

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification				Date: February 2007																																																						
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /		R-1 ITEM NOMENCLATURE PE 0604378N Naval Integrated Fire Control - Counter Air System Engineering																																																								
COST (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013																																																		
Total PE Cost	0.000	14.736	11.497	10.747	12.274	15.394	6.358	5.371																																																		
3159/Naval Integrated Fire Control-Counter Air SE&I	0.000	14.736	11.497	10.747	12.274	15.394	6.358	5.371																																																		
RDT&E Articles Qty																																																										
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Naval Integrated Fire Control - Counter Air (NIFC-CA) Systems Engineering Integration and Test (SEI&T) will extend the Naval Theater Air and Missile Defense battlespace out to the maximum effective range of the weapon. It extends the battlespace to distances that are well beyond the existing, stand-alone capability of surface ship controlled air defense weapons. NIFC-CA is a capabilities based program that takes current and emerging technology from Core Pillar Programs (Cooperative Engagement Capability (CEC), Aegis, Standard Missile (SM-6) and E-2D Advanced Hawkeye (AHE)) and other related programs and integrates them together to form the successful implementation of a System of Systems (SoS) Capability. The NIFC-CA focus is on Integrated Fire Control for over-the-horizon (beyond visual range) and engage-on-remote capability. NIFC-CA is a key component of Navy Transformation "SEA SHIELD".</p> <p>NIFC-CA is a SoS Systems Engineering capability designed to define the functional allocation for the pillar elements within NIFC-CA (SM-6, E-2D, CEC and Aegis). This PE will support SoS SE efforts including System Requirements Review (SRR), Preliminary Design Review (PDR), Critical Design Review (CDR), Modeling and Simulation, required for successful convergence of the pillar programs. The funding identified will provide for NIFC-CA SEI&T risk reduction for engage-on-remote capability and SoS integration.</p>																																																										
<p>B. PROGRAM CHANGE SUMMARY:</p> <table border="0"> <tr> <td>Funding:</td> <td>FY 2006</td> <td>FY 2007</td> <td>FY 2008</td> <td>FY 2009</td> </tr> <tr> <td>Previous President's Budget (PB07)</td> <td>0.000</td> <td>14.792</td> <td>11.133</td> <td>10.322</td> </tr> <tr> <td>Current FY08/09 Presidents Budget (PB08)</td> <td>0.000</td> <td>14.736</td> <td>11.497</td> <td>10.747</td> </tr> <tr> <td>Total Adjustments</td> <td>0.000</td> <td>-0.056</td> <td>0.364</td> <td>0.425</td> </tr> <tr> <td colspan="5">Summary of changes:</td> </tr> <tr> <td>Programmatic Adjustments</td> <td>0.000</td> <td>0.000</td> <td>0.365</td> <td>0.422</td> </tr> <tr> <td>Revised Economic Assumption</td> <td>0.000</td> <td>-0.056</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>BRAC Adjustment</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td></td> </tr> <tr> <td>Misc. Changes</td> <td>0.000</td> <td>0.000</td> <td>-0.001</td> <td>0.003</td> </tr> <tr> <td></td> <td>0.000</td> <td>-0.056</td> <td>0.364</td> <td>0.425</td> </tr> </table> <p>Schedule: N/A</p> <p>Technical:</p> <p>Systems Engineering Integration and Test (SEI&T) for SoS is required for identification, tracking and management of SoS risks, and the integration and test of component programs. Project NIFC-CA SEI&T develops and recommends performance trade-offs and allocates functionality to systems in order to achieve a cost-effective, life-cycle balanced engage-on-remote, over the horizon SoS mission capability leading to a joint integrated fire control. NIFC-CA requires up-front SoS SE for Pillar contributions to From the Sea (FTS) Kill Chain. The FTS Kill Chain is one of 3 kill chains. The other two are the From the Air (FTA) Kill Chain and From the Land (FTL) Kill Chain. All 3 Kill Chains comprise the Naval contribution to Joint IFC. Proof of concept demonstration planned 2007/08 consisting of Air Directed Surface to Air Missile (ADSAM) demo with multiple kill chains. Potential FTS and FTL DT 2010/11. NIFC-CA IOC is 2014</p>									Funding:	FY 2006	FY 2007	FY 2008	FY 2009	Previous President's Budget (PB07)	0.000	14.792	11.133	10.322	Current FY08/09 Presidents Budget (PB08)	0.000	14.736	11.497	10.747	Total Adjustments	0.000	-0.056	0.364	0.425	Summary of changes:					Programmatic Adjustments	0.000	0.000	0.365	0.422	Revised Economic Assumption	0.000	-0.056	0.000	0.000	BRAC Adjustment	0.000	0.000	0.000		Misc. Changes	0.000	0.000	-0.001	0.003		0.000	-0.056	0.364	0.425
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /				R-1 ITEM NOMENCLATURE PE 0604378N Naval Integrated Fire Control - Counter Air System Engineering						
C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
Other RDT&E related:										
0603658N (CEC)	11.142	16.590	9.300	12.200	4.650	3.350	7.900	9.000		
0604366N (Standard Missile SM-6)	109.570	167.462	207.062	231.701	162.173	71.380	35.701	29.134		
0604307N (AEGIS)	23.336	12.685	7.264	10.397	15.742	24.343	24.830	25.326		
0604234N (E-2D Advanced Hawkeye)	598.069	495.962	808.993	491.243	218.476	125.259	48.684	15.721		
D. ACQUISITION STRATEGY:										
E. MAJOR PERFORMERS:										
NSWC Dahlgren Division (NSWC DD)- Dahlgren, VA NSWC Port Huenuma Division (NSWC PHD), Port Huenuma, CA Lockhead Martin (LM) Maritime Systems and Sensors (MS2) - Moorestown, NJ Raytheon Co. , Tucson, AZ Northrup Grumman Corp. (NGC) Integrated Systems (IS), Bethpage, NY Boeing Integrated Defense Systems (IDS), St. Louis, MO Northrup Grumman Corp. (NGC) Mission Systems (MS), Reston, VA Johns Hopkins University (JHU) Applied Physics Laboratory (APL), Laurel , MD										

