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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					PE 0604378N / Nav Integrated Fire Control-Counter Air Sys Eng							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	130.559	20.937	15.263	23.695	-	23.695	28.436	28.062	29.708	28.476	Continuing	Continuing
3159: Naval Integrated Fire Control-Counter Air SE&I	130.559	20.937	15.263	23.695	-	23.695	28.436	28.062	29.708	28.476	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. 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.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	21.413	15.263	26.167	-	26.167
Current President's Budget	20.937	15.263	23.695	-	23.695
Total Adjustments	-0.476	-	-2.472	-	-2.472
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.476	-			
• Program Adjustments	-	-	-2.324	-	-2.324
• Rate/Misc Adjustments	-	-	-0.148	-	-0.148

Change Summary Explanation

FY14 decrease in funding due to SBIR/STTR Transfer.

The FY 2016 funding request was reduced by \$3.304 million to account for the availability of prior year execution balances.

The FY 2016 funding request was increased by \$.980 million support NIFC-CA integration.

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Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control-Counter Air Sys Eng				Project (Number/Name) 3159 / Naval Integrated Fire Control-Counter Air SE&I			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3159: Naval Integrated Fire Control-Counter Air SE&I	130.559	20.937	15.263	23.695	-	23.695	28.436	28.062	29.708	28.476	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Integration and Test (I&T) Integrated Product Team	8.787	6.344	9.815	-	9.815
Articles:	-	-	-	-	-
Description: 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.					
FY 2014 Accomplishments: Continued the execution of test programming, including 18 successful over land simulated engagements leading up to the FTS live fire test that was conducted in March. Planned and executed numerous at sea simulated engagements leading to the successful completion of the 3 FTS live-fire test at Point Mugu Test Center (PMTIC) on board the DDG-53 USS JOHN PAUL JONES in June.					
FY 2015 Plans: Continue execution of test program, support post mission analysis, and provide input and analysis of tracking exercises (TrackEx) leading to 2 FTS live fire test (LFT) events to further define the battlespace. Continue					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
employment of Fleet Training in order to deploy capability on the Theodore Roosevelt Carrier Strike Group (TR CSG) during 3Q FY 2015. FY 2016 Base Plans: The I&T IPT will continue to plan and execute test events and conduct follow-on NIFC-CA battlespace assessments for AEGIS Baseline 9 and SM-6 BLK I. Continue planning and conduct associated tracking events, modeling and simulation analysis, including execution of two live fire events in FY16. Continue operations and maintenance activities for the White Sands Missile Range (WSMR) Desert Ship Combat System and associated range facilities. Additional funding provides for the IPT to begin detailed planning for the future testing of NIFC-CA from the Sea capability with upgraded CEC, E2-D, SM-6 BLK IA, and AEGIS Advanced Capability Build (ACB)16. The next upgrade to WSMR will be the first implementation of the future NIFC-CA design (NIFC-CA 2019 configuration). The NIFC-CA 2019 configuration Live Fire test will provide critical risk reduction data prior to Live Fire Testing At-Sea in the following years. Detailed design work commencing in FY16 will include system engineering and integration aspects of the NIFC-CA 2019 configuration, with follow-on FY17-FY18 development, installation and checkout of the NIFC-CA 2019 configuration in support of Live Fire Testing in FY18. FY 2016 OCO Plans: N/A						
Title: ENGINEERING MANAGMENT AND SYSTEM DEFINITION Articles: Description: 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 2014 Accomplishments:		12.150 -	8.919 -	13.880 -	- -	13.880 -

