforms and develop a mission system that will integrate Intelligence, Surveillance and Reconnaissance (ISR) mission requirements. ACS contract awarded 4th quarter FY2004 to Lockheed Martin Integrated Systems and Solutions, Littleton, Colorado. Army terminated contract for convenience on 12 January 2006. Army and Navy, in coordination with Air Force, are co-leading an OSD-directed ISR study. ISR study was completed 31 July 2006. In process of being briefed 1st quarter FY07.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	34.994	17.182	16.882	75.526
Current President' Budget	4.793	17.117	16.606	74.726
Total Adjustments	-30.201	-0.065	-0.276	-0.800
Summary of Adjustments				
Congressional Reductions				
Congressional Rescissions				
Congressional Undistributed Reductions	0.449	-0.065		
Congressional Increases	1.029			
Economic Assumptions			-0.056	0.167
Miscellaneous Adjustments	-31.679		-0.220	-0.967
Subtotal	-30.201	-0.065	-0.276	-0.800

Schedule:
Acquistion Milestones: Moved IPR from 3Q FY08 to 1Q FY08. Removed Interim Program Review (IPR) from 4Q FY09.
Contract Milestones: TD Contract Award moved from 4Q FY08 to 2Q FY08.

Technical:
Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3015 AERIAL COMMON SENSOR	3.807	17.117	16.606	74.726	102.829	253.509	263.000	269.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
Provides funding for the Navy's Aerial Common Sensor (ACS) program. Provide funds for Navy ACS platform development. ACS is the Navy's recapitalization of existing EP-3E capabilities and offers a transformational platform to fulfill the Navy and OSD requirements for migration to the Joint Airborne SIGINT Architecture (JASA). RDT&E efforts under ACS will ensure connectivity to multi-service platforms and ground stations, procure five ACS test platforms and develop a mission system that will integrate Intelligence, Surveillance and Reconnaissance (ISR) mission requirements. ACS contract awarded 4th quarter FY2004 to Lockheed Martin Integrated Systems and Solutions, Littleton, Colorado. Army terminated contract for convenience on 12 January 2006. Army and Navy, in coordination with Air Force, are co-leading an OSD-directed ISR study. ISR study was completed 31 July 2006. In process of being briefed 1st quarter FY07.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

ACS Trade Study and Tech Develop activities	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		7.928	7.493	61.456
RDT&E Articles Qty				

Contract terminated for convenience on 12 Jan 2006. Set aside for Lockheed Martin termination liability cost. FY2007 consisted of conducting Trade Study based on results of A0A. FY08 continues Trade Study and begins Technology Development (TD) activities with number of contractors TBD. FY09 continues TD.

Support ACS initial test and eval doc/plan	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			.160	1.064
RDT&E Articles Qty				

FY08 and FY09 actvities support initial test and evaluation documentation and planning.

ACS govt/contr sys eng support; OSD ISR study	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.807	9.189	8.953	12.206
RDT&E Articles Qty				

Fund ACS government and contractor systems engineering and engineering support. Fund ACS program management. Support OSD directed joint airborne ISR study, development of an Analysis of Alternatives, Concept of Operations and requirements / capabilities documentation. FY08 funding supports Trade Study and TD. FY09 funding supports TD phase.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Not Applicable										

D. ACQUISITION STRATEGY:
Army Acquisition Strategy signed by the MDA, USD (ATL) on 19 Dec 2003. Army Milestone B approval to proceed with Systems Development and Demonstration (SDD) occurred 4th QTR FY2004. ACS contract awarded 4th QTR FY2004 to Lockheed Martin Integrated Systems and Solutions, Littleton, Colorado. Contract terminatd for convenience 12 January 2006. ISR study was completed 31 July 2006 and briefed 1st quarter FY07.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0307207N, AERIAL COMMON SENSOR			PROJECT NUMBER AND NAME 3015, AERIAL COMMON SENSOR						
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 - Army	C-CPAF	Lockheed Martin, Littleton, CO	19.590							Continuing	Continuing	
Primary Hdw Dev Trade Study/TD	C-CPAF	TBD		7.928	Apr 2007	7.493	Jan 2008	61.456	Dec 2008	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT			19.590	7.928		7.493		61.456		Continuing	Continuing	

Remarks: Contract terminated for convenience on 12 January 2006.

SUPPORT												
SUBTOTAL SUPPORT												

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD	.790			.160	Nov 2007	1.064	Nov 2008	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			.790			.160		1.064		Continuing	Continuing	

Remarks:

MANAGEMENT												
ENGINEERING & TECH SRVC (NON-F	C-CPFF	A T & T GOVERNMENT SOLUTIONS, INC,	3.793	3.824	Nov 2006	2.263	Nov 2007	2.264	Nov 2008	Continuing	Continuing	
ENGINEERING & TECH SRVC (NON-F	TBD	JOHNS HOPKINS UNIV, COLUMBIA, MD				1.040	Nov 2007	.216	Nov 2008	Continuing	Continuing	
Govt Engineering Support China	WX	NAWCWD, CHINA LAKE CA	.052	.170	Nov 2006	.388	Nov 2007	.411	Nov 2008	Continuing	Continuing	
Govt Engineering Support Pax R	WX	NAWCAD, PATUXENT RIVER MD	2.064	2.961	Nov 2006	3.633	Nov 2007	6.830	Nov 2008	Continuing	Continuing	
Govt Engineering Support TSD	WX	NAWCTSD, ORLANDO FL	.408	1.588	Nov 2006	.641	Nov 2007	1.242	Nov 2008	Continuing	Continuing	
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD	.749	.616	Nov 2006	.958	Nov 2007	1.193	Nov 2008	Continuing	Continuing	
Travel	WX	NAWCAD, PATUXENT RIVER MD	.111	.030	Nov 2006	.030	Nov 2007	.050	Nov 2008	Continuing	Continuing	
SUBTOTAL MANAGEMENT			7.177	9.189	Nov 2006	8.953	Nov 2007	12.206	Nov 2008	Continuing	Continuing	

Remarks:

Total Cost			27.557	17.117		16.606		74.726		Continuing	Continuing	

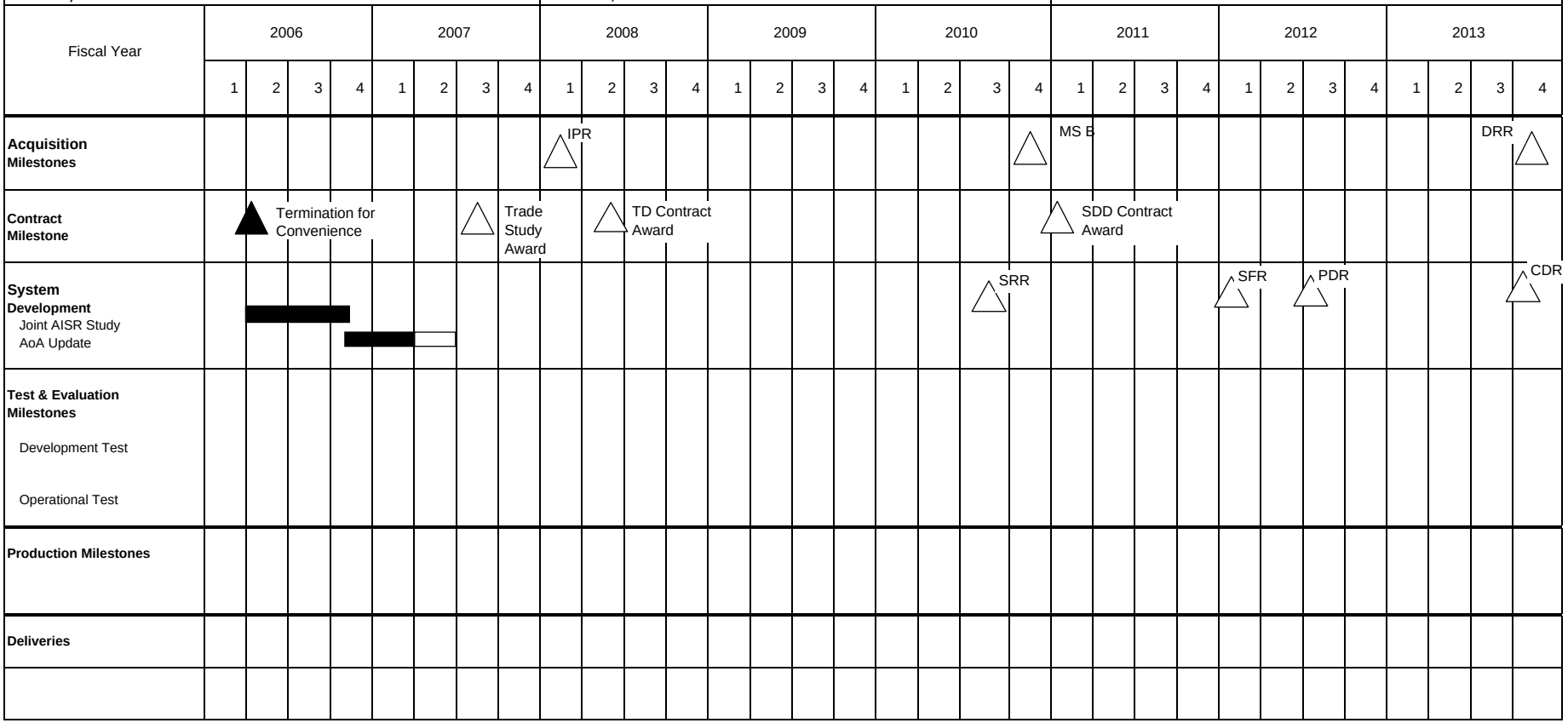
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2007**