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0604378N Naval Integrated Fire Control				PROJECT NUMBER AND NAME 3159 Naval Integrated Fire Control-Counter Air SEI&T			
COST (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	14.736	11.497	10.747	12.274	15.394	6.358	5.371
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Naval Integrated Fire Control - Counter Air (NIFC-CA) Systems Engineering Integration and Test (SEI&T) will extend the Naval Theater Air and Missile Defense battlespace out to the maximum effective range of the weapon. It extends the battlespace to distances that are well beyond the existing, stand-alone capability of surface ship controlled air defense weapons. NIFC-CA is a capabilities based program that takes current and emerging technology from Core Pillar Programs (Cooperative Engagement Capability (CEC), Aegis, Standard Missile (SM-6) and E-2D Advanced Hawkeye (AHE)) and other related programs and integrates them together to form the successful implementation of a System of Systems (SoS) Capability. The NIFC-CA focus is on Integrated Fire Control for over-the-horizon (beyond visual range) and engage-on-remote capability. NIFC-CA is a key component of Navy Transformation "SEA SHIELD".</p> <p>NIFC-CA is a SoS Systems Engineering capability designed to define the functional allocation for the pillar elements within NIFC-CA (SM-6, E-2D, CEC and Aegis). This PE will support SoS SE efforts including System Requirements Review (SRR), Preliminary Design Review (PDR), Critical Design Review (CDR), Modeling and Simulation, required for successful convergence of the pillar programs.</p> <p>The funding identified will provide for NIFC-CA SEI&T risk reduction for engage-on-remote capability and SoS integration.</p>								