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Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control-Counter Air Sys Eng				Project (Number/Name) 3159 / Naval Integrated Fire Control-Counter Air SE&I				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Continued the integration of Pillar program models into the NIFC-CA Federation that supported the pre-mission and post-mission analysis for NIFC-CA test events. Successful completion of WSMR over land trackex in March and live fire event in June. Continuing to update NIFC-CA Architecture and maintain the NIFC-CA Risk Register.</p> <p>FY 2015 Plans: Continue integration of Pillar program models into the NIFC-CA Federation to support pre-mission and post-mission analysis for NIFC-CA test events for upcoming over land and over sea trackex and live fire events scheduled for 2QFY15. Conduct verification and initial validation efforts. Continue to ensure that Methods of Effectiveness (MOEs) and Methods of Performance (MOPs) are validated in test plans and interface with Pillar programs to maintain and update interface and performance specifications. Update NIFC-CA Architecture. Update and maintain NIFC-CA Risk Register. Continue employment of Fleet Training in order to deploy capability on the TR-CSG during 3Q FY 2015.</p> <p>FY 2016 Base Plans: Continue the integration of Pillar program models into the NIFC-CA Federation to support pre-mission and post-mission analysis for the two planned NIFC-CA live fire events in 2016. Continue to ensure MOEs and MOPs are validated in test plans and in more stressing test scenarios. Additional funding is required to meet design, development, installation, and check out schedule for the NIFC-CA 2019 configuration Live Fire at White Sands Missile Range while concurrently supporting Increment 1 Test Efforts (2 Firings per year on 9-month intervals) in FY16. This will support the AEGIS ACB-16 configuration and SM-6 BLK IA live fire tests and will demonstrate improved FTS capability.</p> <p>FY 2016 OCO Plans: N/A</p>												
Accomplishments/Planned Programs Subtotals								20.937	15.263	23.695	-	23.695
C. Other Program Funding Summary (\$ in Millions)												
<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To Complete</u>	<u>Total Cost</u>	
• 0604366N: Standard Missile SM-6	5.775	1.943	2.106	-	2.106	3.081	2.238	0.336	0.319	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
Not Applicable												

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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control- Counter Air Sys Eng	Project (Number/Name) 3159 / Naval Integrated Fire Control- Counter Air SE&I

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 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control-Counter Air Sys Eng				Project (Number/Name) 3159 / Naval Integrated Fire Control-Counter Air SE&I					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	C/CPFF	Various : Various	31.333	7.495	Feb 2014	5.640	Feb 2015	6.595	Feb 2016	-		6.595	-	51.063	-
Systems Engineering	C/CPFF	JHU/APL : Laurel, MD	1.665	0.500	Mar 2014	0.485	Dec 2014	0.545	Dec 2015	-		0.545	-	3.195	-
Systems Engineering	C/CPFF	NGIS : Bethpage, NY	7.621	0.205	Oct 2013	0.185	Oct 2014	0.490	Oct 2015	-		0.490	-	8.501	-
Systems Engineering	C/CPFF	LM MS2 : Moorestown, NJ	8.757	2.015	Mar 2014	1.435	Oct 2014	3.025	Oct 2015	-		3.025	-	15.232	-
Systems Engineering	C/CPFF	Raytheon Co. : Tucson, AZ	12.127	0.506	Mar 2014	0.420	Oct 2014	0.570	Oct 2015	-		0.570	-	13.623	-
Systems Engineering	WR	COTF : Norfolk, VA	0.782	0.003	Feb 2014	0.005	Dec 2014	0.005	Dec 2015	-		0.005	-	0.795	-
Subtotal			62.285	10.724		8.170		11.230		-		11.230	-	92.409	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration and Test	C/CPAF	Raytheon : Tucson, AZ	7.148	0.090	Mar 2014	0.064	Nov 2014	0.090	Dec 2015	-		0.090	-	7.392	-
Integration and Test	WR	COTF : Norfolk, VA	0.000	0.013	Feb 2014	0.013	Dec 2014	0.013	Oct 2015	-		0.013	-	0.039	-
Integration and Test	C/BA	Wallops Island : Wallops Island, VA	0.000	0.247	Apr 2014	0.120	Nov 2014	0.325	Nov 2015	-		0.325	-	0.692	-
Integration and Test	WR	NAWC AD : Pax River, MD	0.000	0.250	Dec 2013	0.125	Nov 2014	0.250	Nov 2015	-		0.250	-	0.625	-
Integration and Test	C/CPFF	Lockheed Martin - Moorestown, NJ : Moorestown, NJ	13.638	2.011	Mar 2014	1.440	Oct 2014	2.192	Dec 2015	-		2.192	Continuing	Continuing	Continuing
Integration and Test	MIPR	PT MUGU : PT Mugu, CA	2.875	2.126	Oct 2013	1.225	Oct 2014	3.155	Oct 2015	-		3.155	-	9.381	-
Integration and Test	Various	Various : Various	24.006	4.266	Feb 2014	2.981	Feb 2015	5.318	Feb 2016	-		5.318	Continuing	Continuing	Continuing
Integration and Test	MIPR	Dept of Interior : Boise, ID	1.500	0.250	Oct 2013	0.250	Jan 2015	0.250	Jan 2016	-		0.250	-	2.250	-