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



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2007**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-7**	PROGRAM ELEMENT **0307207N, AERIAL COMMON SENSOR**				PROJECT NUMBER AND NAME 3015 Aerial Common Sensor			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones - Joint Airborne ISR Study	2Q-4Q							
Acquisition Milestones - Analysis of Alternatives (AoA)	4Q	1Q-2Q						
Acquisition Milestones - In Process Review (IPR)			1Q					
Acquisition Milestones - Milestone B					4Q			
Acquisition Milestones - Design Readiness Review (DRR)								4Q
Contract Milestones - Termination for Convenience	2Q							
Contract Milestones - Trade Study Award		3Q						
Contract Milestones - TD Award			2Q					
Contract Milestones - SDD Award						1Q		
System Development - System Requirements Review (SRR)					3Q			
System Development- System Functional Review (SFR)							1Q	
System Development- Preliminary Design Review (PDR)							3Q	
System Development- Critical Design Review (CDR)								4Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2007**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME **0307207N, AERIAL COMMON SENSOR**				PROJECT NUMBER AND NAME 9999 Congressional Add			
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9999 Congressional Add	**0.986**							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional add.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2007**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	**0307207N, AERIAL COMMON SENSOR**	9999 Congressional Add

B. Accomplishments/Planned Program (Cont.)

9755N	FY 06	FY 07	FY 08	FY 09
Accomplishments / Effort / Sub-total Cost	0.986			
RDT&E Articles Quantity				

Fund ACS government and contractor systems engineering and engineering support. Fund ACS program management. Award RF Elint Converter contract to conduct engineering and development.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0308601N
PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

COST: (Dollars in Thousands)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE	7,611	7,475	7,832	8,007	8,198	8,384	8,543	8,706
2222 MODELING & SIMULATION								
	6,611	7,475	7,832	8,007	8,198	8,384	8,543	8,706
9658N U.S. Navy Space and Naval Warfare Command Net Centric								
	1,000	0	0	0	0	0	0	0

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.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0308601N
PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT

B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009
FY 2008/FY 2009 OSD Budget Submission	7,611	7,503	7,783	7,945
Congressional Adjustments	0	-28	0	0
Rate Adjustments			49	62
FY 2008/FY 2009 President’s Budget Submission	7,611	7,475	7,832	8,007

PROGRAM CHANGE SUMMARY EXPLANATION:
Technical: Not applicable.

Schedule: Not applicable.

C. OTHER PROGRAM FUNDING SUMMARY:
Not applicable.

D. ACQUISITION STRATEGY:
Not applicable.

E. PERFORMANCE METRICS:
This program supports ongoing efforts to define, develop and utilize M&S technologies, standards and techniques in DoN and Joint programs across a wide range of disciplines and technical arenas. As such, performance metrics are specific to individual projects initiated under this program element. Representative examples of performance criteria for M&S support include the following: VV&A of deployed M&S systems to support Fleet and Force missions and assessments; degree of composability and adaptability of system architectures employed in M&S systems; ability of M&S systems to replicate and permit recreation of force or system interactions that otherwise would be performed by more labor-intensive or expensive personnel, forces or elements; degree to which M&S frameworks would permit rapid integration and employment of analytic capabilities for the analysis and documentation of warfighter missions, weapons systems or Tactics, Techniques and Procedures (TT&P); and ability of a specific M&S technology or technique to meet the requirements specified in an individual project supported by this program.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT
PROJECT NUMBER: 9658N Navy Space and Naval Warfare Command Net Centric

COST: (Dollars in Thousands)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
2222 MODELING & SIMULATION								
	6,611	7,475	7,832	8,007	8,198	8,384	8,543	8,706

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 2006	FY 2007	FY 2008	FY 2009
ENGINEERING STUDIES AND ANALYSIS	3,118	3,222	3,774	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.

For FY07, the Navy Modeling and Simulation Office 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 2006 Accomplishments:

• 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.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT
PROJECT NUMBER: 9658N Navy Space and Naval Warfare Command Net Centric

• Continued M&S utilization in Campaign/Mission assessments to support OPNAV N70 analysis of warfighting requirements.

FY 2007 Plans:

• Continue all efforts of FY06.

FY 2008 Plans:

• Continue all efforts of FY07.

FY 2009 Plans:

• Continue all efforts of FY08.

	FY 2006	FY 2007	FY 2008	FY 2009
PRODUCTS AND SERVICES	1,346	1,500	1,599	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 reallocated PROJECT 2222 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 2006 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 2007 Plans:

• Continue all efforts of FY06.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT
PROJECT NUMBER: 9658N Navy Space and Naval Warfare Command Net Centric

FY 2008 Plans:

• Continue all efforts of FY07.

FY 2009 Plans:

• Continue all efforts of FY08.

	FY 2006	FY 2007	FY 2008	FY 2009
M&S QUALITY ASSURANCE PROGRAM	439	520	529	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 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 2006 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 2007 Plans:

• Continue all efforts of FY06.

FY 2008 Plans:

• Continue all efforts of FY07.

FY 2009 Plans:

• Continue all efforts of FY08.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT
PROJECT NUMBER: 9658N Navy Space and Naval Warfare Command Net Centric

	FY 2006	FY 2007	FY 2008	FY 2009
SIMULATION EXPERIMENTS	1,708	2,233	1,930	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 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 2006 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 2007 Plans:

• Continue all efforts of FY06.

FY 2008 Plans:

• Continue all efforts of FY07.

FY 2009 Plans:

• Continue all efforts of FY08.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: MODELING AND SIMULATION SUPPORT
PROJECT NUMBER: 9658N Navy Space and Naval Warfare Command Net Centric

C. OTHER PROGRAM FUNDING SUMMARY:
NAVY RELATED RDT&E:
PE 0603235N (Common Picture Advanced Technology)

NON-NAVY RELATED RDT&E:
Not applicable.

D. ACQUISITION STRATEGY:
Not applicable.

E. MAJOR PERFORMERS:

Recipients	City/State	Description
SPAWARSYSCEN CHASN	Charleston, SC	Integrated Direct Support to Navy Modeling and Simulation Office
SPAWARSYSCEN 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

CONGRESSIONAL PLUS-UPS:

	FY 2006
US NAVY SPACE AND NAVAL WARFARE COMMAND NET CENTRIC OPERATIONS PROGRAM	1,000

This program developed a M&S framework to support studies on operational impact of new communication technology on DoD operations, with particular emphasis on modeling of Information Assurance capabilities. It developed scenario and application input capability that allows automated Configuration of models, and will enhance three-dimensional networking animation capability.

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0702207N DEPOT MAINTENANCE (NON-IF)		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	12.051	6.137	19.402	21.295	9.654			
3030 F/A-18 SLAP	9.488	2.949	18.410	17.314	8.659			
3182 T-45 SLAP			.992	3.981	.995			
9999 Portable Laser Depainting System	2.563	3.188						

(U) 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 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 OPNAV inventory requirements, to include planning for the announced one year JSF 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.

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

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	12.461	2.960		
Current President's Budget:	12.051	6.137	19.402	21.295
Total Adjustments	-0.410	3.177	19.402	21.295
Summary of Adjustments				
Congressional Reductions	-0.020			
Congressional Rescissions				
Congressional Undistributed Reductions	-0.290	-0.023		
Congressional Increases		3.200		
Economic Assumptions			0.147	0.165
Miscellaneous Adjustments	-0.100		19.255	21.130
	-0.410	3.177	19.402	21.295

Schedule: The schedule change in FY08 thru FY09 is due to an increase in funding for F/A-18E/F SLAP and T-45 SLAP.

Technical: Added the requirement to assess the F/A-18E/F airframe.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3030 F/A-18 SLAP	9.488	2.949	18.410	17.314	8.659			
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 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 OPNAV inventory requirements, to include planning for the announced one year JSF 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	9.488	2.949		
RDT&E Articles Qty				

Continue to conduct analysis of aircraft structures and complete Landings/Cat/Trap/Flight Hour analysis and technical support.

