CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION					DATE May 2009		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604378N/NAVAL INTEGRATED FIRE CONTROL**						
COST (In Millions)	FY 2008	FY 2009	FY 2010				
Total PE Cost	14.612	13.295	11.727				
3159 / Naval Integrated Fire Control-Counter Air SE&I	11.144	10.503	11.727				
9999 / CONGRESSIONAL ADDS	3.468	2.792	0.000				

A. MISSION DESCRIPTION:

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

3159 Naval Integrated Fire Control - Counter Air (NIFC-CA) Systems Engineering Integration and Test (SEI&T) project is a systems engineering effort to extend the Naval Theater Air and Missile Defense battlespace out to the maximum kinematic range of our weapons. This includes targets beyond the detection range of the shooter, including Engage On Remote (EoR) and Over the Horizon (OTH) targets. The NIFC-CA project exploits capabilities inherent in existing systems, optimizes current and emerging technologies in component system upgrades, integrates them together, performs kill chain tests, forming an interoperable System of Systems (SoS) to maximize future air defense capabilities. NIFC-CA consists of three kill chains called From the Air (FTA), From the Sea (FTS), and From the Land (FTL). As directed by OPNAV, the project is focused on SEI&T efforts to integrate the From The Sea (FTS) kill chain consisting of the E-2D Advanced Hawkeye, Cooperative Engagement Capability (CEC), AEGIS, and SM-6 missile. This PE will support efforts including system definition and architecture development, performance prediction, performance assessment, system test and risk reduction efforts, system analysis, modeling and simulation, and capability demonstrations for the FTS kill chain. The project also facilitates the development of the concept of operations with the warfighter to maximize effectiveness when deployed with the Fleet. This PE also includes SEI&T activities to integrate the US Army's Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) into the FTS kill chain as an elevated sensor and conduct a joint demonstration of that capability when the Navy systems are mature.

9999 The AN/SPS-49 Radar received a Congressional Add in 2008 and 2009. AN/SPS-49(V) radar system has become a Dimishing Manufacturing Source (DMS) issue with more than 17 Lowest Replaceable Units (LRU's) that are UTP (Unable To Procure). The AN/SPS-49(V) radar system is the Navy's primary two-dimensional (2D) long-range search radar. AN/SPS-49(V) radar systems are installed in CG, CVN, FFG, LSD, LHD classes and are planned for installation in the LHA (R) ship class. The AN/SPS-49 is scheduled to be in service another 40 years. The FY08 and FY09 Congressional Add enables continued support of the SPS-49 current fielded systems in the interim period before the Radar Common Signal Data Processor is fielded. This address the obsolescence and DMS issues associated with the many Automated Test Equipment platforms utilized to repair the radar components and facilitates the development and implementation of an interim test and repair strategy for the current radar platforms.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604378N/NAVAL INTEGRATED FIRE CONTROL**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2008	FY 2009	FY 2010
FY09 President's Budget	14.829	10.533	12.075
FY10 President's Budget	14.612	13.295	11.727
Total Adjustments	-0.217	2.762	-0.348
(U) Summary of Adjustments			
Congressional Adjustments	0.000	2.762	0.000
SBIR/STTR/FTT Assessment	-0.094	0.000	0.000
Program Adjustments	-0.123	0.000	-0.345
Rate/Misc Adjustments	0.000	0.000	-0.003
Total	-0.217	2.762	-0.348

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2008	FY 2009	FY 2010	Total Cost
Other RDT&E Related:	0.000	0.000	0.000	0.000
0603658N (CEC)	1.100	2.850	2.080	6.030
0604366N (Standard Missile SM-6)	190.678	221.956	151.844	564.478
0604307N (AEGIS)	9.007	19.421	24.978	53.406
BLI 019500 E-2D AIRCRAFT	0.000	13.049	13.365	26.414

D. ACQUISITION STRATEGY:

Not Applicable

E. MAJOR PERFORMERS:

NSWC Dahlgren Division (NSWC DD), Dahlgren, VA

Lockheed Martin (LM) Maritime Systems and Sensors (MS2), Moorestown, NJ

Raytheon Co., Tucson, AZ

Northrop Grumman Systems Corp, Integrated Systems (IS), Bethpage, NY

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604378N/NAVAL INTEGRATED FIRE CONTROL**	