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Appropriation/Budget Activity				R-1 Program Element (Number/Name)						Project (Number/Name)					
1319 / 5				PE 0604378N / Nav Integrated Fire Control-Counter Air Sys Eng						3159 / Naval Integrated Fire Control-Counter Air SE&I					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration and Test	WR	NSWC/PHD : Port Hueneme, CA	3.123	-		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			52.290	9.253		6.218		11.593		-		11.593	-	-	-
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	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	Various : Various	15.984	0.960	Feb 2014	0.875	Feb 2015	0.872	Feb 2016	-		0.872	Continuing	Continuing	Continuing
Subtotal			15.984	0.960		0.875		0.872		-		0.872	-	-	-
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			130.559	20.937		15.263		23.695		-		23.695	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy

Date: February 2015

Appropriation/Budget Activity
1319 / 5

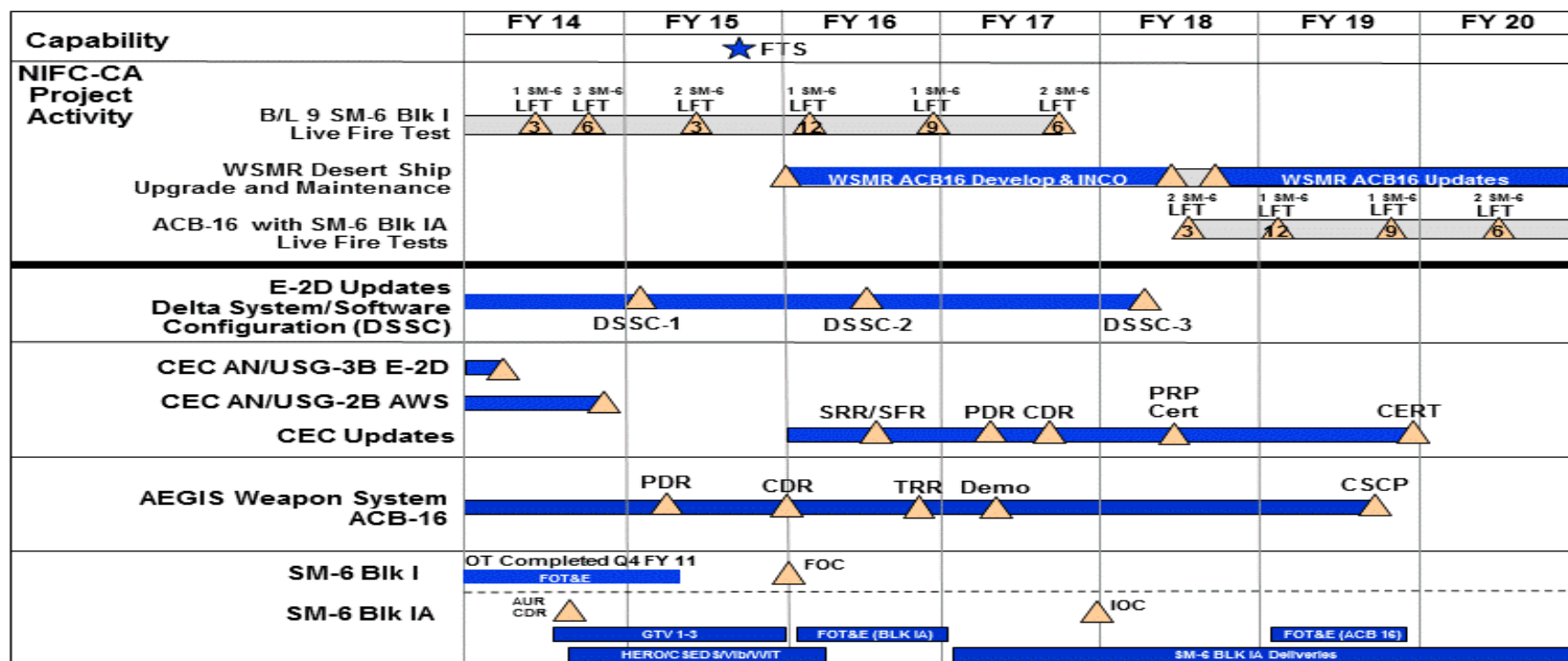
R-1 Program Element (Number/Name)
PE 0604378N / Nav Integrated Fire Control-
Counter Air Sys Eng