F/A-18E-F SLAP	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			18.410	17.314
RDT&E Articles Qty				

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.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN-5 P.E. 0204136N F/A-18 OSIP (11-99)	82.735	111.285	112.020	115.984	123.820	123.828	130.803	184.479	145.320	1,353.119

D. ACQUISITION STRATEGY:
The 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 Service Life Management Program (SLMP) under OSIP (11-99). F/A-18E/F Service Life Assessment Program (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).

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0702207N DEPOT MAINTENANCE (NON-IF)				PROJECT NUMBER AND NAME 3030 F/A-18 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 - F/A-18A-D	SS/CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS	26.005	2.949	01/07						28.954	28.954
SLAP - F/A-18E/F	TBD	MCDONNELL DOUGLAS CORP, SAINT LOUIS				18.410	12/07	17.314	12/08	8.659	44.383	44.383
SUBTOTAL PRODUCT DEVELOPMENT			26.005	2.949		18.410		17.314		8.659	73.337	

Remarks:

SUPPORT												
SUBTOTAL SUPPORT												.000

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												.000

Remarks:

MANAGEMENT												
SUBTOTAL MANAGEMENT												.000

Remarks:

Total Cost			26.005	2.949		18.410		17.314		8.659	73.337	.000

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: February 2007
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											
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
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																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0702207N DEPOT MAINTENANCE (NON-IF)				PROJECT NUMBER AND NAME 3030 F/A-18 SLAP			
Schedule Profile F/A-18 SLAP A-D	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Flight Load Structure Crack Growth Analysis Using Design Loads	1Q-2Q							
Flight Load Structure Usage Flight Spectrum Development	1Q-4Q	1Q-3Q						
Flight Load Structure Fatigue Loads Developmen	1Q-4Q	1Q-3Q						
Flight Load Structure Crack Initiation Life for 90% Spectrum Assessment	4Q	1Q-4Q						
Ground Loads Structure Crack Growth Analysis using 90% Loads	1Q-2Q							
Ground Loads Structure Fatigue Life Assessment for 90% Spectrum	1Q-2Q							
Fleet Aircraft Teardown	1Q-4Q	1Q-2Q						

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: February 2007
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											
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
Contract Award									☆																							
1.1 E/F SLAP Spectrum Development																																
1.2 Flight/Ground Loads Development																																
1.3 FT50/76/77/78/90 Failure Analyses																																
1.4 Damage Tolerance/ Crack Growth Analyses & Testing																																
1.5 Fleet Inspection Development																																
1.6 ECP Development																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0702207N DEPOT MAINTENANCE (NON-IF)				PROJECT NUMBER AND NAME 3030 F/A-18 SLAP			
Schedule Profile for F/A-18 SLAP E/F	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Contract Award Date			1Q					
E/F SLAP Spectrum Development			2Q-4Q	1Q-2Q				
Flight/Ground Loads Development			2Q-4Q	1Q-2Q				
FT50/FT76/FT77/FT78/FT90 Failure Analyses			2Q-4Q	1Q-4Q	1Q-2Q			
Damage Tolerance/Crack Growth Analyses				1Q-4Q	1Q-2Q			
Fleet Inspection Development					1Q-4Q			
ECP Development				3Q-4Q	1Q-4Q			

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2007
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3182 T-45 SLAP			.992	3.981	.995			
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET 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 live 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 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			.992	3.981
RDT&E Articles Qty				

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 Finited Element Model report, SLAP Internal Loads Methodology report, and SLAP Fatigue Analysis report).

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
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				.992	Jan 2008	3.981	Jan 2009	.995	5.968	5.968
SUBTOTAL PRODUCT DEVELOPMENT						.992		3.981		.995	5.968	

Remarks:

SUPPORT												
SUBTOTAL SUPPORT												.000

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												.000

Remarks:

MANAGEMENT												
SUBTOTAL MANAGEMENT												.000

Remarks:

Total Cost						.992		3.981		.995	5.968	.000

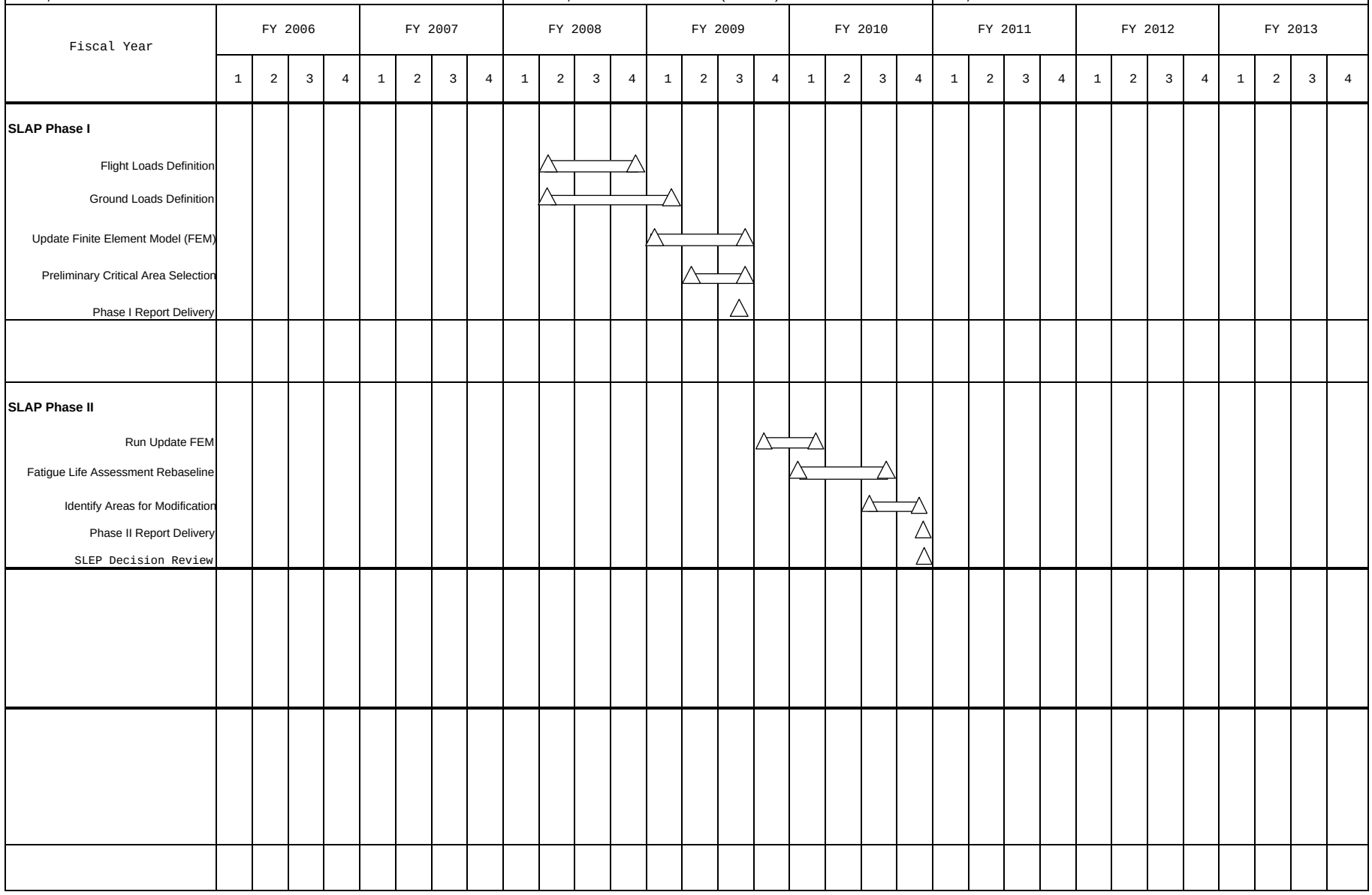
Remarks:

CLASSIFICATION: **UNCLASSIFIED**

EXHIBIT R4, Schedule Profile

DATE: February 2007

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-7	0702207N, DEPOT MAINTENANCE (NON-IF)	3182, T-45 SLAP



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0702207N, DEPOT MAINTENANCE (NON-IF)				PROJECT NUMBER AND NAME 3182, T-45 SLAP			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SLAP Phase I								
Flight Loads Definition			2Q-4Q					
Ground Loads Definition			2Q-4Q	1Q				
Update Finite Element Model (FEM)				1Q-3Q				
Preliminary Critical Area Selection				2Q-3Q				
Phase I Report Delivery				3Q				
SLAP Phase II								
Run Update FEM				4Q	1Q			
Fatigue Life Assessment Rebaseline					1Q-3Q			
Identify Areas for Modification					3Q-4Q			
Phase II Report Delivery					4Q			
SLEP Decision Review					4Q			

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0702207N DEPOT MAINTENANCE (NON-IF)			PROJECT NUMBER AND NAME 9999 Congressional Adds				
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9785 Portable Laser Depainting System	2.563	3.188						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

9785-Portable Laser Depainting System	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.563	3.188		
RDT&E Articles Qty				

Portable Laser Depainting System

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0702239N, AVIONICS COMPONENT IMPROVEMENT PRO		
COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		1.370	1.635	1.892	2.905	3.916	3.990	4.065
3170 AVIONICS COMPONENT IMPROVEMENT PROGRAM		1.370	1.635	1.892	2.905	3.916	3.990	4.065

(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. AvCIP was a new start in FY06 as documented in PE 0604215N, Standards Development, Project Unit 0572. Transfer in FY 2007 and out as documented in PE 0604215N, Standards Development, Project Unit 0572.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	0.000	1.375	1.625	1.877
Current BES:	0.000	1.370	1.635	1.892
Total Adjustments	0.000	-0.005	0.010	0.015
Summary of Adjustments				
Congressional Reductions				
Congressional Rescissions				
Congressional Undistributed Reductions		-0.005		
Congressional Increases				
Economic Assumptions			0.010	0.015
Miscellaneous Adjustments				
Subtotal	0.000	-0.005	0.010	0.015

Schedule: Not Applicable.

