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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604270N / Electronic Warfare (EW) Dev							
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	911.361	34.239	28.742	23.685	-	23.685	20.306	20.278	21.724	22.167	Continuing	Continuing
0556: EW Counter Response	427.585	19.478	15.782	15.462	-	15.462	16.345	16.508	17.869	18.231	Continuing	Continuing
1742.: EW Technical Development and T&E	28.687	1.303	1.152	1.629	-	1.629	1.651	1.585	1.617	1.652	Continuing	Continuing
2175: Tactical Air Electronic Warfare	455.089	13.458	11.808	6.594	-	6.594	2.310	2.185	2.238	2.284	-	495.966
Program MDAP/MAIS Code: 418												
A. Mission Description and Budget Item Justification												
This program element includes development of Electronic Warfare (EW) systems for the United States Navy (USN), United States Marine Corps (USMC), and United States Army tactical aircraft, USMC helicopters, surface combatants, data link vulnerability assessments, precision targeting, USN and USMC radio frequency jammers, and development and testing of electronic warfare devices for emerging threats and emergency contingencies.												
This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.												
B. Program Change Summary (\$ in Millions)				FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total				
Previous President's Budget				34.964	28.742	23.292	-	23.292				
Current President's Budget				34.239	28.742	23.685	-	23.685				
Total Adjustments				-0.725	-	0.393	-	0.393				
• Congressional General Reductions				-	-							
• Congressional Directed Reductions				-	-							
• Congressional Rescissions				-	-							
• Congressional Adds				-	-							
• Congressional Directed Transfers				-	-							
• Reprogrammings				-	-							
• SBIR/STTR Transfer				-0.725	-							
• Rate/Misc Adjustments				-	-	0.393	-	0.393				
Change Summary Explanation												
Technical: Not Applicable.												

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Schedule: Project Unit 0556 / EW COUNTER RESPONSE: Removed ICAP III Block 7 events due to slide of software update and utilization of other funding. Project Unit 2175 / Tactical Air Electronic Warfare: IDECM Block 4: IDECM Block 4 OT Flights completion date changed from 1st Qtr FY 2015 to 4th Qtr FY 2015. Specifically, the availability of test aircraft, ranges and threats are impacting execution of IDECM Block 4 flight testing.		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 0556 / <i>EW Counter Response</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
0556: <i>EW Counter Response</i>	427.585	19.478	15.782	15.462	-	15.462	16.345	16.508	17.869	18.231	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops upgrades to combat the increasingly complex and dense Electronic Warfare (EW) threat environment. Required improvements in Airborne Electronic Attack (AEA) will achieve application of state-of-the-art signal exploitation, processing, display techniques, improved tactics, and jamming capabilities against EW threats.

Efforts include continued development of Force Protection/Overseas Contingency Operations (classified discussion available upon request) Navigation and Information Operations applications and enhanced communications jamming. Efforts also include risk reduction activities to support the upgrade of the ALQ-99 Tactical Jamming System (TJS) capabilities to include technology studies, breadboard/demonstrator development, and testing in laboratory and relevant environments. The efforts under this project provide for electronic countermeasure responses to advanced threat weapon systems and Command, Control, and Communications (C3) networks that are expanding in density and technical complexity. This project funds the continued development and integration of all EW and Electronic Attack systems for the US Navy electronic attack aircraft including improvements within precision Direction of Arrival, geo-location, Specific Emitter Identification, Auto-Electronic Support Measures, and selective reactive jamming.

Electronic Attack Jammer Techniques Optimization (JATO) and test support is required to address and counter new and evolving radar and communications threats in support of existing and emerging systems such as the EA-6B, EA-18G, and Next Generation Jammer (NGJ). JATO will continue to generate techniques, tactics, and procedures that will optimize the capabilities of existing weapon systems, and to assist in requirements definitions of emerging AEA systems.

The Airborne Electronic Attack Expendable provides an expanded war fighting capability on an expendable host platform against EW threats including: Integrated Air Defenses, Command and Control Communications, and Datalinks through an open Electronic Attack Subsystem interface specification. This flexible system allows rapid technology insertion and threat set adaptability that will address AEA capability and sufficiency gaps.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: ICAP III UPDATE	3.286	1.940	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
Developed, integrated, and enhanced Link-16 capabilities, ALQ-218 capabilities, USQ-113 capabilities, Jammer Management Rehost, LITENING, Internet Relay Chat, USB ENTR and VACM into ICAP III aircraft, as well as					