Project (Number/Name)
3159 / Naval Integrated Fire Control-
Counter Air SE&I

NIFC-CA Planning Schedule



RELATED PROGRAMS



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control-Counter Air Sys Eng	Project (Number/Name) 3159 / Naval Integrated Fire Control-Counter Air SE&I	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3159				
FROM THE SEA (FTS) CAPABILITY DEPLOYMENT	3	2015	3	2015
NIFC-CA FIRING EVENT 1	2	2014	2	2014
NIFC-CA FIRING EVENT 2	3	2014	3	2014
NIFC-CA FIRING EVENT 3	2	2015	2	2015
NIFC-CA FIRING EVENT 4	1	2016	1	2016
NIFC-CA FIRING EVENT 5	4	2016	4	2016
NIFC-CA FIRING EVENT 6	3	2017	3	2017
NIFC-CA FIRING EVENT 7	2	2018	2	2018
NIFC-CA FIRING EVENT 8	1	2019	1	2019
NIFC-CA FIRING EVENT 9	4	2019	4	2019
NIFC-CA FIRING EVENT 10	2	2020	2	2020
WSMR ACB16 Develop & INCO	1	2016	2	2018
WSMR ACB16 Updates	3	2018	4	2020
E-2D UPDATES DELTA SYSTEM SOFTWARE CONFIGURATION 1	1	2015	1	2015
E-2D UPDATES DELTA SYSTEM SOFTWARE CONFIGURATION 2	3	2016	3	2016
E-2D UPDATES DELTA SYSTEM SOFTWARE CONFIGURATION 3	2	2018	2	2018
CEC AN/USG-3B E-2D INTEGRATION	2	2014	2	2014
CEC AN/USG-2B AWS INTEGRATION	4	2014	4	2014
CEC UPDATE SRR/SFR	3	2016	3	2016
CEC UPDATE PDR	2	2017	2	2017
CEC UPDATE CDR	3	2017	3	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015	
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control-Counter Air Sys Eng		Project (Number/Name) 3159 / Naval Integrated Fire Control-Counter Air SE&I
		Start		End
Events by Sub Project		Quarter	Year	Quarter Year
CEC UPDATE PRODUCT RELEASE PANEL (PRP) CERTIFICATION		2	2018	2 2018
CEC UPDATE CERTIFICATION		4	2019	4 2019
AEGIS WEAPON SYSTEM ACB-16 PDR		2	2015	2 2015
AEGIS WEAPON SYSTEM ACB 16 CDR		4	2015	4 2015
AEGIS WEAPON SYSTEM ACB 16 TRR		4	2016	4 2016
AEGIS WEAPON SYSTEM ACB 16 DEMONSTRATION		2	2017	2 2017
AEGIS WEAPON SYSTEM ACB 16 COMBAT SYSTEM CERTIFICATION PANEL (CSCP)		3	2019	3 2019
SM-6 BLK 1 FOC		4	2015	4 2015
SM-6 BLK 1A ALL UP ROUND (AUR) CDR		3	2014	3 2014
SM-6 BLK 1A IOC		4	2017	4 2017