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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>					R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	4,410.310	148.313	188.299	131.118	-	131.118	116.542	105.135	73.568	86.854	Continuing	Continuing
1662: <i>F/A-18 Improvement</i>	3,793.777	97.361	124.223	128.032	-	128.032	113.345	101.963	73.568	86.854	Continuing	Continuing
2065: <i>F/A-18 Radar Upgrade</i>	616.533	50.952	64.076	3.086	-	3.086	3.197	3.172	0.000	0.000	0.000	741.016
MDAP/MAIS Code(s): 549												
[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012 ^{##} The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification <p>The F/A-18 is required to perform multiple missions. Capabilities of the F/A-18 weapon system and ancillary equipment can be upgraded to accommodate and incorporate new or enhanced weapons as well as advances in technology to respond effectively to emerging future threats. Continued F/A-18 E/F and EA-18G "Flight Plan" spiral capability development is critical to the baseline of the Super Hornet next generation mission system capability and maintaining tactical relevance in support of Navy Aviation Plan 2030. Development continues for a platform solution to threat Advanced Electronic Attack and Counter-Electronic Attack (CEA). F/A-18 solutions to CEA include upgrades to existing sensors such as F/A-18 Radar Upgrade, Infrared Search and Track Block I, and development of a fused picture between these sensors, such as Multi-Sensor Integration Phase III. Additionally, continued advanced development engineering for improvements in reliability and maintainability are required to ensure maximum benefit is achieved through reduced cost of ownership and to provide enhanced availability.</p> <p>JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.</p>												

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons			
B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	147.091	188.299	148.861	-	148.861
Current President's Budget	148.313	188.299	131.118	-	131.118
Total Adjustments	1.222	0.000	-17.743	-	-17.743
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.529	0.000			
• SBIR/STTR Transfer	-3.307	0.000			
• Program Adjustments	0.000	0.000	-11.239	-	-11.239
• Rate/Misc Adjustments	0.000	0.000	-6.504	-	-6.504
Change Summary Explanation					
Technical:					
1662: Not Applicable					
2065: Not Applicable					
Schedule:					
1662: Distributed Targeting System Developmental Test extended one year from 1st quarter FY12 to 1st quarter FY13 for resolution of minor issues discovered in earlier testing. Operational Flight Test slid into 1st quarter FY13. As a result of extended flight test and delays with the Fleet Release of System Configuration Set H8, Initial Operational Capability was delayed from 4th quarter FY12 to 3rd quarter FY13. Low Rate Initial Production 2 was delayed from 2nd quarter FY12 to 1st quarter FY13 due to protracted contract negotiations, there was no impact to the production line or risk of a program breach and the results were a net savings of \$3 million. Full Rate Production contract award was delayed from 1st quarter FY13 to 3rd quarter FY13. Inclusion of FY18 in the FYDP brought in Full Rate Production Lots 6 and 7 and updated quantities.					
Infra-Red Search and Track Integrated Baseline Review 1 and Engineering Development Model Fleet Readiness Review (EDM FRR) delayed two quarters as a result of contract settlement issues between the prime contractor and a major subcontractor, EDM FRR scheduled date is 1st quarter FY14, erroneously reported as 4th quarter FY12 in PB13. Four schedule items have been accelerated by two quarters since PB13; Physical Configuration Audit, Integrated Operational Test & Evaluation, the Operational Evaluation Report and the start of Full Rate Production 1. Five items have been added; Full Rate Production Decision Review in 2nd quarter FY16, start of Full Rate Production 2 in 1st quarter FY17, deliveries of Low Rate Initial Production 2 beginning 1st quarter FY17, deliveries of Full Rate Production 1 beginning in 3rd quarter FY17 and deliveries of Full Rate Production 2 beginning in 2nd quarter FY18.					