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Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>		Project (Number/Name) 0556 / <i>EW Counter Response</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
resolving Operational Evaluation (OPEVAL) and Follow-On Test and Evaluation (FOT&E) related deficiencies via ICAP III block releases. FY 2015 Plans: Continue development, integration, and enhancement of Link-16 capabilities, ALQ-218 capabilities, USQ-113 capabilities, USB ENTR, and VACM into ICAP III Aircraft, as well as resolving OPEVAL and FOT&E related deficiencies via ICAP III Block release. FY 2016 Base Plans: N/A FY 2016 OCO Plans: N/A						
Title: MISSION PLANNING Articles:		2.086 -	1.100 -	- -	- -	- -
FY 2014 Accomplishments: The mission planning environment developed UPCs, EA-6B Tactical Information & Report Management System and Electronic Warfare Development System database libraries. The Mission Planning Environment developed an upgraded operating framework and transitioned from a Windows XP environment to a Windows 7 operating system environment. New framework was required to counter Microsoft Operating System obsolescence. FY 2015 Plans: Complete development of all elements and support Operational Test of the EA-6B Mission Planning Environment (MPE), including Unique Planning Component (UPC), Electronic Tactical Information and Report Management System (ETIRMS), and Electronic Warfare Database System (EWDS). Execute all tasks required to obtain Navy and Marines IA accreditation for product and support subsequent MPE fielding. Begin Mission Planning Environment (MPE) development of .NET 64 bit Operating System (OS) migration, synchronizing with new Joint Mission Planning System (JMPS) FW 64 bit evolution for continued Information Assurance (IA) sustainment and OS obsolescence avoidance. FY 2016 Base Plans: N/A FY 2016 OCO Plans:						

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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
N/A						
Title: JAMMER TECHNIQUES OPTIMIZATION (JATO)		13.756	11.242	14.972	-	14.972
Articles:		-	-	-	-	-
FY 2014 Accomplishments: Continued engineering development and test support required to address new and evolving radar/communications threats in support of existing and emerging systems such as the EA-6B, EA-18G, and Next Generation Jammer. Jammer Techniques Optimization (JATO) continued to generate techniques, tactics, and procedures to optimize the capabilities of ALQ-99, USQ-113, ALQ-218, ALQ-227, ALQ-231, ALE-43, and Airborne Electronic Attack Expendable (AEAE) systems, and to assist in requirements definitions of emerging Airborne Electronic Attack (AEA) systems. JATO continued to lead efforts in support of Overseas Contingency Operation and Force Protection issues. (Classified discussion available upon request.)						
FY 2015 Plans: Continue engineering development and test support required to address new and evolving radar/communications threats in support of existing and emerging systems such as the EA-6B, EA-18G, and Next Generation Jammer. Jammer Techniques Optimization (JATO) will continue to generate techniques, tactics, and procedures to optimize the capabilities of ALQ-99, USQ-113, ALQ-218, ALQ-227, ALQ-231, ALE-43, and Airborne Electronic Attack Expendable (AEAE) systems, and to assist in requirements definitions of emerging Airborne Electronic Attack (AEA) systems. JATO continues to lead efforts in support of Overseas Contingency Operation and Force Protection issues. (Classified discussion available upon request.)						
FY 2016 Base Plans: Continue engineering development and test support of existing and emerging systems such as the EA-6B, EA-18G, and Next Generation Jammer to address potential Radio Frequency (RF) and Cyber Electronic Warfare (Cyber/EW) effects on current and evolving radar/communications threats. Jammer Techniques Optimization (JATO) will continue to generate techniques, tactics, and procedures to optimize the capabilities of systems such as, but not limited to, the ALQ-99, USQ-113, ALQ-218, ALQ-227, ALQ-231, ALE-43, and Airborne Electronic Attack Expendable (AEAE) systems; and assist in requirements definitions of emerging Airborne Electronic Attack (AEA) systems. JATO continues to lead efforts in support of Overseas Operations and Force Protection issues. (Classified discussion available upon request.)						