Boeing Integrated Defense Systems (IDS), St. Louis, MO
Johns Hopkins University (JHU) Applied Physics Laboratory (APL), Laurel, MD
NSWC Port Hueneme (NSWC/PHD), Port Hueneme, CA
Alion/MEI, Mclean, VA

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE May 2009		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**				PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**		
COST (In Millions)	FY 2008	FY 2009	FY 2010				
Project Cost	11.144	10.503	11.727				
RDT&E Articles Qty	0	0	0				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

3159 Naval Integrated Fire Control - Counter Air (NIFC-CA) Systems Engineering Integration and Test (SEI&T) project is a systems engineering effort to extend the Naval Theater Air and Missile Defense battlespace out to the maximum kinematic range of our weapons. This includes targets beyond the detection range of the shooter, including Engage On Remote (EoR) and Over the Horizon (OTH) targets. The NIFC-CA project exploits capabilities inherent in existing systems, optimizes current and emerging technologies in component system upgrades, integrates them together, performs kill chain tests, forming an interoperable System of Systems (SoS) to maximize future air defense capabilities. NIFC-CA consists of three kill chains called From the Air (FTA), From the Sea (FTS), and From the Land (FTL). As directed by OPNAV, the project is focused on SEI&T efforts to integrate the From The Sea (FTS) kill chain consisting of the E-2D Advanced Hawkeye, Cooperative Engagement Capability (CEC), AEGIS, and SM-6 missile. This PE will support efforts including system definition and architecture development, performance prediction, performance assessment, system test and risk reduction efforts, system analysis, modeling and simulation, and capability demonstrations for the FTS kill chain. The project also facilitates the development of the concept of operations with the warfighter to maximize effectiveness when deployed with the Fleet. This PE also includes SEI&T activities to integrate the US Army's Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) into the FTS kill chain as an elevated sensor and conduct a joint demonstration of that capability when the Navy systems are mature.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**	PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	2.197	2.064	3.500
RDT&E Articles Quantity	0	0	0

Efforts: The Integration and Test (I&T) Integrated Product Team (IPT) develops and executes the test plan to assess the FTS operational capability, performs risk reduction testing leveraging various component system tests. Test data will be used over time to verify, validate, and accredit the FTS simulation federation. I&T IPT provides support to the Integrated Master Schedule (IMS) to include test design and planning, test security plans, data management and collection plans.

FY08 Plan: Develops risk reduction plan for FTS deployment, NIFC-CA FTS Test Strategy, supports and monitors Advanced Area Defense Interceptor (AADI) test operations and results.
FY09 Plan: Develops plans for JLENS demonstration, participates in SM-6 live-fire tests, provides test data to FTS simulation federation, E-2D test planning. Supports predictive analysis for program test events.
FY10 Plan: Participates in CEC/E-2D and CEC/AEGIS test and integration planning, SM-6 development test/operational test (DT/OT) testing, JLENS system testing and integration into FTS kill chain for demonstration.

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	3.339	3.066	0.400
RDT&E Articles Quantity	0	0	0

Efforts: The SEI&T Integrated Master Schedule (IMS) is used as the primary tool for project planning and monitoring the efforts being performed by the SEI&T government and industry teams. This integrated engineering plan integrates the FTS Programs of Record schedules and how they relate to the FTS SEI&T effort, and the critical path to deployment. The IMS measures program performance (Earned Value (EV)-like metrics), and is used as a planning tool as the FTS contributing programs deploy at different times. The IMS contains all the tasks required to support deployment of the FTS capability.
FY08: Continue refinement of IMS established in FY07; establish project-level EV-like metrics; add SoS risk mitigation activities; continue to update and monitor.
FY09: Incorporate detailed JLENS program schedule into IMS; add JLENS demonstration activities to IMS; update and monitor as required.
FY10: Update and monitor as required.