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<p>Multi-Sensor Integration Phase 1 Operational Testing Readiness Review, Operational Evaluation and Fleet Release have all been delayed two quarters as a result of discovered test issues requiring resolution.</p> <p>Multi-Sensor Integration Phase III System Design and Development start date has been accelerated two quarters into 1st quarter FY13 from 3rd quarter FY13. Integration testing previously reported only the planned integration period, extended to 1st quarter FY16 from 3rd quarter FY15 to account for the planned Integrated Test & Evaluation phase.</p> <p>Sensor Integration - Single Ship Geolocation (SSG) and Specific Emitter Identification (SEI): SSG/SEI follow-on interoperability efforts require additional software development extending that effort from 2nd quarter FY11 to 4th quarter FY13, related testing will be accomplished in conjunction with Multi-Sensor Integration Phase II.</p> <p>Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System: Added developmental test period for communications and identification efforts (Multi-functional Information Distribution System - Joint Tactical Radio System, Satellite Communication, Combined Interrogator Transponder MODE 5) from 4th quarter FY12 to 4th quarter FY16.</p> <p>Small Diameter Bomb II / Joint Miniature Munitions Bomb Rack Unit integration and testing is a new start effort beginning in FY14.</p> <p>Obsolescence redesign is a new start program beginning in FY14.</p> <p>2065: Counter Electronic Attack 1 hardware/software development efforts under this program element end in 4th quarter FY13. Obsolescence redesign program added beginning in FY14.</p>		

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons				PROJECT 1662: F/A-18 Improvement			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1662: F/A-18 Improvement	3,793.777	97.361	124.223	128.032	-	128.032	113.345	101.963	73.568	86.854	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
F/A-18 Improvement (1662): The F/A-18 is a multi-mission strike fighter aircraft that is used in Air-to-Air, strike, surveillance, reconnaissance and tanking roles through selected use of external equipment (fuel tanks, tactical and reconnaissance pods, and various ordnance launching racks). Additional capabilities are required for interoperability in a network-centric tactical environment. In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being expanded and upgraded to incorporate new/enhanced weapons systems and avionics including Dual Mode Weapons, a Counter-Electronic Attack, Infra-red Search and Track integrated with the Active Electronically Scanned Array Radar to provide Narrow Band High Gain Electronic Attack, Distributed Targeting precision strike capability through a Distributed Targeting System, and Sensor Integration through Multi-Sensor Integration Phase I/II/III capability. Continued advanced development engineering and analysis of hardware/software is required to successfully optimize fleet F/A-18 weapon systems for interoperability in a network centric tactical environment (such as Naval Integrated Fire Control-Counter Air), to include: enhanced software capabilities, potential new hardware development, enhanced existing hardware, and enhanced network centric capabilities. Additionally, continued effort is needed to perform technical evaluations, modeling and simulations, investigative flight testing, enhanced software modifications based on reported fleet deficiencies and beginning in FY14 the development and testing of design modifications to address obsolescence issues with the F/A-18 weapon system and ancillary equipment. Funding has been added starting in FY 2012 for the Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System which will integrate currently implemented manual methodologies to provide not only aural and visual cues/advisories but also automatic initiation of aircraft recovery and subsequent return of control to the pilot following recovery. This funding line continues F/A-18E/F "Flight Plan" spiral capability development, to include Multi-Sensor Integration Phase II and Phase III capability and further Flight Plan Engineering and System Configuration Set development and integration. This budget continues funding for F/A-18A-F Test Wing Maintenance support, funding development efforts needed for integration of air launched laser guided rockets on F/A-18 A+/C/D and beginning in FY14 the development and testing required for the integration of the Small Diameter Bomb II and Joint Miniature Munitions-Bomb Rack Unit on the F/A-18E/F Super Hornet.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Distributed Targeting System									5.427	1.916	0.000	
									Articles: 0	0		
Description: Funds are supporting development of a distributed targeting precision strike capability through a hardware and software solution. Hardware - Distributed Targeting Processor (DTP), Mass Storage Unit (MSU), and Mission Planning Transit Case. Software - DTP/MSU Operational Flight Program (OFP), Mission Computer OFP, and Mission Planning OFP.												
FY 2012 Accomplishments:												

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons	PROJECT 1662: F/A-18 Improvement		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue Integrated Test and Evaluation and begin Initial Operational Test and Evaluation. Complete Operational Test, conduct Physical Configuration Audit and Full Rate Production review.				
FY 2013 Plans: Complete Initial Operational Test and Evaluation (IOT&E) and award Full Rate Production (FRP) contract.				
Title: Electro-Optical Infra-Red Search and Track (IRST) Phase I		49.283	84.262	59.744
Articles:		0	0	0
Description: Technology development and engineering and manufacturing development of an IRST sensor for the F/A-18 E/F.				
FY 2012 Accomplishments: Continue Engineering and Development Phase and complete Critical Design Review and Design Readiness Review.				
FY 2013 Plans: Continue Engineering and Development Phase and start Integration Testing-B1 Flight Test.				