EXHIBIT R-2a, RDT&E Project Justification	February 2007
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0604378N Naval Integrated Fire Control	PROJECT NUMBER AND NAME 3159 Naval Integrated Fire Control-Counter Air SEI&T
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B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.754	2.197	2.064
RDT&E Articles Quantity				

Efforts: The Integration and Test IPT is responsible for the development and execution of the test plan to validate the From the Sea (FTS) operational capability. The NIFC-CA I&T IPT will Verify, Validate, and Accredit (VV&A) the end-to-end high-fidelity federated simulation. The VV&A process will utilize existing test events and will also include land based and at sea testing. The tasks assigned to the I&T IPT are:

- Perform risk mitigation on risks assigned to the IPT
- Develop the Test and Integration Management Plan (TIMP)
- Develop the Integrated Test and Evaluation Plan (ITEP)
- Collect and Review Program of Records test plans
- Interface with the System Definition IPT
- Interface with the Performance Assessment IPT
- Support Advanced Area Defense Interceptor (AADI) test planning
- Develop a FTS Master Test Schedule, to include Contract Data Requirements List (CDRL) (i.e., TIMP, ITEP) delivery dates.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	4.555	3.339	3.096
RDT&E Articles Quantity				

Efforts: The SEI&T Integrated Engineering Master Schedule (IEMS) will be used as the primary tool for project planning and monitoring the efforts being performed by the NIFC-CA SEI&T government/industry team. The Integrated Engineering Master Plan (IEMP) is a higher level plan/schedule that shows the initial Naval FTS Programs of Record and how they relate to deploying a FTS capability and the critical path to an IOC in 2014. The SEI&T IEMS defines the tasking required to execute the objectives of the NIFC-CA Project, with additional focus on the current scope for which the industry team is under contract. It is a subset of the IEMP and aids in establishing the proper relationships between the SOW and contract deliveries. The SEI&T IEMS will contain all IPT schedules as well as each of the IPTs plans, tasks, product deliveries, and NIFC-CA FTS quarterly meetings. Funding will also be applied to the security requirements of the NIFC-CA project.

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EXHIBIT R-2a, RDT&E Project Justification		Date: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0604378N Naval Integrated Fire Control	PROJECT NUMBER AND NAME 3159 Naval Integrated Fire Control-Counter Air SEI&T

B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	9.427	5.637	5.263
RDT&E Articles Quantity				

Efforts: Engineering management and System Definition including the development of the Systems Performance Document (SPD), SoS functional allocations, requirements traceability, System Trade studies, SoS interface documents, sensor net capability analysis, performance analysis, risk mitigation, and scenario development. Architecture development with supporting documentation is also an on going effort. Modeling and simulation activities will be an area of effort. Performance analysis in terms of SoS performance documents, distributed weapons control and engagement timelines are completed within the systems capabilities arena. System Integrator (industry) efforts supporting systems capabilities with a collaborative role alongside of government rounds out the system capability efforts. Project NIFC-CA will support implementation of the Integrated Architecture Behavior Model (IABM), as directed by OPNAV, as the Navy's way ahead for Integrated Air and Missile Defense. The Navy has provided capability requirements for the IABM. The Navy requirements incorporate Track Management, Combat ID, Distributed Resource Management, Common Services, Communications, Automated Battle Management Aides, Integrated Fire Control and Interface Requirements for the IABM. These requirements are directed by ref (a). Additionally, in support of the sensor net project, NIFC-CA will incorporate the Single Integrated Air Picture (SIAP) encompassed in the IABM as described in the Single Integrated Air Picture Acquisition Decision Memorandum, ref (b).

Reference (a): Memorandum for Assistant Secretary of the Navy, Research Development and Acquisition, dated 14 March 2006, Subj: Single Integrated Air Picture Implementation Guidance.

