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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	29.569	24.898	39.974	-	39.974	15.821	4.614	4.701	4.787	Continuing	Continuing
3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i>	29.569	24.898	39.974	-	39.974	15.821	4.614	4.701	4.787	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, and 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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	21.517	24.898	28.990	-	28.990
Current President's Budget	29.569	24.898	39.974	-	39.974
Total Adjustments	8.052	-	10.984	-	10.984
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	8.750	-			
• SBIR/STTR Transfer	-0.589	-			
• Program Adjustments	-	-	11.000	-	11.000
• Rate/Misc Adjustments	-	-	-0.016	-	-0.016
• Congressional General Reductions	-0.109	-	-	-	-
Adjustments					

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3159: Naval Integrated Fire Control-Counter Air SE&I	29.569	24.898	39.974	-	39.974	15.821	4.614	4.701	4.787	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, and 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 2011	FY 2012	FY 2013
Title: Integration and Test (I&T) Integrated Product Team	12.818	19.206	30.776
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 2011 Accomplishments: Conducted JLENS Simulation Integration Event. Replanned Project to support CNO direction to accelerate NIFC-CA Test Schedule. Conducted planning efforts, and developed scenarios/test documentation for Tracking Events at Wallops Island. Executed Monte Carlo analysis using the NIFC-CA Federation in support of scenario development and certification for Tracking Exercises at Wallops Island. Initialized planning efforts and conducted preliminary analysis for Events at White Sands Missile Range and initial at-Sea firing.			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Finalized design and continued development/integration of hardware and software for the upgrade of the Desert Ship to ACB12 capability with CEC at White Sands Missile Range. Finalized Range upgrade design for NAW WD (Point Mugu, CA) and initiated Procurements/Integration activities. FY 2012 Plans: Deliver, install, integrate, and certify systems for Desert Ship Upgrade. Procure, install, conduct integration activities and certify upgrade of NAWC WD (Point Mugu, CA). Execute, conduct post-mission analyses, and report on Tracking Exercises at Wallops Island and WSMR JLENS Events. Conduct test planning efforts, documentation and conduct pre-mission analysis for tracking exercises and firing events. FY 2013 Plans: Execute, conduct post-mission analyses, and report on tracking exercising and firing events. Conduct test planning efforts, documentation and conduct pre-mission analyses for tracking exercises and firing events.				
Title: ENGINEERING MANAGMENT AND SYSTEM DEFINITION Articles: 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. Effort also includes maintenance and update of the NIFC-CA Integrated Master Schedule (IMS) to enable tracking of project health and status and enabling extraction of Earned Value Management (EVM)-like data products. FY 2011 Accomplishments: Integrated updated Pillar program models into the NIFC-CA Federation to support pre-mission analysis for NIFC-CA test events and conducted verification efforts. Ensured Measure of Effectiveness (MOEs) and Measure of Performance (MOPs) are validated in test plans and interfaced with Pillar programs to maintain and update interface and performance specifications. Updated and maintained NIFC-CA IMS. Updated and maintained NIFC-CA Risk Register. Developed and obtained approval of NIFC-CA FTS Test Strategy (Increment 1).		12.009 0	4.692 0	9.198 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Developed DRAFT Capability Development Document (CDD) and TEMP-like document. Developed Key Performance Parameters (KPPs) and Key System Attributes (KSAs) for inclusion into CDD and TEMP-like document. FY 2012 Plans: Continue integration of updated Pillar program models into the NIFC-CA Federation to support pre-mission and post-mission analysis for NIFC-CA test events. Conduct verification and initial validation efforts. Provide feedback to Pillar programs on performance deltas. Continue to ensure that MOEs and MOPs are validated in test plans and interface with Pillar programs to maintain and update interface and performance specifications. Support Increment 2 requirements development. Update and maintain NIFC-CA Risk Register. Update and maintain NIFC-CA IMS. FY 2013 Plans: Continue integration of updated Pillar program models into the NIFC-CA Federation to support pre-mission and post-mission analysis for NIFC-CA test events. Conduct verification and initial validation efforts. Provide feedback to Pillar programs on performance deltas. Continue to ensure that MOEs and MOPs are validated in test plans and interface with Pillar programs to maintain and update interface and performance specifications. Update NIFC-CA Architecture to reflect Increment 2 requirements. Update and maintain NIFC-CA Risk Register. Update and maintain NIFC-CA IMS.				
Title: SYSTEMS ENGINEERING, INTEGRATION AND TEST WITH ARMY JLENS PROGRAM <div>Articles:</div> 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 2011 Accomplishments: Integrated updated JLENS program models into the NIFC-CA Federation to support pre-mission analysis for NIFC-CA JLENS test events and conducted verification efforts. Supported development of JLENS test site at WSMR. JLENS Simulation Integration Event JLENS Integration Event with Aegis ACB12 equipment suite conducted in Moorestown, NJ.		4.742 0	1.000 0	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013		
Initialized planning efforts and conducted preliminary analysis for NIFC-CA JLENS test events in FY12. FY 2012 Plans: Continue integration of updated JLENS model into the NIFC-CA Federation to support pre-mission and post-mission analysis for NIFC-CA JLENS test events. Conduct verification and validation efforts. Provide feedback to Pillar programs on performance deltas. Execute, conduct post-mission analyses, and report on the NIFC-CA JLENS TrackEx and Firing Mission.											