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	5.284	5.049	7.556
RDT&E Articles Quantity	0	0	0

Efforts: Engineering management and system definition including the development of the Systems Performance Document (SPD), SoS functional allocations, requirements, traceability, SoS trades studies, SoS information exchange requirements, interface specifications, and sensor network capability analysis. Provides for complete FTS kill chain performance analysis and interface verification through development of a federation of simulations provided directly from the FTS Programs of Record. Federated SoS simulations support architecture development, scenario development, predictive analysis for testing, and define capabilities and limitations of FTS kill chain for deployment.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**	PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**

FY08 Plan: Established system requirements, measure of effectiveness/measures of performance (MOE/MOPs), SoS interface requirement specs, integrate From the Air/From the Sea conops, continue builds for SoS Federation, conduct Performance Assessment Reports (system performance analysis), continue risk management and mitigation efforts, supports JLENS System Development and Demonstration (SDD) program for IFC issues, establish and update SoS Requirements Verification Matrix, finalize system architecture documentation.

FY09 Plan: Update MOE/MOPs, update SoS interface requirement specs, continue builds for SoS Federation, conduct Performance Assessment Reports (system performance analysis), continue risk management and mitigation efforts, supports JLENS SDD program for IFC issues, update SoS Requirements Verification Matrix, support development of Fleet TacMemos.

FY10 Plan: Update MOE/MOPs, update SoS interface requirement specs, continue builds for SoS Federation based on SoS test programs and results, conduct Performance Assessment Reports (SoS performance analysis), continue risk management and mitigation efforts, performs JLENS integration for demonstration.

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	0.324	0.324	0.271
RDT&E Articles Quantity	0	0	0

Efforts: Perform Systems Engineering, Integration and Test with Army JLENS program. Supports modeling and simulation and predictive analysis with JLENS as airborne sensor in the FTS kill chain. Provides for demonstration planning, execution, and data analysis.

FY08 Plan: Establish and integrate JLENS program into FTS SEI&T activities, provide system architecture documents and interface specs to JLENS, establish MOEs/MOPs for demonstration, incorporate JLENS risks into FTS risk management plans, preliminary modeling of performance.