Technical: Not Applicable.

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

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3170 AVIONICS COMPONENT IMPROVEMENT PROGRAM		1.370	1.635	1.892	2.905	3.916	3.990	4.065
RDT&E Articles Qty								

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 sponsors 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. AvCIP was a new start in FY06 as documented in PE 0604215N, Standards Development, Project Unit 0572. Transfer in FY 2007 and out as documented in PE 0604215N, Standards Development, Project Unit 0572.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Addresses avionic critical readiness	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		1.370	1.635	1.892
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
0604215N, Standards Development, PU 0572	0.940									0.940
0702239A (Avionics Component Improvement Program, Army)										
0702239F (Avionics Component Improvement Program, Air Force)										

Transfer in FY 2007 and out as documented in PE 0604215N, Standards Development, Project Unit 0572

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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

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 N43 Flying Hour Program metrics. 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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2007			
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												
Studies & Analyses	WX	NAVAIR, PAXTUXENT RIVER MD		.081	Nov 2006	.102	Nov 2007	.117	Nov 2008	Continuing	Continuing	
Studies & Analyses	TBD	TBD		1.289	Jan 2007	1.533	Jan 2008	1.775	Jan 2009	Continuing	Continuing	
SUBTOTAL SUPPORT				1.370		1.635		1.892		Continuing	Continuing	

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												

Remarks:

MANAGEMENT												
SUBTOTAL MANAGEMENT												

Remarks:

Total Cost				1.370		1.635		1.892		Continuing	Continuing	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7									PROGRAM ELEMENT NUMBER AND NAME 0702239N, AVIONICS COMPONENT IMPROVEMENT PROGRAM												PROJECT NUMBER AND NAME 3170, AVIONICS COMPONENT IMPROVEMENT PROGRAM											
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
Management Milestones		FY07	AvCIP	CYCLE		FY08	AvCIP	CYCLE		FY09	AvCIP	CYCLE		FY10	AvCIP	CYCLE		FY11	AvCIP	CYCLE		FY12	AvCIP	CYCLE		FY13	AvCIP	CYCLE		FY14	AvCIP	CYCLE
Candidate Collection																																
Candidate Evalution																																
Candidate Prioritization																																
Candidate Endorsement																																
Project Selection																																
Funding Allocation																																
Program Execution/ Component Improvements																																

FY06 Activity covered under PE 0604215N, Standards Development, Project Unit 0572.
Transfer in FY 2007 and out as documented in PE 0604215N, Standards Development, Project Unit 0572.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2007		
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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FY07 AvCIP Candidate Collection	2Q-3Q							
FY07 AvCIP Candidate Evaluation	3Q							
FY07 AvCIP Candidate Prioritization	3Q							
FY07 AvCIP Candidate Endorsement	4Q							
FY07 AvCIP Project Selection	4Q							
FY07 AvCIP Funding Allocation		1Q						
FY08 AvCIP Candidate Collection		2Q-3Q						
FY08 AvCIP Candidate Evaluation		3Q						
FY08 AvCIP Candidate Prioritization		3Q						
FY08 AvCIP Candidate Endorsement		4Q						
FY08 AvCIP Project Selection		4Q						
FY08 AvCIP Funding Allocation			1Q					
FY09 AvCIP Candidate Collection			2Q-3Q					
FY09 AvCIP Candidate Evaluation			3Q					
FY09 AvCIP Candidate Prioritization			3Q					
FY09 AvCIP Candidate Endorsement			4Q					
FY09 AvCIP Project Selection			4Q					
FY09 AvCIP Funding Allocation				1Q				
FY10 AvCIP Candidate Collection				2Q-3Q				
FY10 AvCIP Candidate Evaluation				3Q				
FY10 AvCIP Candidate Prioritization				3Q				
FY10 AvCIP Candidate Endorsement				4Q				
FY10 AvCIP Project Selection				4Q				
FY10 AvCIP Funding Allocation					1Q			
FY11 AvCIP Candidate Collection					2Q-3Q			
FY11 AvCIP Candidate Evaluation					3Q			
FY11 AvCIP Candidate Prioritization					3Q			
FY11 AvCIP Candidate Endorsement					4Q			
FY11 AvCIP Project Selection					4Q			
FY11 AvCIP Funding Allocation						1Q		
FY12 AvCIP Candidate Collection						2Q-3Q		
FY12 AvCIP Candidate Evaluation						3Q		
FY12 AvCIP Candidate Prioritization						3Q		
FY12 AvCIP Candidate Endorsement						4Q		
FY12 AvCIP Project Selection						4Q		
FY12 AvCIP Funding Allocation							1Q	
FY13 AvCIP Candidate Collection							2Q-3Q	
FY13 AvCIP Candidate Evaluation							3Q	
FY13 AvCIP Candidate Prioritization							3Q	
FY13 AvCIP Candidate Endorsement							4Q	
FY13 AvCIP Project Selection							4Q	
FY13 AvCIP Funding Allocation								1Q
PROGRAM EXECUTION	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

FY 2008/2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2007
Exhibit R-2

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N
PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

COST: (Dollars in Thousands)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE	57,745	60,941	56,445	56,705	58,929	59,823	60,326	60,833
1050 MANUFACTURING TECHNOLOGY	55,445	54,963	56,445	56,705	58,929	59,823	60,326	60,833
9999 CONGRESSIONAL PLUS-UPS	2,300	5,978	0	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.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N
PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 President's Budget Submission	59,286	55,048	57,328	58,764
Congressional Action	0	6,000	0	0
Congressional Adjustments	9	-107	0	0
Non-Pay Inflation Adjustments	0	0	-35	33
Program Adjustments	0	0	-195	-105
Program Realignment	0	0	-653	-1,989
Rate Adjustments	0	0	0	2
SBIR Assessment	-1,550	0	0	0
FY 2008/FY 2009 President's Budget Submission	57,745	60,941	56,445	56,705

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 (formerly DD(X)), CVN 21, Littoral Combat Ship (LCS), and the Virginia Class Submarine as well as aircraft/other programs. Due to a recent change in strategy, FY07 and out will increasingly focus on affordability efforts for DDG 1000 (formerly DD(X)), CVN 21, LCS, and Virginia Class Sub 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

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N
PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

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.

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 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
1050 MANUFACTURING TECHNOLOGY	55,445	54,963	56,445	56,705	58,929	59,823	60,326	60,833

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The ManTech project 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 electronics assembly, laser metalworking, flexible computer manufacturing, composites, metal working, and welding technology. The ManTech project is being integrated into the Seapower 21 and Joint Warfare Operational Capability process and will utilize the results of these initiatives as appropriate in the program planning process. The ManTech project 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 2006	FY 2007	FY 2008	FY 2009
METALS PROCESSING AND FABRICATION	18,988	19,725	21,570	21,620

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.