Reference (b): Memorandum for Secretaries of the Military Departments Chairman, Joint Chiefs of Staff Commander, Joint Forces Command, dated 03 May, 2006, Subj: Single Integrated Air Picture Acquisition Decision Memorandum

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.324	0.324
RDT&E Articles Quantity				

Efforts: Modeling and Simulation development and support, Predictive Analysis across the Joint kill chain, White Sands Missile Range (WSMR) Test Planning, Execution and Analysis, WSMR Range Support (Instrumentation, Telemetry, Safety, Data Collection). Support for Joint Working Groups.

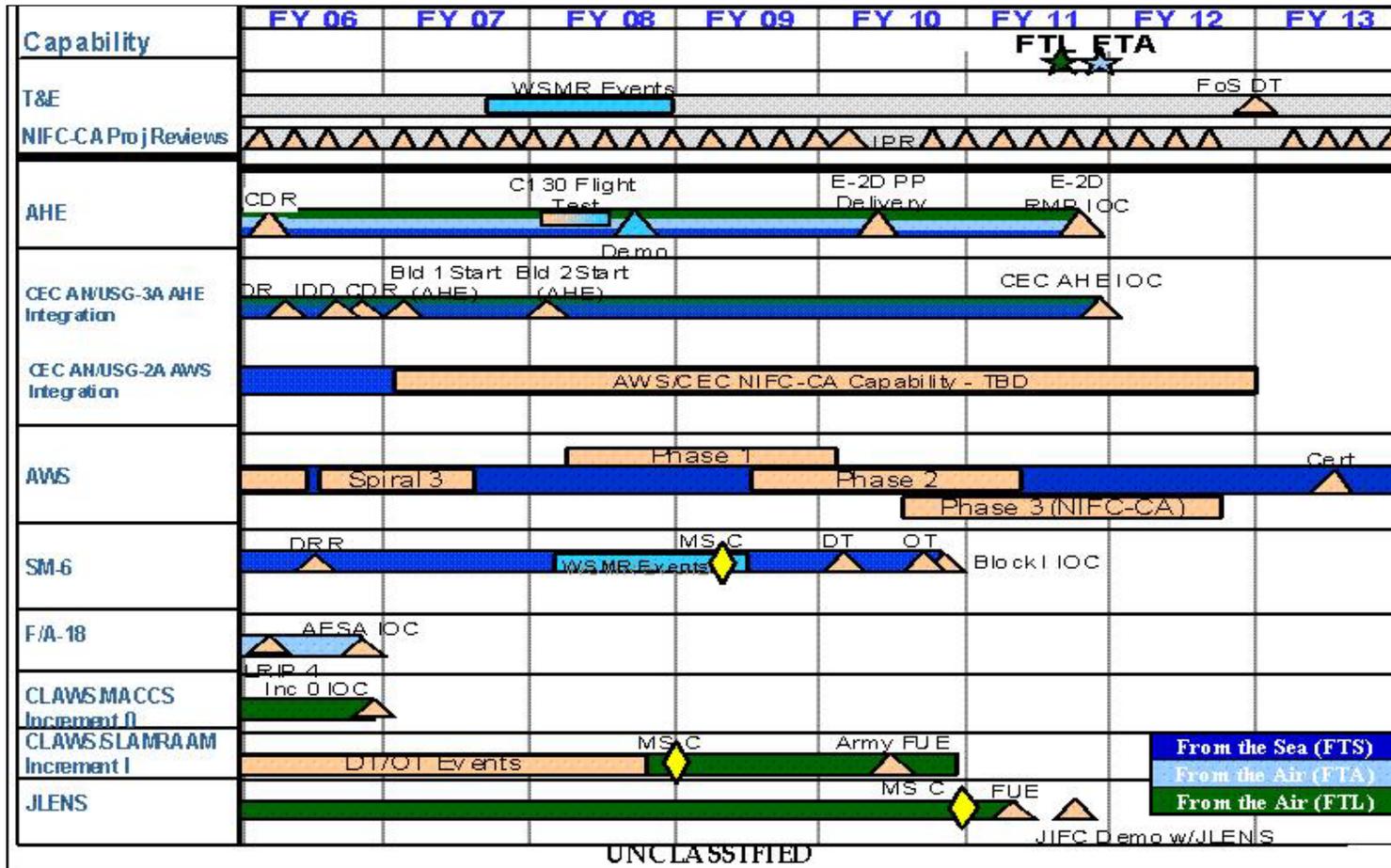
CLASSIFICATION:

Exhibit R-3 Project Cost Analysis (page 1)											Date: February 2007			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME									
RDT&E, N / BA-4			0604378N Naval Integrated Fire Contro		3159 Naval Integrated Fire Control-Counter Air SEI&T									
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
Systems Engineering	WX	NSWC DD - Dahlgren, VA	0.000	0.000		2.035	10/06	0.838	10/07	0.549	10/08	Continuing	Continuing	
Systems Engineering	See Remarks	Various,	0.000	0.000		0.774	10/06	0.694	10/07	0.755	10/08	Continuing	Continuing	
Systems Engineering	CPAF	JHU/APL Laurel, MD	0.000	0.000		0.450	10/06	0.200	10/07	0.200	10/08	Continuing	Continuing	
Systems Engineering	CPAF	NGMS, Reston, VA	0.000	0.000		0.252	10/06	0.200	10/07	0.200	10/08	Continuing	Continuing	
Systems Engineering	CPAF	NGIS, Bethpage, NY	0.000	0.000		1.190	10/06	0.800	10/07	0.800	10/08	Continuing	Continuing	
Systems Engineering	CPAF	LM MS2 - Moorestown, NJ	0.000	0.000		1.190	10/06	0.800	10/07	0.800	10/08	Continuing	Continuing	
Systems Engineering	CPAF	Raytheon Co., Tucson, AZ	0.000	0.000		1.750	10/06	1.000	10/07	1.000	10/08	Continuing	Continuing	
Systems Engineering	CPAF	Boeing IDS, St. Louis, MO	0.000	0.000		0.180	10/06	0.200	10/07	0.200	10/08	Continuing	Continuing	
Systems Engineering	CPAF	CSCI, Springfield, VA	0.000	0.000		0.300	10/06	0.200	10/07	0.200	10/08	Continuing	Continuing	
CONTINUES ON R-3 PAGE 2														
Subtotal Systems Engineering Suppt			0.000	0.000		8.121		4.932		4.704		Continuing	Continuing	
Remarks: There are various types of contract and field activity costs for this category (Various).														
Project Planning and Management	CPAF	Boeing IDS, St. Louis, MO	0.000	0.000		0.150	10/06	0.150	10/07	0.150	10/08	Continuing	Continuing	
Project Planning and Management	CPAF	Raytheon Co., Tucson, AZ	0.000	0.000		0.312	10/06	0.312	10/07	0.312	10/08	Continuing	Continuing	
Project Planning and Management	CPAF	LM MS2 - Moorestown, NJ	0.000	0.000		0.297	10/06	0.297	10/07	0.297	10/08	Continuing	Continuing	
Project Planning and Management	CPAF	NGIS, Bethpage, NY	0.000	0.000		0.297	10/06	0.297	10/07	0.297	10/08	Continuing	Continuing	
Project Planning and Management	WX	NSWC PHD, Port Huenum, CA	0.000	0.000		0.060	10/06	0.100	10/07	0.150	10/08	Continuing	Continuing	
Project Planning and Management	WX	NSWC DD - Dahlgren, VA	0.000	0.000		0.225	10/06	0.225	10/07	0.225	10/08	Continuing	Continuing	
Project Planning and Management	CPFF	MEI, Arlington, VA	0.000	0.000		0.200	10/06	0.250	10/07	0.300	10/08	Continuing	Continuing	
Project Planning and Management	See Remarks	Various	0.000	0.000		3.014	10/06	1.708	10/07	1.365	10/08	Continuing	Continuing	
Subtotal Planning Support			0.000	0.000		4.555		3.339		3.096		Continuing	Continuing	
Remarks: There are various types of contract and field activity costs for this category (Various).														