Accomplishments/Planned Programs Subtotals							29.569	24.898	39.974		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0603658N: <i>CEC</i>	2.080	3.390	2.730	0.000	2.730	0.000	0.000	0.000	0.000	Continuing	Continuing
• 0604366N: <i>Standard Missile SM-6</i>	68.235	29.357	39.512	0.000	39.512	28.922	26.080	3.906	3.976	Continuing	Continuing
• 0604307N: <i>AEGIS</i>	21.497	11.994	8.826	0.000	8.826	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy											
Not Applicable											
E. Performance Metrics											
Test Program and analysis conducted using the NIFC-CA Federation will provide data to verify NIFC-CA performance with respect to NIFC-CA MOEs, MOPs, and requirements being tracked as NIFC-CA related in the Pillar Programs. NIFC-CA Federation, once validated using test event data, will be used to update the expected performance of NIFC-CA, as required, and provide feedback to Pillar programs.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
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 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	3.006	0.703	Oct 2011	-		-		-	0.000	3.709	
Systems Engineering	C/CPFF	Various:Various	6.503	1.599	Oct 2011	0.838	Oct 2012	-		0.838	0.000	8.940	
Systems Engineering	C/CPFF	JHU/APL:Laurel, MD	1.165	0.315	Oct 2011	-		-		-	0.000	1.480	
Systems Engineering	C/CPFF	NGMS:Reston, VA	1.382	0.389	Oct 2011	-		-		-	0.000	1.771	
Systems Engineering	C/CPFF	NGIS:Bethpage, NY	4.611	0.935	Oct 2011	2.129	Oct 2012	-		2.129	0.000	7.675	
Systems Engineering	C/CPFF	LM MS2:Moorestown, NJ	4.415	0.962	Oct 2011	2.129	Oct 2012	-		2.129	0.000	7.506	
Systems Engineering	C/CPFF	Raytheon Co.:Tucson, AZ	6.693	1.140	Oct 2011	3.406	Oct 2012	-		3.406	0.000	11.239	
Systems Engineering	C/CPFF	Boeing IDS:ST. Louis, MO	1.848	-		-		-		-	0.000	1.848	
Systems Engineering	C/CPFF	CSCI:Springfield, VA	0.700	-		-		-		-	0.000	0.700	
Systems Engineering	WR	SWDG:Norfolk, VA	0.599	0.130	Oct 2011	-		-		-	0.000	0.729	
Systems Engineering	WR	COTF:Norfolk, VA	0.774	0.268	Oct 2011	-		-		-	0.000	1.042	
Systems Engineering	WR	NSWC/PHD:Port Hueneme, CA	0.540	0.254	Oct 2011	-		-		-	0.000	0.794	
Subtotal			32.236	6.695		8.502		-		8.502	0.000	47.433	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	1.982	0.612	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Integration and Test	C/CPFF	Raytheon Co.:Tucson, AZ	4.466	3.050	Oct 2011	12.316	Oct 2012	-		12.316	Continuing	Continuing	Continuing
Integration and Test	C/CPFF	Lockheed Martin - Moorestown, NJ:Moorestown, NJ	5.197	8.054	Oct 2011	7.698	Oct 2012	-		7.698	Continuing	Continuing	Continuing
Integration and Test	C/CPFF	NGIS:Bethpage, NY	0.866	0.292	Oct 2011	7.698	Oct 2012	-		7.698	Continuing	Continuing	Continuing

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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	6.676	2.571	Oct 2011	3.080	Oct 2012	-		3.080	Continuing	Continuing	Continuing
Integration and Test	WR	NSWC/PHD:Port Hueneme, CA	2.073	1.344	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Subtotal			21.260	15.923		30.792		-		30.792			
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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/CPFF	BOEING IDS:St. Louis, MO	0.750	-		-		-		-	0.000	0.750	
Project Planning and Management	C/CPFF	Raytheon Co.:Tucson, AZ	1.776	0.444	Oct 2011	-		-		-	0.000	2.220	
Project Planning and Management	C/CPFF	LM MS2:Moorestown, NJ	1.485	0.275	Oct 2011	-		-		-	0.000	1.760	
Project Planning and Management	C/CPFF	NGIS:Bethpage, NY	1.681	0.398	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Project Planning and Management	WR	NSWC/DD:Dahlgren, VA	1.266	0.305	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Project Planning and Management	C/CPAF	MEI:Arlington, VA	2.331	0.595	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Project Planning and Management	C/CPFF	Various:Various	4.195	0.263	Oct 2011	0.680	Oct 2012	-		0.680	Continuing	Continuing	Continuing
Subtotal			13.484	2.280		0.680		-		0.680			
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			66.980	24.898		39.974		-		39.974			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
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				
FROM THE SEA (FTS) CAPABILITY	4	2014	1	2015
SCSC TX1	1	2012	1	2012
SCSC TX2	2	2012	2	2012
WSMR JLENS LFT	4	2012	4	2012
WSMR LFT1	2	2013	2	2013
WSMR LFT2	2	2014	2	2014
AT SEA EVENT 1	4	2013	4	2013
AT SEA EVENT 2	3	2014	3	2014
FOLLOW-ON TEST AND EVALUATION PLANNING	1	2015	4	2017
E-2D FRP	4	2013	4	2013
E-2D IOC	1	2015	1	2015
CEC AHE IOC	3	2012	3	2012
CEC AWS IOC	4	2014	4	2014
CEC JLENS DEMO	3	2012	4	2012
AEGIS CERT	4	2014	4	2014
SM-6 BLOCK 1 OT	3	2011	3	2011
JLENS DEMO WITH NIFC-CA	4	2012	4	2012
AEGIS CSSQT	3	2013	3	2013