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Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW)</i> <i>Dev</i>		Project (Number/Name) 0556 / <i>EW Counter Response</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Increase in funding from FY2015 to FY2016 is due to increased flight and ground testing against adversary systems and increased efforts to address Cyber/EW threats.						
FY 2016 OCO Plans: N/A						
Title: AIRBORNE ELECTRONIC ATTACK EXPENDABLE (AEAE)		0.350	1.500	0.490	-	0.490
Articles:		-	-	-	-	-
FY 2014 Accomplishments: Continued development of Instrumented Measurement Vehicles for carrier suitability and airborne flight test and evaluation. Evaluated Electronic Warfare payloads for integration into AEAE platform. Integrated standard payload interface into the vehicle baseline and develop documentation in support of the JCIDS process to include a CDD.						
FY 2015 Plans: Continue integration onto the F/A-18E/F aircraft. Conduct test and evaluation with Instrumented Measurement Vehicles to capture data to be used for the analysis of captive carry airworthiness and carrier suitability. Characterize vibration and shock forces associated with F/A-18E/F captive carry and carrier catapult take-offs and arrested landings. Evaluate modified Stability Augmentation Device for F/A-18E/F specific airflow and aerodynamic effects. Develop accurate mathematical scale models for wind tunnel simulation and test. Perform wind tunnel safe-separation and transition-to-flight tests for vehicle risk analysis and mitigation. Develop F/A-18E/F Airborne Electronic Attack Expendable (AEAE) Unique Planning Component for integration into the F/A-18E/F Joint Mission Planning System Mission Planning Environment and H14 Software Configuration Set. Develop and evaluate Electronic Warfare payload(s) for integration into AEAE platform. Conduct AEAE payload airworthiness, compatibility, and suitability analysis. Integrate standard payload interface into the vehicle baseline and develop documentation in support of the Joint Capabilities Integration and Development System process to include a Capabilities Development Document. Update the navigation system for sustained reliable performance in accordance with Navy mission requirements. Conduct Weapon Data Link (WDL) requirements analysis and evaluate WDL integration. Develop, prototype, test, and evaluate AEAE containers for carrier transport and storage suitability.						
FY 2016 Base Plans:						

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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
Continue risk reduction efforts including evaluation of Electronic Warfare payload(s) for integration into AEAE platform.					
<i>FY 2016 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	19.478	15.782	15.462	-	15.462

C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• APN/05110: <i>EA-6 Series</i>	17.367	10.993	9.799	-	9.799	4.937	3.656	0.313	0.316	-	3,405.777
• APN/05130: <i>AEA Systems</i>	44.802	44.768	23.151	-	23.151	40.982	40.069	38.846	39.620	313.239	739.753

Remarks

D. Acquisition Strategy
The Jammer Techniques Optimization Group (JATO), comprised of a partnership between the Government and a University Aligned Research Center (UARC), continues to research Electronic Warfare tactics and techniques. The JATO prime delivery order, a cost plus fixed fee contract that covers the period of FY 2013 through FY 2017, was awarded to Johns Hopkins University in 3Q FY 2013.

E. Performance Metrics
1. Jammer Techniques Optimization development counters enemy radar systems and communication systems to provide techniques to protect allied forces.
2. Airborne Electronic Attack Expendable continues risk reduction.

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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 0604270N / <i>Electronic Warfare (EW)</i> Dev				Project (Number/Name) 0556 / <i>EW Counter Response</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
Primary HDW Develop - ICAP III	C/FFP	Various : Various	261.204	0.500	Dec 2013	0.400	Dec 2014	-		-		-	-	262.104	262.104
Systems Engineering NRL	WR	Naval Research Lab : Maryland	7.072	1.660	Dec 2013	1.550	Dec 2014	1.578	Dec 2015	-		1.578	Continuing	Continuing	Continuing
Systems Engineering NAWCAD	WR	NAWCAD : Patuxent River, MD	22.214	1.997	Nov 2013	1.740	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Systems Engineering NAWCWD	WR	NAWCWD : Point Mugu, CA	66.825	9.240	Nov 2013	7.628	Nov 2014	8.859	Nov 2015	-		8.859	Continuing	Continuing	Continuing
Systems Engineering NSWC	WR	NSWC Det : Crane, IN	9.931	0.520	Dec 2013	0.536	Dec 2014	0.545	Dec 2015	-		0.545	Continuing	Continuing	Continuing
Systems Engineering VAR	WR	Various : Various	14.335	0.558	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
Prior Year Development cost no longer Funded in the FYDP	Various	Various : Various	1.043	-		-		-		-		-	-	1.043	1.043
Subtotal			382.624	14.475		11.854		10.982		-		10.982	-	-	-
Remarks															
Cost growth in excess of OSD approved inflation indices between FY15 and FY16 for Systems Engineering NAWCWD is due to increased numbers of systems supported by JATO as well as increased efforts to address emerging threats and increased focus on Cyber Electronic Warfare (Cyber/EW).															
Support (\$ 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
Development Support - JATO	SS/CPFF	Johns Hopkins Unv : Maryland	27.277	3.925	Dec 2013	3.428	Dec 2014	4.000	Dec 2015	-		4.000	Continuing	Continuing	Continuing
Eng & Tech Srvc (Non FFRDC)	Various	Various : Various	14.373	0.928	Dec 2013	0.400	Dec 2014	0.400	Dec 2015	-		0.400	Continuing	Continuing	Continuing
Prior year Support costs no longer funded in the FYDP	Various	Various : Various	2.256	-		-		-		-		-	-	2.256	-
Subtotal			43.906	4.853		3.828		4.400		-		4.400	-	-	-