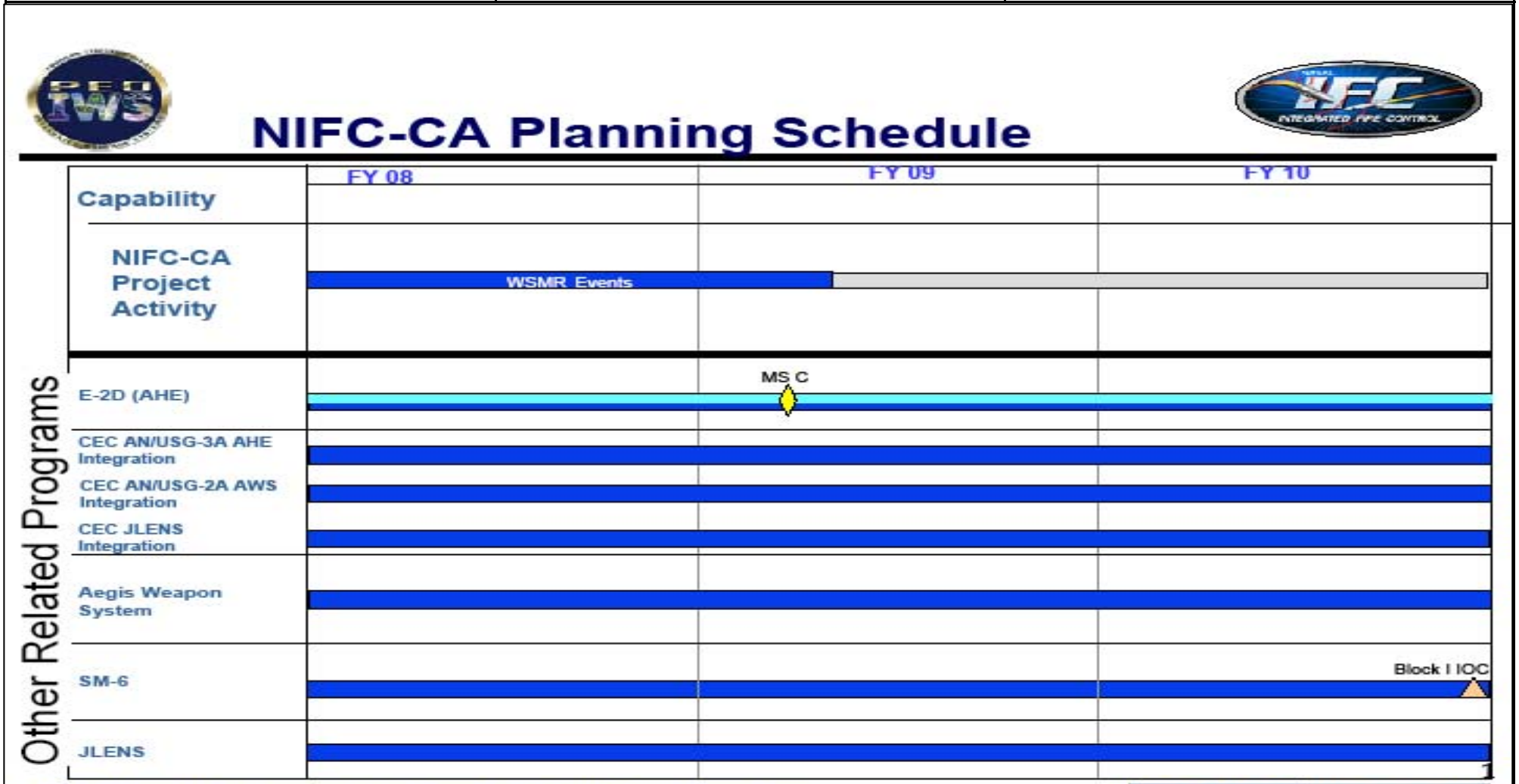
FY09 Plan: Continue participation in JLENS SDD, support demonstration planning efforts.

FY10 Plan: Continue participation in JLENS SDD, finalize demonstration planning.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE May 2009			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**				PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)			FY 2009 Cost ($000)	FY 2009 Award Date	FY 2010 Cost ($000)	FY 2010 Award Date		Total Cost ($000)	Target Value of Contract
Systems Engineering	WR	NSWC/DD - DAHLGREN VA	2.123			0.549	OCT-08	0.635	OCT-09		CONT	0.000
Systems Engineering	See Remark	Various	3.579			1.304	OCT-08	0.962	OCT-09		CONT	0.000
Systems Engineering	CPAF	JHU/APL - LAUREL MD	0.300			0.200	OCT-08	0.325	OCT-09		CONT	0.000
Systems Engineering	CPAF	NGMS - RESTON VA	0.452			0.200	OCT-08	0.310	OCT-09		CONT	0.000
Systems Engineering	CPAF	NGIS - Bethpage NY	1.780			0.800	OCT-08	1.070	OCT-09		CONT	0.000
Systems Engineering	CPAF	LM MS2 - Moorestown NJ	1.655			0.800	OCT-08	0.920	OCT-09		CONT	0.000
Systems Engineering	CPAF	RAYTHEON CO - TUCSON AZ	3.403			1.001	OCT-08	1.057	OCT-09		CONT	0.000
Systems Engineering	CPAF	Boeing IDS - ST LOUIS, MO	0.698			0.200	OCT-08	0.460	OCT-09		CONT	0.000
Systems Engineering	CPAF	CSCI - Springfield VA	0.500			0.200	OCT-08	0.000			CONT	0.000
Systems Engineering	WR	SWDG - Norfolk, VA	0.236			0.103	OCT-08	0.120	OCT-09		CONT	0.000
Systems Engineering	WR	COTF - Norfolk, VA	0.156			0.103	OCT-08	0.225	OCT-09		CONT	0.000
Systems Engineering	WR	NSWC/PHD	0.000			0.000		0.265	OCT-09		CONT	0.000
Subtotal Systems Engineering			**14.882**			**5.460**		**6.349**			**CONT**	**0.000**
Remarks: There are various types of contract and field activity costs for this category (Various).												
Integration and Test	WR	NSWC/DD - Dahlgren, VA	0.501			0.300	OCT-08	0.520	OCT-09		CONT	0.000
Integration and Test	CPAF	Raytheon Co., Tucson, AZ	0.300			0.400	OCT-08	0.470	OCT-09		CONT	0.000
Integration and Test	CPAF	LM MS2 - Moorestown, NJ	0.100			0.200	OCT-08	0.240	OCT-09		CONT	0.000
Integration and Test	CPAF	NGIS - Bethpage, NY	0.100			0.200	OCT-08	0.250	OCT-09		CONT	0.000
Integration and Test	See Remark	Various	3.487			1.214	OCT-08	1.120	OCT-09		CONT	0.000
Integration and Test	WR	NSWC/PHD	0.000			0.000		0.620	OCT-09		0.620	0.000
Subtotal Integration and Test			**4.488**			**2.314**		**3.220**			**CONT**	**0.000**
Remarks: These are various types of contract and field activity costs for this category (Various).												
Project Planning and Management	CPAF	Boeing IDS - St. Louis, MO	0.300			0.150	OCT-08	0.150	OCT-09		CONT	0.000
Project Planning and Management	CPAF	Raytheon Co. - Tucson, AZ	0.624			0.312	OCT-08	0.360	OCT-09		CONT	0.000
Project Planning and Management	CPAF	LM MS2 - Moorestown, NJ	0.594			0.297	OCT-08	0.297	OCT-09		CONT	0.000