FY 2014 Plans: Continue Engineering and Development Phase and Integration Testing-C Flight Test. Complete Milestone C Review.				
Title: Sensor Integration - Single Ship Geolocation (SSG) and Specific Emitter Identification (SEI), High Gain Electronic Attack/ High Gain Electronic Support Measures, Integrated Defensive Countermeasures		11.320	2.629	0.000
Articles:		0	0	
Description: In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being upgraded to incorporate new/enhanced weapons systems and avionics. This funding line includes F/A-18E/F "Flight Plan" spiral capability development, SSG and SEI.				
FY 2012 Accomplishments: Continue software algorithm development to enhance target identification and location - SSG and SEI.				
FY 2013 Plans: Continue software algorithm development to enhance target identification and location (SSG/SEI) as relates to Wingman Compatibility interoperability resolution.				
Title: Sensor Integration - Air to Air, Air to Ground and Maritime Multi-Sensor Integration Phase II		15.733	3.031	10.195
Articles:		0	0	0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2012	FY 2013	FY 2014
<p>Description: Funding will be used to expand track and correlation support from emitting targets and tracks to improve lethality against stationary or moving targets. The H10E effort is currently in the requirements definition/allocation phase, with expected fleet introduction in FY 2014.</p> <p>FY 2012 Accomplishments: Requirements decomposition, functional allocation of subsystem requirements. System functional review and critical design review will be held.</p> <p>FY 2013 Plans: Integration and testing will be conducted.</p> <p>FY 2014 Plans: Complete Multi-Sensor Integration Phase II development with Fleet Release of System Configuration Set H10E. Effort includes software development and testing inclusive of Wingman Compatibility improvements such as Unique Identification, Enhanced Interference Blanking Unit and other software updates affecting the Integrated Defensive Counter Measures suite of electronic warfare hardware.</p>					
<p>Title: Sensor Integration - Counter Electronic Attack / Multi-Sensor Integration Phase III</p> <p style="text-align: right;">Articles:</p> <p>Description: Multi-Sensor Integration Phase III utilizes previous Multi-Sensor Integration upgrades and combines them in H12 System Configuration Set with display improvements to enhance Air to Air & Counter Electronic Attack sensor integration. Multi-Sensor Integration Phase III capability focuses are: Display firmware upgrade (allows existing processors to be fully utilized) coupled with display symbology/Crew Vehicle Interface improvements, and Air to Air Mission Tactical Picture improvements. MSI Phase III capability is common to the F/A-18E/F and EA-18G.</p> <p>FY 2013 Plans: Requirements decomposition, functional allocation of subsystem requirements. System Functional Review/Critical Design Review to be held.</p> <p>FY 2014 Plans: Continue Multi-Sensor Integration system software design and development, main focus of funded effort is in the H12 System Configuration Set for display improvements and other updates affecting air to air and Counter Electronic Attack sensor integration; development and testing inclusive of Wingman Compatibility improvements such as Unique Identification, Enhanced Interference</p>			0.000	10.500 0	14.470 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Blanking Unit and other software updates affecting the Integrated Defensive Counter Measures suite of electronic warfare hardware. Begin integration and testing efforts.				
Title: Flight Plan Engineering / System Configuration Set Development and Integration Articles: Description: Continued F/A-18 E/F and EA-18G "Flight Plan" spiral capability development is critical to the baseline of the Super Hornet next generation mission system capability. Funding will support the development, test and integration efforts required to maintain tactical relevance in support of Navy Aviation Plan 2030. FY 2014 Plans: Flight Plan Engineering efforts to include F/A-18E/F improvements necessary for Super Hornet relevance and tactical supremacy; Navy Integrated Fire Control-Counter Air system configuration set requirements to support Navy Integrated Air and Missile Defense capability requirements and enhance F/A-18 Cooperative Engagement Capability. Funding will also continue System Configuration Set H10/H12 test and development tasking.		0.000	0.000	4.000 0
Title: Test Wing Maintenance Conversion Articles: Description: Funding supports maintenance of aircraft at NAVAIR Test Wing used to support Program Office objectives. FY 2012 Accomplishments: Perform aircraft maintenance on Test Wing Aircraft. FY 2013 Plans: Perform aircraft maintenance on Test Wing Aircraft. Increase in planned flight testing over FY12 requirements. FY 2014 Plans: Perform aircraft maintenance on Test Wing Aircraft. Decrease in planned flight testing over FY13 as a result of reduced budget authority and planned efforts.		9.042 0	10.483 0	6.500 0
Title: Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System Articles: Description: Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System will preserve force structure by reducing attrition of pilots and aircraft that result from Controlled Flight into Terrain (CFIT). CFIT occurs at greater rates on fighter attack aircraft and is a leading cause of loss of life and loss of combat capability within the DoD aviation community. At full implementation, Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System will integrate currently implemented manual methodologies to provide not only aural and visual cues/advisories, but		4.556 0	11.402 0	5.223 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014	
also automatic initiation of aircraft recovery and subsequent return of control to the pilot following recovery. Funding supports Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System studies, analysis and functional requirements; communication, navigation and identification related development and integration efforts.					