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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 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 0556 / <i>EW Counter Response</i>					
Support (\$ 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
Remarks Cost growth in excess of OSD approved inflation indices between FY15 and FY16 for Development Support - JATO is due to increased focus on Cyber Electronic Warfare (Cyber/EW) threats.															
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
Program Management Support	WR	Various : Various	1.055	0.150	Dec 2013	0.050	Dec 2014	0.030	Oct 2015	-		0.030	Continuing	Continuing	Continuing
Travel	WR	Various : Various	0.000	-		0.050	Oct 2014	0.050	Oct 2015	-		0.050	-	0.100	-
Subtotal			1.055	0.150		0.100		0.080		-		0.080	-	-	-
			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			427.585	19.478		15.782		15.462		-		15.462	-	-	-
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 0604270N / <i>Electronic Warfare (EW)</i> Dev												Project (Number/Name) 0556 / <i>EW Counter Response</i>					
EW Counter Response		FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																													
Milestones					Fleet Release - ICAP III BLOCK 6 ▲																								
Systems Development																													
Hardware Development																													
Software Development																													
Reviews				JATO ESC ■			JATO ESC ■			JATO ESC ■			JATO ESC ■			JATO ESC ■			JATO ESC ■			JATO ESC ■			JATO ESC ■			JATO ESC ■	
Test & Evaluation																													
Technical Evaluation																													
Operational Evaluation				ICAP III Block 6 DT/OT																									
Production Milestones																													
Contract Awards																													
Deliveries																													
2016PB - 0604270N - 0556																													

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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 0604270N / <i>Electronic Warfare (EW)</i> <i>Dev</i>	Project (Number/Name) 0556 / <i>EW Counter Response</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>EW Counter Response</i>				
Acquisition Milestones: Milestones: Fleet Release - ICAP III BLOCK 6	4	2014	4	2014
Systems Development: Reviews: JATO Executive Steering Committee 2014	3	2014	3	2014
Systems Development: Reviews: JATO Executive Steering Committee 2015	3	2015	3	2015
Systems Development: Reviews: JATO Executive Steering Committee 2016	3	2016	3	2016
Systems Development: Reviews: JATO Executive Steering Committee 2017	3	2017	3	2017
Systems Development: Reviews: JATO Executive Steering Committee 2018	3	2018	3	2018
Systems Development: Reviews: JATO Executive Steering Committee 2019	3	2019	3	2019
Systems Development: Reviews: JATO Executive Steering Committee 2020	3	2020	3	2020
Test & Evaluation: Operational Evaluation: ICAP III Block 6 DT/OT	1	2014	3	2014

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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
1742.: <i>EW Technical Development and T&E</i>	28.687	1.303	1.152	1.629	-	1.629	1.651	1.585	1.617	1.652	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
This program element includes development of Electronic Warfare (EW) systems for the United States Navy (USN), United States Marine Corps (USMC), and United States Army tactical aircraft, USMC helicopters, surface combatants, data link vulnerability assessments, precision targeting, USN and USMC radio frequency jammers, and development and testing of electronic warfare devices for emerging threats and emergency contingencies.												
This project funds efforts that focus on the quick reaction prototyping of tactical information and electronic warfare systems. This program directly addresses various Fleet requirements across multiple platforms (airborne, surface and subsurface), airborne and surface cryptologic operational requirements documents and the joint oversight council missions needs statement to research, assess, and develop information warfare and electronic warfare systems and capabilities. These systems/ capabilities provide information dominance to friendly forces during conflict, which is necessary for successful mission accomplishment.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Electronic Warfare Technical Development Studies and Test & Evaluation Articles: Description: This project funds efforts that focus on the quick reaction prototyping of tactical information and electronic warfare systems. FY 2014 Accomplishments: Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs. FY 2015 Plans: Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs. FY 2016 Base Plans: Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs. FY 2016 OCO Plans: N/A								1.303	1.152	1.629	-	1.629
								-	-	-	-	-
Accomplishments/Planned Programs Subtotals								1.303	1.152	1.629	-	1.629

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C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
D. Acquisition Strategy BSO 60: Development of classified prototypes and special capabilities.		
E. Performance Metrics BSO 60: Research, assess and develop EW/IW capabilities.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
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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
Development Support	WR	Classified : Various	5.204	-		-		0.160	Oct 2015	-		0.160	-	5.364	-
Subtotal			5.204	-		-		0.160		-		0.160	-	5.364	-
Support (\$ 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
Studies and Analysis	Various	Classified : Various	17.944	1.140	Oct 2013	0.997	Oct 2014	1.162	Oct 2015	-		1.162	Continuing	Continuing	Continuing
Subtotal			17.944	1.140		0.997		1.162		-		1.162	-	-	-
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
Development Test and Evaluation	C/BA	NRL : Washington, DC	2.890	-		-		-		-		-	-	2.890	-
Subtotal			2.890	-		-		-		-		-	-	2.890	-
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
Program Management Personnel	Various	Classified : Various	1.074	0.100	Oct 2013	0.070	Oct 2014	0.157	Oct 2015	-		0.157	-	1.401	-
Travel	WR	NCWDG : Washington, DC	1.549	0.063	Oct 2013	0.085	Oct 2014	0.150	Oct 2015	-		0.150	-	1.847	-
Acquisition Workforce Fund	Various	Various : Various	0.026	-		-		-		-		-	-	0.026	-
Subtotal			2.649	0.163		0.155		0.307		-		0.307	-	3.274	-

