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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604378N: <i>Nav Integrated Fire Control-Counter Air Sys Eng</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	10.574	21.517	24.898	-	24.898	28.990	15.849	4.651	4.743	Continuing	Continuing
3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i>	10.574	21.517	24.898	-	24.898	28.990	15.849	4.651	4.743	Continuing	Continuing

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.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	11.678	21.517	19.910	-	19.910
Current President's Budget	10.574	21.517	24.898	-	24.898
Total Adjustments	-1.104	-	4.988	-	4.988
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-0.637	-			
• SBIR/STTR Transfer	-0.406	-			
• Program Adjustments	-	-	5.104	-	5.104
• Section 219 Reprogramming	-0.061	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.116	-	-0.116

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<u>Change Summary Explanation</u> Technical: Not applicable. Schedule: Not applicable.		

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604378N: Nav Integrated Fire Control-Counter Air Sys Eng				PROJECT 3159: Naval Integrated Fire Control-Counter Air SE&I			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3159: Naval Integrated Fire Control-Counter Air SE&I	10.574	21.517	24.898	-	24.898	28.990	15.849	4.651	4.743	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	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.

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

	FY 2010	FY 2011	FY 2012
Title: Integration and Test (I&E) Integrated Product Team	3.500	11.818	19.206
Articles:	0	0	0
Description: 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.			
FY 2010 Accomplishments: Approved NIFC-CA Test Strategy, Conducted a successful Test Planning Review, Initial Planning for early FY-12 System of System Tracking Exercise, Successful NIFC-CA Federation build 1.3.			
FY 2011 Plans:			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Continue Federation Refinement, Complete planning for October System of System Tracking Exercise, Conduct JLENS simulation exercises in support of the Desert Ship II Upgrade. FY 2012 Plans: Planning for JLENS Demo Event and future NIFCA-CA Testing to support integration with Advanced Capability Build 12 (ACB 12).				
Title: SEI&T INTEGRATED MASTER SCHEDULE Description: 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. FY 2010 Accomplishments: Update and monitor as required. FY 2011 Plans: Update and monitor as required. FY 2012 Plans: Update and monitor as required.		0.400 0 Articles:	0.350 0	0.398 0
Title: ENGINEERING MANAGMENT AND SYSTEM DEFINITION Description: 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 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. FY 2010 Accomplishments:		6.403 0 Articles:	4.498 0	4.294 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Update Measures of Effectiveness (MOE) and Measures of Performance (MOP), update SoS interface requirement specifications, 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 2011 Plans: Update MOE/MOPs, update SoS interface requirement specifications, continue builds for SoS Federation based on SoS test programs and results, conduct Performance Assessment Reports (SoS performance analysis), conduct FoS tracking exercise leveraging AEGIS ACB-12 Demonstration/Certification, continue risk management and mitigation efforts, performs JLENS integration for demonstration. FY 2012 Plans: Based on SoS test program results to date, start validation of MOE/MOP's, conduct SoS performance analyses, continue builds of SoS M&S Federation, continue risk management and mitigation efforts, perform JLENS demonstration and post test analyses.			
Title: SYSTEMS ENGINEERING, INTEGRATION AND TEST WITH ARMY JLENS PROGRAM Description: 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. FY 2010 Accomplishments: Continue participation in JLENS SDD, finalize demonstration planning. FY 2011 Plans: Upgrade and Test White Sands Missile Range (WSMR) Desert Ship with AEGIS ACB-12 functionality and CEC Land Mobile Unit. Integrate with JLENS onsite. FY 2012 Plans: Conduct JLENS demonstration event and post test analyses.	Articles: 0.271 0	4.851 0	1.000 0
Accomplishments/Planned Programs Subtotals	10.574	21.517	24.898

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603658N: CEC	2.080	2.080	3.390	0.000	3.390	2.121	2.164	2.207	2.251	Continuing	Continuing
	120.371	70.132	29.357	0.000	29.357	17.251	6.180	3.960	4.146	Continuing	Continuing