Funding in this area is increasing from FY 2007 to FY 2008 to better support the shipbuilding affordability focus and corresponding increase in metals fabrication and processing technical work.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS
PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECHNOLOGY

FY 2006 Accomplishments:

- Continued process improvements to DDG-1000 (formerly DD(X)) Program for surface hull treatment application processes to support critical design review schedule. (DDG-1000 Advanced Bonding Methods for Steel Structures)
- Continued testing and validation of adhesive bonded joints to support critical design review and technical insertion to reduce radar cross section, weight, and life-cycle costs for DDG-1000 (formerly DD(X)) program. (Large Marine Composite-to-Steel Adhesive Joints)
- Continued transition of high-productivity, cost-effective welding processes for large, thick-section, high-strength steel structures to shipyard production to enhance the survivability of DDG-1000 (formerly DD(X)). (Manufacturing Large Marine Structures)
- Continued evaluation of material properties of small-scale production heat of 10% Nickel (Ni) material for CVN 21. (High Strength and Toughness Naval Steels for Ballistic Protection) (Ballistic 10% Ni Steel)
- Continued Laser Welded Lightweight Panel Structure Fabrication and Application for CVN 21, developed inter-panel joint concepts and preliminary design concept to improve productivity. (Laser Welded Lightweight Panel Structure Fabrication - NMC)
- Continued rapid response and teaching factory activities.
- Continued Hybrid Laser Beam Welding effort for pipe welding for submarine applications (Hybrid Laser Beam Welding).
- Continued Erosion Resistant Coatings for Stage I Compressor Blisks effort. (Erosion Resistant Coatings for Stage 1 Compressor Components)
- Continued Manufacturing Process Development for Elimination of Weld Distortion of CVN 21 Heavy Plate Erection Units. (Elimination of Weld Distortion of CVN 21 Heavy Plate Erection Units)
- Continued Navy Unmanned Combat Air System (N-UCAS) Metallic Manufacturing Technology Transition effort to integrate with the Composites-Joint Unmanned Combat Air System (J-UCAS) Systems Design and Manufacturing Development (SDMD), Boeing St. Louis. (N-UCAS Structural Design and Manufacturing Development)
- Continued Turbine Inspection Techniques effort.
- Continued development of preliminary designs and manufacturing concepts, identifying material changes and specific processes to be improved. (Advanced Surface Ship Watertight Closures)
- Completed manufacturing process improvements supporting CVN 21 and J-UCAS.
- Completed analysis with Naval Surface Warfare Center (NSWC) and Northrop Grumman Ship Systems (NGSS) of key components and substructures that can be converted to low-cost titanium for center of gravity and structural weight savings on CVN 21. (Issues associated with Fabrication of Titanium Components for CVN 21)
- Completed Laser Welded Corrugated Core (LASCOR) Fabrication for CVN 21, Application Development of

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS
PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECHNOLOGY

LASCOR effort: Designed, fabricated, tested, and performed final application demonstration for various repair, stud attachment, and joining technologies (Phase I).

- Completed Automated Thermal Plate effort by demonstrating a system for automated thermal plate forming of complex steel shapes to reduce fabrication cost and signature of the DDG-1000 (formerly DD(X)). (Automated Thermal Plate Forming)
- Completed Hot Section Corrosion Protection for 501-K34 Gas Turbine effort. (Hot Section Corrosion for 501-K34 Gas Turbine)
- Completed Modeling and Simulation for Carrier Construction Planning and Sequencing effort for CVN 21.
- Completed DDG-1000 (formerly DD(X)) Collarless Construction effort to develop and test methods for selecting most viable collarless construction techniques for DDG-1000 (formerly DD(X)) fabrication. (Collarless Construction)
- Completed Development of Cost-Effective, Low-Manganese Flux Core Welding Electrode for Joining High-Strength Steels effort with shipyard verification of trial production advanced weld wire. (Cost-Effective, Low-Manganese Flux Core Welding Electrode)
- Completed Improved Affordability of Titanium Parts for Marine Corps M777 Lightweight 155MM Howitzer effort by implementing flow formed titanium tubes into full rate production. (Titanium Parts for Lightweight 155M Howitzer)
- Completed J-UCAS Structural Welding effort.
- Completed Weld Quality Improvement/Distortion Reduction effort for CVN 21 carriers.
- Initiated Friction Stir Welding (FSW) effort for LCS. (Low Cost FSW of Aluminum for LCS Applications)
- Initiated corrosion mitigation efforts for the SH-60 helicopter. (Corrosion Resistant Coatings for Magnesium Transmission Gearboxes)
- Initiated facility simulation /optimization effort for Blast & Paint Facility at Marinette Marine. (LCS Paint Facility Design)
- Initiated facility simulation effort at Austal USA to assess benefits of alternatives to shipyard production flow. (Austal USA – Facility Design and Simulation)
- Initiated development of methods to improve the control of accuracy for structure fabrication. (Improved Dimensional Accuracy for LCS)
- Initiated effort to join composite structures for CVN 21. (CVN 21 Composites Joining)
- Initiated development of tandem arc welding process of high strength steels for CVN 21 fabrication. (Tandem Gas Metal Arc Welding (GMAW) for High Strength Steel Structures)
- Initiated development of hybrid-laser beam welding for use in fabrication of complex ship panels. (Hybrid Laser Welding of Ship Structures)
- Initiated development of translational friction welding for replacement of individual airfoils for

aircraft engine blisks. (Translational Friction Weld Repair of Blisks)
• Initiated development of technology to join armor sub-panels for the Expeditionary Fighting Vehicle (EFV) armor skirt. (EFV Armor Skirt Manufacturing Development)
• Initiated effort to improve manufacturability and performance of pallets for AGS on DDG-1000 (formerly DD(X)). (Low-Cost Pallet Systems for DDG-1000 AGS)
• Initiated effort to develop, optimize, and demonstrate forming process for CVN components and determine material properties. (Alloy 625 Formability for Future Carriers)
• Initiated effort to evaluate castings as forming process for DDG-1000 (formerly DD(X)) applications. (DDG-1000 Improved Tee Sections for High-Strength Steel Structures)
• Initiated effort to evaluate sources of contaminants, controls, and remediation processes for removal of contaminants to support coating tanks. (CVN Preparation Methods for Coating Tanks)
• Initiated effort to address current production issues in weld defects in large diameter Alloy 625 pipes with new or modified procedures and equipment. (SSN Alloy 625 Pipe Welding)

FY 2007 Plans:

• Continue all FY 2006 efforts less those noted as completed above.
• Complete transition of high-productivity, cost-effective welding processes for large, thick-section, high-strength steel structures to shipyard production to enhance the survivability of DDG-1000 (formerly DD(X)). (Manufacturing Large Marine Structures)
• Complete Hybrid Laser Beam Welding effort for pipe welding for submarine applications. (Hybrid Laser Beam Welding)
• Complete testing and validation of adhesive bonded joints to support critical design review and technical insertion to reduce radar cross section, weight, and life-cycle costs for the DDG-1000 (formerly DD(X)) program. (Large Marine Composite-to-Steel Adhesive Joints)
• Complete effort to join composite structures for CVN 21. (CVN 21 Composites Joining)
• Complete development of tandem arc welding process of high strength steels for CVN 21 fabrication. (Tandem Gas Metal Arc Welding (GMAW) for High Strength Steel Structures)
• Complete development of hybrid-laser beam welding for use in fabrication of complex ship panels. (Hybrid Laser Welding of Ship Structures)
• Complete development of technology to join armor sub-panels for the EFV armor skirt. (EFV Armor Skirt Manufacturing Development)
• Complete Manufacturing Process Development for Elimination of Weld Distortion of CVN 21 Heavy Plate Erection Units. (Elimination of Weld Distortion of CVN 21 Heavy Plate Erection Units)

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- Complete Turbine Inspection Techniques effort.
- Initiate identification of requirements, candidate materials, and application techniques for an improved interior treatment on SSN-774 class subs and initiate testing. (SSN-774 Damping Material Application)
- Initiate applications and develop application techniques and equipment for High Solids coatings on DDG-1000 (formerly DD(X)) and other platforms. (Coating Application Improvement – formerly High Solids Coatings)
- Initiate project to explore commercially available mechanically attached fittings and belled-end pipe joining techniques for SSN-774 applications. (SSN Alternative Pipe Joining and Fittings)
- Initiate new effort for welding processes for large, thick-section, high-strength steel structures. (Large Marine Structure Hull Integration)
- Initiate VCS material management effort to develop a material management system to reduce acquisition costs for Virginia Class Submarines. (VCS Material Management)
- Initiate Design for Production Process Improvement effort to develop an enhanced design build process to support design decision trade-offs. (Design for Production Process Improvement)
- Initiate outfitting process improvement effort to support design decisions and trade-offs in VCS outfitting. (Outfitting Process Improvement)
- Initiate CVN 21 Power Unit Assembly Facility and Carrier Visual Build effort to optimize carrier build. (Optimization of CVN 21 Power Unit Assembly Facility and Carrier Visual Build)
- Initiate laser cladding effort to develop laser cladding technologies for use in sub construction. (Laser Cladding for Submarines)
- Initiate metalworking and joining efforts to address improvements/affordability for DDG-1000 (formerly DD(X)), CVN 21, Virginia Class Submarine, and LCS.