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Exhibit R-3 Project Cost Analysis (page 2)												Date: February 2007		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-4			0604378N Naval Integrated Fire Control			3159 Naval Integrated Fire Control-Counter Air SEI&T								
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
Systems Engineering	WX	SWDG, Norfolk, VA	0.000	0.000		0.125	10/06	0.111	10/07	0.103	10/08	Continuing	Continuing	
Systems Engineering	WX	COTF	0.000	0.000		0.125	10/06	0.111	10/07	0.103	10/08	Continuing	Continuing	
Systems Engineering	WX	NSWC PHD, Port Huenuma	0.000	0.000		1.000	10/06	0.777	10/07	0.677	10/08	Continuing	Continuing	
Subtotal T&E			0.000	0.000		1.250		0.999		0.883		Continuing	Continuing	
Integration and Test	WX	NSWC PHD, Port Huenuma	0.000	0.000		0.200	10/06	0.750	10/07	0.750	10/08	Continuing	Continuing	
Integration and Test	WX	NSWC DD - Dahlgren, VA	0.000	0.000		0.250	10/06	0.300	10/07	0.300	10/08	Continuing	Continuing	
Integration and Test	CPAF	Raytheon Co., Tucson, AZ	0.000	0.000		0.075	10/06	0.400	10/07	0.400	10/08	Continuing	Continuing	
Integration and Test	CPAF	LM MS2 - Moorestown, NJ	0.000	0.000		0.050	10/06	0.200	10/07	0.200	10/08	Continuing	Continuing	
Integration and Test	CPAF	NGIS, Bethpage, NY	0.000	0.000		0.050	10/06	0.200	10/07	0.200	10/08	Continuing	Continuing	
Integration and Test	See Remark	various				0.185	10/06	0.377	10/07	0.214	10/08	Continuing	Continuing	
Subtotal I&T Support						0.810		2.227		2.064				
Remarks: There are various types of contract and field activity costs for this category (Various).														
Total Cost			0.000	0.000		14.736		11.497		10.747		Continuing	Continuing	
Remarks:														

NIFC-CA Planning Schedule



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						Date: February 2007		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-4	0604378N Naval Integrated Fire Control				3159 Naval Integrated Fire Control-Counter Air SEI&T			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Capability Milestones								
FoS NIFC-CA SE IPRs					1Q			
WSMR EVENTS		4Q	1Q-4Q					
Demos ADSAM-L					4Q			
Demos ADAAM						4Q		
IPR					1Q			
FoS DT Event								3Q
AHE								
PDR								
CDR	1Q							
C130 Flight TEST			3Q					
E-2D PP Delivery					2Q			
E-2D RMP IOC						4Q		
CEC								
Bld 1 Start (C130) integration		1Q						
Bld 2 Start (AHE)				4Q	1Q			
CEC IOC						4Q		
SM-6								
PDR								
DRR	4Q							
CTV-1		2Q						
ADSAM Captive Carry		2Q-4Q	1Q-4Q	1Q				
GTV			1Q-3Q					
MS C				1Q				
Block 1 IOC					4Q			
AWS								
SPIRAL 1/2	1Q-2Q							
SPIRAL 3	3Q-4Q	1Q-4Q						
AWS/SM6 Integ and NIFC-CA Capability			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Aegis Program Certification							3Q	
Aegis Phase III								2Q
F/A-18								
CLAWS/MACCS & SLAM RAAM								
DT Events		1Q-3Q						
MS C		4Q						
In c 0, Army, G/ATOR IOC			4Q		4Q			
JLENS								
MS B	1Q							
MS C				3Q				
First Unit Equipped						1Q		
JIFC Demo w/ JLENS						3Q		