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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 0604270N / <i>Electronic Warfare (EW) Dev</i>					Project (Number/Name) 1742. / <i>EW Technical Development and T&E</i>			
	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	28.687	1.303		1.152		1.629		-		1.629	-	-	-
Remarks													

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PE 0604270N: *Electronic Warfare (EW) Dev*
Navy

R-1 Line #102

Appropriation/Budget Activity
1319 / 5

R-1 Program Element (Number/Name)
PE 0604270N / *Electronic Warfare (EW)*
Dev

Project (Number/Name)
1742. I EW Technical Development and
T&E

[illegible]

2016PB - 0604270N - 1742.L60

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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 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 1742. / <i>EW Technical Development and T&E</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 1742.L60</i>				
BSO 60: Vulnerability Analysis Discovery: Vulnerability Analysis Discovery	1	2014	4	2020
BSO 60: Vulnerability Analysis Discovery: Development Work	1	2016	4	2020
BSO 60: Vulnerability Analysis Discovery: Database Development	1	2016	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</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
2175: <i>Tactical Air Electronic Warfare</i>	455.089	13.458	11.808	6.594	-	6.594	2.310	2.185	2.238	2.284	-	495.966
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Integrated Defensive Electronic Countermeasures (IDECM) Block 3 (IB-3) introduced the new Fiber Optic Towed Decoy (FOTD) capability to the IDECM Block 2 Electronic Warfare (EW) suite as a replacement for the ALE-50 decoy. The FOTD, when integrated with the rest of the F/A-18E/F EW suite (i.e., ALQ-214, ALR-67(V)3, ALE-47 and ALE-50), the associated cockpit controls, displays and other avionics significantly improves the survivability of the host aircraft in a radio frequency threat environment. IB-3 MS III (Full Rate Production Decision) was approved in the 4th Qtr FY 2011. IB-3 Initial Operational Capability (IOC) achieved 4th Qtr FY 2011.

IDECM Block 4 (IB-4) is an Engineering Change Proposal (ECP) to the ALQ-214 to render it suitable for operation on F/A-18C/D aircraft (replacing the ALQ-126B and significantly improving F/A-18C/D survivability) while retaining all IDECM suite functionality when installed on F/A-18E/F aircraft. The IB-4 acquisition and contract strategy includes development of the Common On-Board Jammer for the F/A-18 C/D/E/F aircraft through sole source contract awards for modifications to the ALQ-214. IB-4, ALQ-214 ECP, efforts include hardware and software design, development and test, delivery of 17 engineering development models, integration and testing on the host aircraft. The F/A-18C/D EW suite includes the ALR-67(V)2 Radar Warning Receiver (RWR), the ALE-47 Countermeasures Dispensing Set (CMDS), the mission computer and other avionics. In addition to performing the RWR function, the ALR-67(V)2 is the EW bus controller. The EW bus is the primary interface between the EW systems (Jammer, RWR, and CMDS). The mission computer is the avionics bus controller, the interface between the EW suite and other avionics.