FY 2012 Accomplishments: Begin studies and analysis to develop functional requirements for Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System. Conduct systems engineering (hardware/software) work required for common communications (Multi-functional Information Distribution System - Joint Tactical Radio System), advanced communications (Satellite Communication) and advanced identification (Combined Interrogator Transponder Mode 5), begin limited developmental test and evaluation.					
FY 2013 Plans: Continue Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System development, begin software development. Continue communications and identification development and integration, continue developmental test and evaluation.					
FY 2014 Plans: Continue Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System software development and design. Continue communications, navigation and identification equipment (hardware and software) development, integration, test and evaluation. Reduced budget authority causing suspension of planned flight test events.					
Title: Advanced Precision Kill Weapons System II Articles: Description: Development efforts needed for integration of air launched laser guided rockets on F/A-18 A+/C/D at stations 2, 3, 7, and 8.		2.000 0	0.000	0.000	
FY 2012 Accomplishments: OCO: Perform and complete developmental testing needed to integrate air launched laser guided rockets on F/A-18 A+/C/D.					
Title: Small Diameter Bomb II Integration Articles: Description: The F/A-18E/F Super Hornet is an objective platform for employment of the Small Diameter Bomb II (SDB II) and the Joint Miniature Munitions Bomb Rack Unit (JMM BRU). This program funds the hardware and software design, development, integration and testing required to successfully integrate SDB II/JMM BRU on the F/A-18E/F. SDB II is being developed by the		0.000	0.000	27.800 0	

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
USAF (Air Force is funding LRIPs 1, 2 and 3 with options for Navy procurements). Navy RDT&E funding will be applied to LRIP 4 for a quantity of 90 to support final testing events.												
FY 2014 Plans: System Specification and design efforts, Joint Miniature Munitions Bomb Rack Unit (JMM BRU) technical development and integration efforts. System Configuration Set software development and integration. Ground and Flight testing, procurement of JMM BRU prototypes and test assets. An option to procure Small Diameter Bomb II test assets as part of the USAF LRIP Lot 1 is included with FY14 funds.												
Title: F/A-18 Obsolescence Redesign Articles: Description: Develop and test modifications to address obsolescence issues. FY 2014 Plans: Develop and test design modifications to hardware components and software systems in response to F/A-18 weapon system and ancillary equipment obsolescence issues.										0.000	0.000	0.100 0
Accomplishments/Planned Programs Subtotals										97.361	124.223	128.032
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
• APN/0145: F/A-18E/F	2,237.500	2,035.131	206.551		206.551	0.000	0.000	0.000	0.000	0.000	41,638.932	
• APN/0145C: F/A-18EF AP	63.262	30.296	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1,650.192	
• APN/0143: EA-18G	989.577	1,027.443	2,001.787		2,001.787	45.583	0.000	0.000	0.000	0.000	10,663.106	
• APN/0143C: EA-18G AP	28.119	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	263.668	
• APN/05250: F-18 SERIES MOD	454.900	688.549	875.371		875.371	1,197.724	1,294.006	1,148.093	1,608.553	5,343.084	17,543.235	
• RDTEN/3063: EA-18G	14.770	13.009	11.138		11.138	19.563	16.438	16.383	14.149	Continuing	Continuing	
DEVELOPMENT												
Remarks												
D. Acquisition Strategy												
The F/A-18 Improvement program consists of extensive spiral development efforts mapped out in the capability-based approach F/A-18 E/F "Flight Plan." These efforts are critical to the baseline of the Super Hornet next generation mission system capability and maintaining tactical relevance in support of Navy Aviation Plan 2030. The major programs within the F/A-18 Improvement project are based on six Weapon System Capabilities: Distributed Targeting Air to Ground and Maritime, Distributed												