FY 2008 Plans:

- Continue all FY 2007 efforts less those noted as completed above.
- Complete N-UCAS Metallic Manufacturing Technology Transition effort to integrate with the Composites-J-UCAS SDMD, Boeing St. Louis. (N-UCAS Structural Design and Manufacturing Development)
- Complete facility simulation/optimization effort for Blast & Paint Facility at Marinette Marine. (LCS Paint Facility Design)
- Complete facility simulation effort at Austal USA to assess benefits of alternatives to shipyard production flow. (Austal USA – Facility Design and Simulation)
- Complete FSW effort for the LCS. (Low Cost FSW of Aluminum for LCS Applications)
- Complete development of translational friction welding for replacement of individual airfoils for aircraft engine blisks. (Translational Friction Weld Repair of Blisks)

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- Complete effort to develop, optimize, and demonstrate forming process for CVN components and determine material properties. (Alloy 625 Formability for Future Carriers)
- Complete effort to evaluate castings as forming process for DDG-1000 (formerly DD(X)) applications. (DDG-1000 Improved Tee Sections for High-Strength Steel Structures)
- Complete effort to evaluate sources of contaminants, controls, and remediation processes for removal of contaminants to support coating tanks. (CVN Preparation Methods for Coating Tanks)
- Complete applications and develop application techniques and equipment for High Solids coatings on DDG-1000 (formerly DD(X)) and other platforms. (Coating Application Improvement – formerly High Solids Coatings)
- Complete effort for welding processes for large, thick-section, high-strength steel structures. (Large Marine Structure Hull Integration)
- Complete development of preliminary designs and manufacturing concepts, identifying material changes and specific processes to be improved. (Advanced Surface Ship Watertight Closures)
- Complete Erosion Resistant Coatings for Stage I Compressor Blisks effort. (Erosion Resistant Coatings for Stage 1 Compressor Components)
- Complete corrosion mitigation efforts for the SH-60 helicopter. (Corrosion Resistant Coatings for Magnesium Transmission Gearboxes)
- Complete development of methods to improve the control of accuracy for structure fabrication. (Improved Dimensional Accuracy for LCS)
- Initiate metalworking and joining efforts to address improvements/affordability for DD(X), CVN 21, Virginia Class Submarine, and LCS.

FY 2009 Plans:

- Continue all FY 2008 efforts less those noted as completed above.
- Complete process improvements to DDG-1000 (formerly DD(X)) Program for surface hull treatment application processes to support critical design review schedule. (DDG-1000 Advanced Bonding Methods for Steel Structures)
- Complete High Strength and Toughness Naval Steels for Ballistic Protection (Ballistic 10Ni Steel) effort.
- Complete Laser Welded Lightweight Panel Structure Fabrication and Application for CVN 21, develop inter-panel joint concepts and preliminary design concept to improve productivity. (Laser Welded Lightweight Panel Structure Fabrication - NMC)
- Complete identification of requirements, candidate materials, and application techniques for an improved interior treatment on SSN-774 class subs and initiate testing. (SSN-774 Damping Material Application)

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- Complete effort to improve manufacturability and performance of pallets for AGS on DDG-1000 (formerly DD(X)). (Low-Cost Pallet Systems for DDG-1000 AGS)
- Complete project to explore commercially available mechanically attached fittings and belled-end pipe joining techniques for SSN-774 applications. (SSN Alternative Pipe Joining and Fittings)
- Complete project to address current production issue in weld defects in large diameter Alloy 625 pipes with new or modified procedures and equipment for SSN-774 applications. (SSN Alloy 625 Pipe Welding)
- Complete VCS material management effort to develop a material management system to reduce acquisition costs for Virginia Class Submarine. (VCS Material Management)
- Complete Design for Production Process Improvement effort to develop an enhanced design build process to support design decision trade-offs. (Design for Production Process Improvement)
- Complete outfitting process improvement effort to support design decisions and trade-offs in VCS outfitting. (Outfitting Process Improvement)
- Complete CVN 21 Power Unit Assembly Facility and Carrier Visual Build effort to optimize carrier build. (Optimization of CVN 21 Power Unit Assembly Facility and Carrier Visual Build)
- Complete laser cladding effort to develop laser cladding technologies for use in sub construction. (Laser Cladding for Submarines)
- Initiate metalworking and joining efforts to address improvements/affordability for DDG-1000 (formerly DD(X)), CVN 21, Virginia Class Submarine, and LCS.

	FY 2006	FY 2007	FY 2008	FY 2009
OTHER (REPAIR TECH, ENERGETICS, GULF COAST, AND TECHNICAL ENGINEERING SUPPORT)	10,400	10,945	12,322	12,382

The “Other” activity includes repair technology, energetics, and technical engineering support. 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).

Funding in this area is increasing from FY 2007 to FY 2008 to better support the shipbuilding affordability focus and corresponding technical work.

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FY 2006 Accomplishments:

- Continued to provide technical engineering support for the ManTech Program.
- Continued project to provide PEO (Carriers) with a portable device for aircraft carrier propulsion system health monitoring. (CVN Propulsion Health Monitoring)
- Continued effort for submarine Vertical Launch System (VLS) tube repair tools. (VLS Tube Repair)
- Continued effort on an automated rotor blade stripping system and workcell designs associated with rotor blade repair. (Helicopter Blade Refurbishment)
- Continued work with ATK Thiokol Propulsion to scale-up and implement the alternative manufacturing process. (Alternative Manufacture of Energetic Material 1,3,5-triamino-2,4,6-trinitrobenzene (TATB))
- Continued effort to demonstrate a continuous process to manufacture high volume, low cost, nitrogen based gun propellants, including a co-extrusion process for manufacture of co-layered propellants. (Flexible Manufacturing of Nitrogen Based Gun Propellants)
- Continued development of a pre-production laser/GMA hybrid pipe welding system. (Hybrid Pipe Welding System)
- Continued development of a comprehensive technical training and data collection program for structural welders and fitters, applying elements of Best Practices Lean technologies. (Technical Training and Data Collection (NGSS))
- Continued re-engineering internal supply chain/material delivery process. (Re-engineer Internal Supply Chain (NGSS))
- Completed Virginia-Class structural fabrication facility design effort to incorporate product centric manufacturing principles and robotic processes into self-sufficient and self-governing product lines. (Product Centric Facility Design)
- Completed development of a man-portable Gas Metal Arc (GMA) welder for shipyard applications. (Ultra-light Welding System)
- Completed wireless automated diagnostics/prognostics project and implemented on mobile diesel engines in shipyards.
- Completed evaluation of feasibility of welding High-Strength Low-Alloy (HSLA)-100 steel with reduced preheat, specifically for submerged arc welding of plates more than 1 5/8 inch thick and GMA welding of plates more than one inch thick. (High Heat Input Welding of Thick HSLA-100 with Reduced Pre-Heat)
- Completed development of “Super Finishing Process” to salvage helicopter gears and reduce procurement and maintenance costs. (CH-46 Gear Repair)
- Completed project to identify technologies to reduce the time and costs of alignment and inspection procedures associated with the maintenance of submarines. (Alignments and Inspections)

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- Completed development of a safer, repeatable, cost effective and environmentally sound alternative to live fire testing of M198, M777 and M1A1 recoil assemblies. (M198 Howitzer Mechanism Recoil Testing)
- Completed effort to evaluate finite element analysis methods to determine if they apply to thick Navy structures of CVN 21 ships. (Predictive Weld Distortion in Thick Navy Structures, Northrop Grumman Newport News (NGNN))
- Completed program to develop standards and processes for digital radiography of piping and plate welds supporting CVN 21 and Virginia-Class construction non-destructive testing. (Digital Radiography)
- Completed effort to minimize distortion and resulting re-work and costs in Virginia-Class hull ring manufacturing. (Weld Distortion Prediction Initiative)
- Completed building and evaluation of hand-held analyzer that can provide test results for determining presence of PCB contamination. (HAZMAT Analyzers)
- Completed development of a manufacturing process to reduce the cost and lead-time associated with polycan fabrication. (Polycan Fabrication)
- Completed development of new weld size and inspection criteria based on fitness for service. (Portable Weld Inspection Management System)
- Completed project to develop Waterborne Tank and Void Preservation process using new long-life high-solids coatings and Ultrahigh Pressure Water Jet (UHPWJ) surface preparation for tanks and voids on CVN 21 carriers. (Carrier Tank Coatings)
- Initiated evaluation of remanufacturing/repair operations at blast and paint facilities at USMC Depot at Albany, GA and identified process optimization/improvement options. (USMC Depot Blast & Paint Lean Production Optimization)
- Initiated Repair Technology projects based on high priority depot needs.
- Initiated energetics efforts to support PEO (IWS) and other acquisition programs.
- Initiated shipbuilding efforts for DD(X), LCS, CVN 21, and Virginia Class submarines.