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE May 2009			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**				PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)			FY 2009 Cost ($000)	FY 2009 Award Date	FY 2010 Cost ($000)	FY 2010 Award Date		Total Cost ($000)	Target Value of Contract
Project Planning and Management	CPAF	NGIS - Bethpage, NY	0.594			0.297	OCT-08	0.360	OCT-09		CONT	0.000
Project Planning and Management	WR	NSWC/DD - Dahlgren, VA	0.450			0.225	OCT-08	0.261	OCT-09		CONT	0.000
Project Planning and Management	CPFF	MEI - Arlington, VA	1.056			0.531	OCT-08	0.610	OCT-09		CONT	0.000
Project Planning and Management	See Remark	Various	2.515			0.917	OCT-08	0.120	OCT-09		CONT	0.000
Subtotal Project Planning and Management			**6.133**			**2.729**		**2.158**			**CONT**	**0.000**
Remarks: These are various types of contract and field activity costs for this category (Various).												
Total Cost			**25.503**			**10.503**		**11.727**			**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**	PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE May 2009		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**			PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**			
Schedule Profile	FY 2008	FY 2009	FY 2010				
WSMR Events	1Q-4Q	1Q					
E-2D IOC		1Q					
SM-6 IOC			4Q				

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE May 2009		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**				PROJECT NUMBER AND NAME **9999/SUSTAINABILITY OF AN/NPS-49 COMMON SIGNAL DATA PRO**		
COST (In Millions)	FY 2008	FY 2009	FY 2010				
Project Cost	3.468	2.792	0.000				
RDT&E Articles Qty	0	0	0				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

9C13A - AN/SPS-49(V) Radar received a Congressional Add in FY2008 and 2009.

The AN/SPS-49(V) radar system has become a DMS issue with more then 17 LRUs (Lowest Replaceable Units) that are UTP (Unable To Procure). AN/SPS-49(V) radar system is the Navy's primary two-dimensional (2D) long-range search radar. AN/SPS-49(V) radar systems are installed in CG, CVN, FFG, LSD, LHD classes and are planned for installation in the LHA(R)ship class. The AN/SPS-49 is scheduled to be in service another 40 years. This enables continued support of the SPS-49 in the interim period before the Radar Common Signal Data Processor is fielded. This address the obsolescence and DMS issues associated with the many Automated Test Equipment platforms utilized to repair the radar components and facilitates the development and implementation of an interim test and repair strategy for the current radar platforms.