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 0604366N: <i>Standard Missile SM-6</i>											
• 0604307N: <i>AEGIS</i>	24.678	21.497	11.994	0.000	11.994	11.900	8.828	7.112	8.038	Continuing	Continuing
D. Acquisition Strategy Not Applicable											
E. Performance Metrics The NIFC-CA SEI&T contractor team shall execute Modeling and Simulation Federation builds 1.3 and 1.4, conduct 2 engineering-level performance analyses and one System Capability Review, complete one major update of the risk register, and initiate Test & Evaluation planning for NIFC-CA participation in FY12-13 events at the Surface Combat Systems Center (SCSC) and White Sands Missile Range (WSMR).											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				PE 0604378N: Nav Integrated Fire Control-Counter Air Sys Eng				3159: Naval Integrated Fire Control-Counter Air SE&I					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NSWC/DD:Dahlgren, VA	2.246	0.760	Oct 2010	0.703	Oct 2011	-		0.703	0.000	3.709	
Systems Engineering	Various	Various:Various	5.265	1.238	Oct 2010	1.146	Oct 2011	-		1.146	0.000	7.649	
Systems Engineering	C/CPAF	JHU/APL:Laurel, MD	0.825	0.340	Oct 2010	0.315	Oct 2011	-		0.315	0.000	1.480	
Systems Engineering	C/CPAF	NGMS:Reston, VA	0.962	0.420	Oct 2010	0.389	Oct 2011	-		0.389	0.000	1.771	
Systems Engineering	C/CPAF	NGIS:Bethpage, NY	3.601	1.010	Oct 2010	0.935	Oct 2011	-		0.935	0.000	5.546	
Systems Engineering	C/CPAF	LM MS2:Moorestown, NJ	3.375	1.040	Oct 2010	0.962	Oct 2011	-		0.962	0.000	5.377	
Systems Engineering	C/CPAF	Raytheon Co.:Tucson, AZ	5.461	1.232	Oct 2010	1.140	Oct 2011	-		1.140	0.000	7.833	
Systems Engineering	C/CPAF	Boeing IDS:ST. Louis, MO	1.358	0.490	Oct 2010	0.453	Oct 2011	-		0.453	0.000	2.301	
Systems Engineering	C/CPAF	CSCI:Springfield, VA	0.700	-		-		-		-	0.000	0.700	
Systems Engineering	WR	SWDG:Norfolk, VA	0.459	0.140	Oct 2010	0.130	Oct 2011	-		0.130	0.000	0.729	
Systems Engineering	WR	COTF:Norfolk, VA	0.484	0.290	Oct 2010	0.268	Oct 2011	-		0.268	0.000	1.042	
Systems Engineering	WR	NSWC/PHD:Port Hueneme, CA	0.265	0.275	Oct 2010	0.254	Oct 2011	-		0.254	0.000	0.794	
Subtotal			25.001	7.235		6.695		-		6.695	0.000	38.931	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration and Test	WR	NSWC/DD:Dahlgren, VA	1.321	0.661	Oct 2010	0.612	Oct 2011	-		0.612	Continuing	Continuing	Continuing
Integration and Test	C/CPAF	Raytheon Co.:Tucson, AZ	1.170	3.296	Oct 2010	3.050	Oct 2011	-		3.050	Continuing	Continuing	Continuing
Integration and Test	C/CPAF	Lockheed Martin - Moorestown, NJ:Moorestown, NJ	0.540	4.657	Oct 2010	8.054	Oct 2011	-		8.054	Continuing	Continuing	Continuing
Integration and Test	C/CPAF	NGIS:Bethpage, NY	0.550	0.316	Oct 2010	0.292	Oct 2011	-		0.292	Continuing	Continuing	Continuing

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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration and Test	Various	Various:Various	5.241	1.435	Oct 2010	2.571	Oct 2011	-		2.571	Continuing	Continuing	Continuing
Integration and Test	WR	NSWC/PHD:Port Hueneme, CA	0.620	1.453	Oct 2010	1.344	Oct 2011	-		1.344	Continuing	Continuing	Continuing
Subtotal			9.442	11.818		15.923		-		15.923			
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Planning and Management	C/CPAF	BOEING IDS:St. Louis, MO	0.600	0.150	Oct 2010	0.139	Oct 2011	-		0.139	0.000	0.889	
Project Planning and Management	C/CPAF	Raytheon Co.:Tucson, AZ	1.296	0.480	Oct 2010	0.444	Oct 2011	-		0.444	0.000	2.220	
Project Planning and Management	C/CPAF	LM MS2:Moorestown, NJ	1.188	0.297	Oct 2010	0.275	Oct 2011	-		0.275	0.000	1.760	
Project Planning and Management	C/CPAF	NGIS:Bethpage, NY	1.251	0.430	Oct 2010	0.398	Oct 2011	-		0.398	Continuing	Continuing	Continuing
Project Planning and Management	WR	NSWC/DD:Dahlgren, VA	0.936	0.330	Oct 2010	0.305	Oct 2011	-		0.305	Continuing	Continuing	Continuing
Project Planning and Management	C/CPAF	MEI:Arlington, VA	2.197	0.134	Oct 2010	0.595	Oct 2011	-		0.595	Continuing	Continuing	Continuing
Project Planning and Management	C/CPAF	Various:Various	3.552	0.643	Oct 2010	0.124	Oct 2011	-		0.124	Continuing	Continuing	Continuing
Subtotal			11.020	2.464		2.280		-		2.280			
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			45.463	21.517		24.898		-		24.898			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: Research, Development, Test & Evaluation, Navy	PE 0604378N: Nav Integrated Fire Control-	3159: Naval Integrated Fire Control-Counter Air
BA 5: Development & Demonstration (SDD)	Counter Air Sys Eng	SE&I

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604378N: <i>Nav Integrated Fire Control-Counter Air Sys Eng</i>	PROJECT 3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3159				
WSMR Events	3	2012	1	2013
SCSC EVENTS	1	2012	2	2012
AEGIS CSSQT	4	2013	4	2013
FTS IOC	4	2014	4	2014
E-2D FUE	4	2011	4	2011
E-2D AHE IOC	1	2015	1	2015
CEC AN/USG-3A AHE IOC	4	2014	4	2014
CEC AN/USG-2A AWS INTEGRATION/ CEC AWS IOC	4	2014	4	2014
CEC JLENS DEMO	4	2012	4	2012
SM-6 BLOCK 1 IOC	2	2011	2	2011
JLENS DEMO WITH NIFC-CA	4	2012	4	2012
FOLLOW-ON TEST AND EVALUATION PLANNING	1	2015	4	2016

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