FY 2007 Plans:

- Continue all FY 2006 efforts less those noted as completed above.
- Complete development of a pre-production laser/GMA hybrid pipe welding system. (Hybrid Pipe Welding System)
- Complete development of a comprehensive technical training and data collection program for structural welders and fitters, applying elements of Best Practices Lean technologies. (Technical Training and Data Collection (NGSS))
- Complete re-engineering internal supply chain/material delivery process. (Re-engineer Internal Supply

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Chain (NGSS))
- Complete work with ATK Thiokol Propulsion to scale-up and implement the alternative manufacturing process. (Alternative Manufacture of TATB)
- Complete effort for submarine VLS tube repair tools. (VLS Tube Repair)
- Complete effort on an automated rotor blade stripping system and workcell designs associated with rotor blade repair. (Helicopter Blade Refurbishment)
- Initiate and complete computed radiography effort as replacement for conventional film radiography for submarine applications. (Computed Radiography, an Alternative to Conventional Film Radiography)
- Initiate and complete nested material effort to develop a pipe nesting process to enable an efficient pipe spool fabrication process that supports a flexible manufacturing environment. (Nested Material Manufacturing Technology Improvement)
- Initiate internal supply chain effort at Marinette Marine that will result in process improvement activities focused on the methods used for tracking material in the yard. (Internal Supply Chain – Marinette Marine)
- Initiate Repair Technology projects based on high priority depot needs.
- Initiate energetics efforts to support PEO IWS and other acquisition programs.
- Initiate shipbuilding efforts for DDG-1000 (formerly DD(X)), LCS, CVN 21, and Virginia Class submarines.

FY 2008 Plans:

- Continue all FY 2007 efforts less those noted as completed above.
- Complete effort to demonstrate a continuous process to manufacture high volume, low cost, nitrogen based gun propellants, including a co-extrusion process for manufacture of co-layered propellants. (Flexible Manufacturing of Nitrogen Based Gun Propellants)
- Initiate Repair Technology projects based on high priority depot needs.
- Initiate energetics efforts to support PEO IWS and other acquisition programs.
- Initiate advanced shipbuilding efforts to address improvements/affordability for DDG-1000 (formerly DD(X)), CVN 21, Virginia Class submarines, and LCS.

FY 2009 Plans:

- Continue all FY 2008 efforts less those noted as completed above.
- Initiate Repair Technology projects based on high priority depot needs.
- Initiate energetics efforts to support PEO IWS and other acquisition programs.

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• Initiate advanced shipbuilding efforts to address improvements/affordability for DD(X), CVN 21, Virginia Class submarines, and LCS.

	FY 2006	FY 2007	FY 2008	FY 2009
ELECTRONICS PROCESSING AND FABRICATION	10,000	10,690	10,900	10,900

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.

FY 2006 Accomplishments:

• Continued Light Activated Semiconductor Switch (LASS) for CVN 21.
• Continued Electro-Optics Rapid Response efforts such as fiber optic training and troubleshooting efforts to support integration of fiber into new and legacy aircraft and ships.
• Continued Helmet Mounted Displays effort to reduce cost and improve durability of F/A-18 and Joint Strike Fighter (JSF) helmet mounted visor. (Helmet Mounted Display Visor)
• Completed F-18/DDG-1000 (formerly DD(X)) Microwave Monolithic Integrated Circuit (MMIC) Flip Chip Second Source validation and transfer effort.
• Completed ALQ-99 Band 4 Jammer effort (Phase 1) to increase production yields.
• Completed Hermetic Sealing of T/R Modules to provide significant improvement in affordability of T/R Modules for SPY-3 radar through use of more commercial packaging and manufacturing methods.
• Completed Manufacturing & Packaging of Power Systems for PEO Carriers and PEO Ships: Developed packaging methodologies for transmission and storage of switching devices and subsystems for pulsed power systems.
• Completed MicroElectroMechanical Systems (MEMS) Affordability Program.
• Completed effort to bring current and voltage sensors designed for high power applications from Technical Readiness Level 4 up to Technical Readiness Level 6 through a series of development phases for the manufacture of the sensor systems and developed a test bed for qualification of the system.
• Completed Lead-Free & Environmentally Safe Manufacturing project to reduce the risk of implementing current environmentally safe components and materials.
• Initiated effort on small Ku-band phased arrays suitable for high data-rate airborne relays and communications networks. (SiGE-Based System-on-Chip for Low-Cost Weight Phased Array Antennas)

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- Initiated Phase 2 effort to improve the manufacturability of the AN/ALQ-99 Band 4 Transmitter-Antenna Output Traveling Wave Tube (OTWT). (Manufacturability of OTWT for Jammer Applications)
- Initiated project to replace CRT based units on F/A-18 to significantly improve aircraft availability while reducing maintenance and logistics costs. (Digital Heads-Up Display)
- Initiated effort to address manufacturing issues of future high-power silicon carbide based components for solid state power substations for future Navy ships such as CVN 21. (High-Power Silicon Carbide PiN Diode Manufacturing)
- Initiated 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)
- Initiated effort to further improve fiber light acceptance and transmission capabilities for DDG-1000 (formerly DD(X)). (DDG-1000 Remote Source Lighting)
- Initiated effort to develop the manufacturing technology to enable the Directional Infrared Countermeasures (DIRCM) mid-infrared laser subsystem technology to be ready for insertion in 2007-8 timeframe. (Multispectral Mid-IR Lasers for DIRCM)
- Initiated advanced electronics and electro-optics efforts to address improvement and affordability issues for DDG-1000 (formerly DD(X)), CVN-21, Virginia Class submarines, LCS, F/A-18, EA-18G, and others.

FY 2007 Plans:

- Continue all FY 2006 efforts less those noted as completed above.
- Complete LASS for CVN 21.
- Complete Phase 2 effort to improve the manufacturability of the AN/ALQ-99 Band 4 Transmitter-Antenna OTWT. (Manufacturability of OTWT for Jammer Applications)
- Initiate effort to reduce the cost and improve the reliability of fiber optic wound sensors for Virginia Class submarines. (Conformal Acoustic Velocity Sensor CAVES for Virginia Class Sub)
- Initiate high–G packaging and miniaturization effort for deeply integrated inertial guidance units (High-G Packaging and Miniaturization for Deeply Integrated Inertial Guidance Units)
- Initiate LCS Antenna Affordability Phase II effort. (LCS Reconfigurable Antenna)
- Initiate sonar and navigation effort for Virginia Class submarine. (Sonar and Navigation for Virginia Class)
- Initiate advanced electronics and electro-optics efforts to address improvements/affordability for DDG-1000 (formerly DD(X)), CVN-21, Virginia Class submarines, LCS, F/A-18, EA-18G, and others.

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FY 2008 Plans:

- Continue all FY 2007 efforts less those noted as completed above.
- Complete Helmet Mounted Displays effort to reduce cost and improve durability of F/A-18 and JSF helmet mounted visor. (Helmet Mounted Display Visor)
- Complete project to replace CRT based units on F/A-18 to significantly improve aircraft availability while reducing maintenance and logistics costs. (Digital Heads-Up Display)
- 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)
- Complete effort to further improve fiber light acceptance and transmission capabilities for DDG-1000 (formerly DD(X)). (DDG-1000 Remote Source Lighting)
- Complete effort on small Ku-band phased arrays suitable for high data-rate airborne relays and communications networks. (SiGE-Based System-on-Chip for Low-Cost Weight Phased Array Antennas)
- Complete LCS Antenna Affordability Phase II effort. (LCS Reconfigurable Antenna)
- Initiate advanced electronics and electro-optics efforts to address improvements/affordability for DDG-1000 (formerly DD(X)), CVN-21, Virginia Class Submarine, LCS, F/A-18, EA-18G, and others.

FY 2009 Plans:

- Continue all FY 2008 efforts less those noted as completed above.
- Complete effort to address manufacturing issues of future high-power silicon carbide based components for solid state power substations for future Navy ships such as CVN 21. (High-Power Silicon Carbide PiN Diode Manufacturing)
- Complete effort to reduce the cost and improve the reliability of fiber optic wound sensors for Virginia Class submarines. (Conformal Acoustic Velocity Sensor CAVES for Virginia Class Sub)
- Complete sonar and navigation effort for Virginia Class submarine. (Sonar and Navigation for Virginia Class)
- Initiate advanced electronics and electro-optics efforts to address improvements/affordability for DDG-1000 (formerly DD(X)), CVN-21, Virginia Class Submarine, LCS, F/A-18, EA-18G, and others.

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	FY 2006	FY 2007	FY 2008	FY 2009
COMPOSITES PROCESSING AND FABRICATION	6,000	6,863	6,900	6,900

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.

The increase in funding between FY 2006 and FY 2007 reflects realignment from other activities to more closely align funding with planned program requirements.