ALQ-214 software improvement will provide the ALQ-214 with digital radio frequency memory deny-delay, technique capability significantly improving F/A-18C/D/E/F survivability. Acquisition and contract strategy includes development, integration and test of the ALQ-214 software improvements through sole-source contract award. Minor modification to other avionics are required in order to integrate this new capability. These other avionics may include, but are not limited to, the ALR-67(V)2, ALR-67(V)3, ALE-47, ALE-50, ALE-55, mission computer and fire control radar.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Tactical Air EW	13.458	11.808	6.594	-	6.594
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
The IDECM Block 4 ALQ-214 ECP engineering effort will conclude in FY 2015. Flight testing for the ALQ-214-ECP will continue and is scheduled to be completed. The ALQ-214 software improvement contract will continue					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy								Date: February 2015				
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)												
								FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
into FY 2015 and will include engineering and logistics support. The IDECM Block 4 IPR 5 was completed in 2nd Quarter FY 2014. FY 2015 Plans: Successfully awarded the ALE-55 FRP 5 contract. IDECM Block 4 In-Process Review (IPR) 6 is planned for FY 2015. ALQ-214 software improvement contract and developmental testing will continue into FY 2015. FY 2016 Base Plans: The ALQ-214 software improvement contract will continue into FY 2016. Operational testing for software improvement will begin and will continue through FY 2016. FY 2016 OCO Plans: N/A												
Accomplishments/Planned Programs Subtotals								13.458	11.808	6.594	-	6.594
C. Other Program Funding Summary (\$ in Millions)												
Line Item	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	
• APN/0576 004-12: <i>Common On-Board Jammer</i>	72.291	93.810	98.095	-	98.095	47.368	58.530	47.635	48.575	58.247	617.373	
• PANMC/0182: <i>Airborne Expendable CM</i>	20.076	21.574	21.723	-	21.723	22.195	24.810	25.300	25.781	Continuing	Continuing	
Remarks												
D. Acquisition Strategy IDECM Block 3 (IB-3) sole source award of Full Rate Production (FRP) in FY 2013. Annual IB-3 production contracts will continue through FY 2046. The ALQ-214 Engineering Change Proposal (ECP) engineering manufacturing & development contract effort was awarded sole source to ITT/EXELIS in December 2009. The contract will conclude in FY 2015. ALQ-214 software improvement acquisition awarded to ITT/EXELIS in FY 2012. ITT is the original developer/manufacture and current sustainer of the ALQ-214.												
E. Performance Metrics IDECM Block 3: Successfully award ALE-55 FRP 6-10 contract in 2nd Qtr FY 2016. ALE-55 FRP 6-10 is planned as Sole Source Firm Fixed Price (SS/FFP) contract with a base plus 4 options to BAE Systems.												

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>
IDECM Block 4: Successfully conduct In-Process Review (IPR) 6 (Production Transition) in 3rd Qtr FY 2015. Successfully achieve Initial Operational Capability (IOC) in 3rd Qtr FY 2015. Successfully award ALQ-214 FRP 12-16 contract in 3rd Qtr FY 2015. ALQ-214 FRP 12-16 is planned as Sole Source Firm Fixed Price (SS/FFP) contract with a base plus 4 options to ITT/Exelis. ALQ-214 Software Improvement: Successfully achieve IOC in 1st Qtr FY 2017.		

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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 0604270N / <i>Electronic Warfare (EW)</i> Dev				Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</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
Aircraft Integration -IDECM Boeing	Various	Various : Various	7.519	-		0.276	Mar 2015	0.282	Mar 2016	-		0.282	1.144	9.221	9.221
Systems Eng - IDECM	SS/CPFF	Various : Various	64.148	0.021	Mar 2014	0.735	Mar 2015	0.496	Mar 2016	-		0.496	0.726	66.126	66.126
Prior Year Prod Dev costs no longer funded in FYDP	Various	Various : Various	235.174	-		-		-		-		-	-	235.174	-
Subtotal			306.841	0.021		1.011		0.778		-		0.778	1.870	310.521	-
Remarks Due to delays in flight testing, the aircraft integration effort was moved to the right.															
Support (\$ 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
Integrated Log Supt- IDECM	WR	NAWCAD : Pax River, MD	0.000	0.113	Nov 2013	0.116	Nov 2014	0.111	Nov 2015	-		0.111	0.474	0.814	-
Software Dev-ALQ-214 SW Dev	SS/CPFF	ITT : Clifton, NJ	21.889	0.338	Dec 2013	-		-		-		-	-	22.227	22.227
Engineering Support	WR	Various : Various	0.000	1.130	Nov 2013	0.781	Nov 2014	2.554	Nov 2015	-		2.554	3.714	8.179	-
Engineering Support	WR	NAWCWD : China Lake, CA	0.000	-		1.828	Oct 2014	-		-		-	-	1.828	-
Engineering Support	WR	NAWCWD : Point Mugu, CA	0.000	2.440	Nov 2013	1.462	Nov 2014	-		-		-	-	3.902	-
Studies and Analysis SW Dev	SS/CR	Johns Hopkins : Baltimore, MD	0.500	0.660	May 2014	-		-		-		-	-	1.160	1.160
Prior Year Support costs no longer funded in FYDP	Various	Various : Various	10.307	-		-		-		-		-	-	10.307	-
Subtotal			32.696	4.681		4.187		2.665		-		2.665	4.188	48.417	-
Remarks Additional \$2.1 million BTR in prior years not reflected in PB16 budget control.															

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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 0604270N / <i>Electronic Warfare (EW)</i> Dev				Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</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
Dev Test & Eval Supt ALQ-214 SW Imp	WR	Various : Various	0.000	0.420	Nov 2013	-	Nov 2014	-		-		-	-	0.420	-
Oper Test & Eval ALQ-214 SW Imp	WR	NAWCWD : China Lake, CA	0.000	-		-		1.577	Oct 2015	-		1.577	-	1.577	-
Dev Test & Eval Supt ALQ-214 SW Imp	WR	NAWCWD : China Lake, CA	0.000	2.980	Nov 2013	4.819	Nov 2014	0.100	Nov 2015	-		0.100	-	7.899	-
Dev Test & Eval Supt ALQ-214 SW IMP	WR	NAWCWD : Point Mugu, CA	0.000	-		0.300	Nov 2014	-		-		-	-	0.300	-
Oper Test & Eval IDECM	WR	NAWCWD : China Lake, CA	0.000	3.587	Mar 2014	-		-		-		-	-	3.587	-
Eng Test & Eval IDECM	WR	Various : Various	0.000	1.172	Nov 2013	0.873	Nov 2014	0.848	Nov 2015	-		0.848	2.710	5.603	-
Eng & Tech Srvcs (Non-FFRDC)	SS/CPFF	Various : Various	0.000	0.517	Dec 2013	0.533	Dec 2014	0.549	Dec 2015	-		0.549	-	1.599	1.599
Prior Year T&E costs no longer funded in FYDP	Various	Various : Various	26.007	-		-		-		-		-	-	26.007	-
Subtotal			26.007	8.676		6.525		3.074		-		3.074	2.710	46.992	-
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
Travel	Allot	NAWCAD : Pax River, MD	0.610	0.080	Oct 2013	0.085	Oct 2014	0.077	Oct 2015	-		0.077	0.249	1.101	-
Prior Year Mgmt costs no longer funded in FYDP	Various	Various : Various	88.935	-		-		-		-		-	-	88.935	-
Subtotal			89.545	0.080		0.085		0.077		-		0.077	0.249	90.036	-
			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			455.089	13.458		11.808		6.594		-		6.594	9.017	495.966	-

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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 0604270N / <i>Electronic Warfare (EW) Dev</i>			Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>			
	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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

Date: February 2015

Appropriation/Budget Activity

1319 / 5

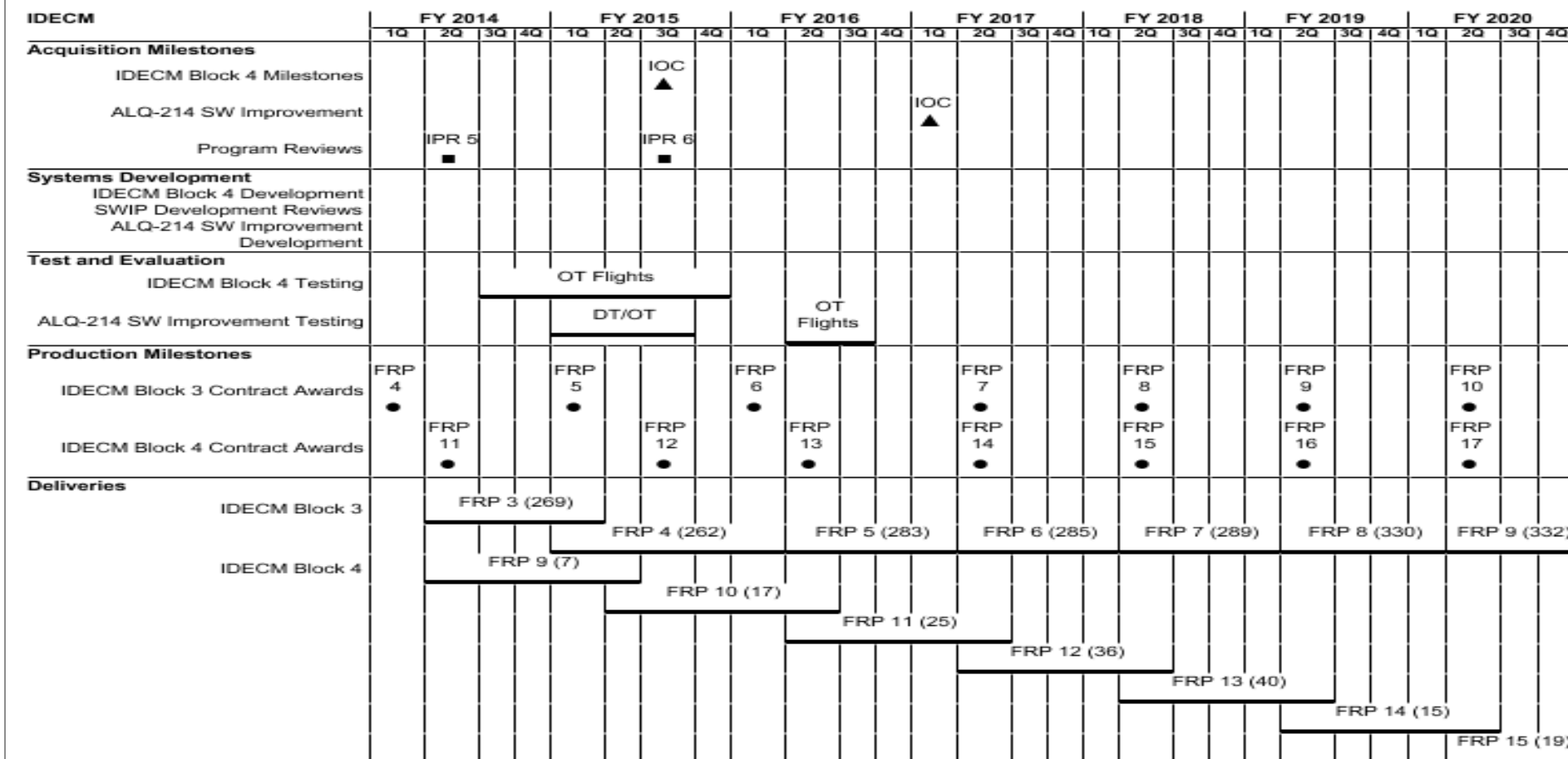
R-1 Program Element (Number/Name)