FY 2006 Accomplishments:

- Continued project to develop advanced manufacturing techniques for alternate JSF Weapons Bay Door (WBD) design that employs integrated structure concepts to reduce both weight and cost. (Weapons Bay Door)
- Continued effort to develop methods for CVN 21 Weight Reduction. (CVN 21 Weight Reduction)
- Continued effort to develop and implement bonded steel-to-composite joint technology that is producible and cost effective while meeting the functional requirements of structures, signatures and longevity for the DDG-1000 (formerly DD(X)). (Large Marine Composite to Steel Bonded Joint)
- Continued development and refinement of low-cost composites manufacturing approaches for key vehicle areas. (N-UCAS System Design and Manufacturing Demonstration)
- Completed project to develop low cost manufacturing and joining processes for skin panels that can be incorporated into a deckhouse design for the Advanced Electric Ship Demonstrator (AESD) that would allow the testing of future topside concepts. (AESD Deckhouse)
- Completed development efforts on Advanced Hawkeye satellite communications antenna and initiated application of technology to advanced antennas being developed by PEO IWS for CVN 21 application. (Affordable Integrated Structural Apertures)
- Completed development of manufacturing processes to produce high temperature organic polymer radomes for the Phase III and IV Advanced Medium Range Air-to-Air Missile (AMRAAM). (Development of Manufacturing Processes to Produce High Temperature Capable Composite Radomes)
- Completed project to develop a robust cost-effective composites manufacturing process that incorporates current hardware interfaces so that Lock-In Lock-Out Composite (LIOC) hatches can be fabricated from lightweight materials for the ASDS. (Manufacturing Technology for ASDS LIOC Hatch)

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• Initiated project for the insertion of titanium graphite reinforcement for engine bay doors on the F-18. (Titanium-Graphite for F/A-18 Engine Bay Doors)

FY 2007 Plans:

• Continue all efforts of FY 2006 less those noted as completed above.
• Complete full scale WBD manufacturing demonstration and testing. (Weapons Bay Door)
• Complete effort to develop methods for CVN 21 Weight Reduction. (CVN 21 Weight Reduction)
• Complete effort to develop and implement bonded steel-to-composite joint technology that is producible and cost effective while meeting the functional requirements of structures, signatures and longevity for the DDG-1000 (formerly DD(X)). (Large Marine Composite to Steel Bonded Joint)
• Complete development and refinement of low-cost composites manufacturing approaches for key vehicle areas. (N-UCAS System Design and Manufacturing Demonstration)
• Initiate affordability effort for DDG-1000 (formerly DD(X)) Helodeck stiffeners. (DDG-1000 Helodeck Stiffeners Affordability)
• Initiate affordability effort for DDG-1000 (formerly DD(X)) Radomes. (DDG-1000 Radomes Affordability)
• Initiate Virginia Class Sail Cusp effort to replace current steel and syntactic foam design with a lower cost composite cusp for the VA Class (Composite Sail Cusp).
• Initiate Virginia Class Impeller effort to replace current titanium forging that requires complex machining with a more affordable composite design (VCS Impeller).
• Initiate V-22 and H53 frames effort to replace current aluminum frames with more affordable composite frames made with enhanced automated weaving processes (Composite Frame Manufacturing Technology - V-22 and H-53).
• Initiate other projects to address improvements/affordability of DDG-1000 (formerly DD(X)), CVN 21, Virginia Class submarines, and others.

FY 2008 Plans:

• Continue all FY 2007 efforts less those noted as completed above.
• Complete project for the insertion of titanium graphite reinforcement for engine bay doors on the F-18. (Titanium-Graphite for F-18 Engine Bay Doors)
• Complete Virginia Class Sail Cusp effort to replace current steel and syntactic foam design with a lower cost composite cusp for the VA Class (Composite Sail Cusp).
• Complete V-22 and H53 frames effort to replace current aluminum frames with more affordable composite

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frames made with enhanced automated weaving processes (Composite Frame Manufacturing Technology - V-22 and H-53).
• Initiate other projects to address improvements/affordability of DDG-1000 (formerly DD(X)), CVN 21, Virginia Class submarines, and others.

FY 2009 Plans:

• Continue all FY 2008 efforts less those noted as completed above.
• Complete affordability effort for DDG-1000 (formerly DD(X)) Helodeck stiffeners. (DDG-1000 Helodeck Stiffeners Affordability)
• Complete affordability effort for DDG-1000 (formerly DD(X)) Radomes. (DDG-1000 Radomes Affordability)
• Initiate Virginia Class Impeller effort to replace current titanium forging that requires complex machining with a more affordable composite design (VCS Impeller).
• Initiate other projects to address improvements/affordability of DDG-1000 (formerly DD(X)), CVN 21, Virginia Class submarines, and others.

	FY 2006	FY 2007	FY 2008	FY 2009
CORPORATE INVESTMENTS	10,057	6,740	4,753	4,903

The Corporate Investments area is focused on accelerating defense industrial enterprise progress toward implementation of world-class industrial practices as well as advanced design and information systems that support weapon system development, production, and sustainment. Key emphasis areas include: 1) Benchmarking and accelerating the implementation of world-class industrial practices throughout the contractor base; 2) Demonstrating and validating advanced business practices and information technologies capable of streamlining management functions in all industrial base tiers; and 3) Leveraging information technologies in pursuit of tighter coupling of all defense industrial enterprise elements. Corporate Investment efforts create improvements to cost and cycle time for weapon system development, production, and repair.

The funding decreases in FY 2007 and FY 2008 reflect realignments to other activities to more closely align funding with planned program requirements in support of the shipbuilding affordability efforts.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS
PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECHNOLOGY

FY 2006 Accomplishments:

- Continued Best Manufacturing Practices efforts in surveys, the Program Manager's WorkStation, and Collaborative Work Environment.
- Continued Packaging Reconfigurable Antenna Solutions for Improved Mission Adaptability for the Littoral Combat Ship effort.
- Completed LASCOR/10% Ni Steel CVN Tails effort.
- Completed development of decision support system. (Gulf Coast Region Maritime Technology Center, NGSS LPD-17, potentially DDG-1000 (formerly DD(X))
- Completed the development of a low cost Vacuum Assisted Resin Transfer Mold (VARTM) process to produce Virginia-Class "Special Feature" parts that do not require significant post processing/machining and meet drawing and performance specifications. (Composite Manufacturing Technology for "Special Feature")
- Initiated efforts to continue 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 Littoral Combat Ship (LCS), CVN 21 carrier program, and others.

FY 2007 Plans:

- Continue all FY 2006 efforts less those noted as completed above.
- Complete the Packaging Reconfigurable Antenna Solutions for Improved Mission Adaptability for the LCS effort.
- Initiate efforts to continue to improve the Navy industrial base through above-the-factory-floor enhancements and supply chain processes/technologies improvements for Navy weapon system acquisition programs such as DD(X), CVN 21, LCS, Virginia Class submarines, and others.

FY 2008 Plans:

- Continue all FY 2007 efforts less those noted as completed above.
- Initiate efforts to continue 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 (formerly DD(X)), CVN 21, LCS, Virginia Class submarines, and others.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS
PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECHNOLOGY

FY 2009 Plans:

- Continue all FY 2008 efforts less those noted as completed above.
- Initiate efforts to continue 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 (formerly DD(X)), CVN 21, LCS, Virginia Class submarines, and others.

C. OTHER PROGRAM FUNDING SUMMARY:
Major Acquisition programs, such as: DDG 1000 (formerly DD(X)), CVN-21, LCS, LPD-17, LCS, EFV, F/A-18, and VIRGINIA Class Submarines.

NON-NAVY RELATED RDT&E:
PE 0708011F Industrial Preparedness (USAF)
PE 0708011S Industrial Preparedness (DLA)
PE 0708045A End Item Industrial Preparedness Activities (ARMY)

D. ACQUISITION STRATEGY:
Not applicable.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS
PROJECT NUMBER: 9999 PROJECT TITLE: Congressional Plus-Ups

CONGRESSIONAL PLUS-UPS:

	FY 2006	FY 2007
FORMABLE ALIGNED CARBON THERMOSETS (FACTS)/STRETCH BROKEN CARON FIBER	0	2,192

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 will be to scale up the process to make preimpregnated tape with these tows, and using this tape to make contoured demonstration articles for naval aircraft applications.

	FY 2006	FY 2007
POLYETHERIMIDE RESIN FOAM DOMESTIC MANUFACTURING CAPABILITY	0	996

Currently, "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 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 project is intended to develop a domestic manufacturing capability for an environmentally friendly version of PEI foam for use as a drop-in replacement for these naval applications.

	FY 2006	FY 2007
US NAVY NUCLEAR POWER PLANT AND SHIP PROPULSION SHAFT MANUFACTURING IMPROVEMENT	0	1,345

This effort concentrates 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.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS
PROJECT NUMBER: 9999 PROJECT TITLE: Congressional Plus-Ups

	FY 2006	FY 2007
NANO-IMPRINT AT MANUFACTURING SCALE (NIMS)	1,341	1,445

FY 2006 - This effort concentrated on the module level development for subsystems needed for direct manufacturing of micro-electronic integrated circuits. Emphasis was placed on evolving year – 1 alpha concept designs into beta prototypes for testing and processing data collection.
FY 2007 - This effort supports NIMS research.

	FY 2006	FY 2007
NAVAL APPLICATION OF LASER PEENING TECHNOLOGY	959	0

This effort supported evaluation of the implementation potential for Navy aircraft of the laser peening process to enhance fatigue life, fatigue strength, resistance to stress corrosion cracking on aircraft and rotorcraft components, reduce aircraft maintenance costs and improve damage tolerance.