PE 0604270N / *Electronic Warfare (EW)*

Dev

Project (Number/Name)

2175 / *Tactical Air Electronic Warfare*



2016PB - 0604270N - 2175 IDECM Block 4 is an ECP to Block 2

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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 0604270N / <i>Electronic Warfare (EW)</i> Dev	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
IDECM				
Acquisition Milestones: IDECM Block 4 Milestones: IDECM Block 4 IOC	3	2015	3	2015
Acquisition Milestones: ALQ-214 SW Improvement: ALQ-214 SW Improvement (IOC)	1	2017	1	2017
Acquisition Milestones: Program Reviews: IDECM Block 4 In-Process Review (IPR) 5	2	2014	2	2014
Acquisition Milestones: Program Reviews: IDECM Block 4 In-Process Review (IPR) 6	3	2015	3	2015
Test and Evaluation: IDECM Block 4 Testing: IDECM Block 4 Operational Testing Flights	3	2014	4	2015
Test and Evaluation: ALQ-214 SW Improvement Testing: ALQ-214 SW Improvement Development Testing(DT)/Operational Testing (OT) Flights	1	2015	3	2015
Test and Evaluation: ALQ-214 SW Improvement Testing: ALQ-214 SW Improvement Operational Testing (OT) Flights	2	2016	3	2016
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 4	1	2014	1	2014
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 5	1	2015	1	2015
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 6	1	2016	1	2016
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 7	2	2017	2	2017
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 8	2	2018	2	2018
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 9	2	2019	2	2019
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 10	2	2020	2	2020

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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 0604270N / <i>Electronic Warfare (EW)</i> Dev		Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 11	2	2014	2	2014
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 12	3	2015	3	2015
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 13	2	2016	2	2016
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 14	2	2017	2	2017
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 15	2	2018	2	2018
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 16	2	2019	2	2019
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 17	2	2020	2	2020
Deliveries: IDECM Block 3: IDECM Block 3 FRP 3 Deliveries (269)	2	2014	1	2015
Deliveries: IDECM Block 3: IDECM Block 3 FRP 4 Deliveries (262)	1	2015	1	2016
Deliveries: IDECM Block 3: IDECM Block 3 FRP 5 Deliveries (283)	2	2016	1	2017
Deliveries: IDECM Block 3: IDECM Block 3 FRP 6 Deliveries (285)	2	2017	1	2018
Deliveries: IDECM Block 3: IDECM Block 3 FRP 7 Deliveries (289)	2	2018	1	2019
Deliveries: IDECM Block 3: IDECM Block 3 FRP 8 Deliveries (330)	2	2019	1	2020
Deliveries: IDECM Block 3: IDECM Block 3 FRP 9 Deliveries (332)	2	2020	4	2020
Deliveries: IDECM Block 4: IDECM Block 4 FRP 9 Deliveries (7)	2	2014	2	2015
Deliveries: IDECM Block 4: IDECM Block 4 FRP 10 Deliveries (17)	2	2015	2	2016
Deliveries: IDECM Block 4: IDECM Block 4 FRP 11 Deliveries (25)	2	2016	2	2017
Deliveries: IDECM Block 4: IDECM Block 4 FRP 12 Deliveries (36)	2	2017	2	2018
Deliveries: IDECM Block 4: IDECM Block 4 FRP 13 Deliveries (40)	2	2018	2	2019
Deliveries: IDECM Block 4: IDECM Block 4 FRP 14 Deliveries (15)	2	2019	2	2020

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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 0604270N / <i>Electronic Warfare (EW)</i> <i>Dev</i>	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>	

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: IDECM Block 4: IDECM Block 4 FRP 15 Deliveries (19)	2	2020	4	2020