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<p>Targeting Air to Air, Net Centric Operations/Battle Space Management, Sensor Integration, Air to Ground and Maritime Attack, and Air to Air Attack. The major efforts included in this project are: Dual Mode Weapons integration; an Infra-Red Search and Track; Distributed Targeting capability through a Distributed Targeting System; Multi-Sensor Integration Phase I, Phase II and Phase III capability; continued advanced development and F/A-18E/F Flight Plan engineering and analysis; continued enhanced software capabilities development; and engineering support to perform technical evaluations, modeling and simulations, and investigative flight testing.</p> <ul style="list-style-type: none"> - Infra-Red Search and Track (IRST). The IRST Block I program is a Navy program in the Engineering Manufacturing and Development (EMD) phase. A Block I system will be developed by the Navy that will meet requirements for a Counter-Electronic Attack capability. This capability will reach Initial Operational Capability (IOC) in FY 2016. - Distributed Targeting System (DTS). DTS development is provided on a sole source cost plus incentive fee contract for EMD activities to Boeing. The program was a new start ACAT III FY 2009 effort, with a post MS B entry and an IOC in FY 2012. The program is leveraging previous Engineering Change Proposal efforts and is designated for all domestic Super Hornets. Updated acquisition plan is in accordance with Dr. Carter memorandum. - Sensor Integration. Sensor Integration development is provided on a sole source cost plus fixed fee contract on a Research and Development Basic Ordering Agreement to Raytheon and Boeing. - Integration of Auto Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System is envisioned to only require changes to the software System Configuration Set. Studies and analyses are needed to identify the appropriate implementation method. <p>E. Performance Metrics</p> <p>The DTS Program will achieve IOC in 2nd Quarter of FY2013. IRST Program achieved MS B on 17 June 2011, scheduled for MS C in 2nd Quarter of FY2014, and IOC in 4th Quarter of FY2016.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EW Sensor - Primary Development	WR	NAWCWD:China Lake, CA	1.985	2.329	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
SI - Develop Sensor Integration SSG/SEI	Various	Boeing:St. Louis, MO	4.530	0.000		1.944	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
SI - Develop Sensor Integration SSG/SEI	Various	Various:Various	0.000	0.000		0.048	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
SI - Develop Sensor Integration SSG/SEI	WR	NAWCWD:China Lake, CA	0.523	1.038	Mar 2012	0.637	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
IDECM/HGESM - S/W Development	WR	NAWCWD:China Lake, CA	1.912	1.983	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
IDECM/HGESM - S/W Development	Various	Raytheon:Goleta, CA	2.542	0.300	Aug 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
AGCAS/ATAWS (Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System) Systems Engineering	WR	NAWCAD:Pax River, MD	0.000	0.553	Feb 2012	2.500	Dec 2012	2.200	Dec 2013	-		2.200	Continuing	Continuing	Continuing
IRST - Primary Hardware Development Infra-Red Search and Track (IRST) 2	C/CPIF	Boeing:St. Louis, MO	30.172	36.446	Nov 2011	64.594	Nov 2012	27.532	Nov 2013	-		27.532	26.536	185.280	185.280
SDB II Hardware / Test Assets	Various	Various:Various	0.000	0.000		0.000		1.000	Feb 2014	-		1.000	Continuing	Continuing	Continuing
JMM BRU Hardware / Test Assets	Various	Various:Various	0.000	0.000		0.000		5.000	Feb 2014	-		5.000	Continuing	Continuing	Continuing
Prior Year Prod Dev cost no longer funded in FYDP	Various	Various:Various	555.463	0.000		0.000		0.000		-		0.000	0.000	555.463	
Subtotal			597.127	42.649		69.723		35.732		0.000		35.732			
Remarks While no funding is identified in FY14 the Sensor Integration (SSG/SEI) and IDECM/HGESM lines will remain active to support future, emergent requirements as may be required.															

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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IRST - Software (S/W) Development	WR	NAWCWD:China Lake, CA	0.000	0.416	Dec 2011	4.170	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
IRST - Development Support	WR	NAWCWD:China Lake, CA	5.222	0.375	Dec 2011	0.421	Dec 2012	0.570	Dec 2013	-		0.570	Continuing	Continuing	Continuing
IRST - Development Support	WR	NAWCAD:Pax River, MD	6.037	2.278	Dec 2011	3.472	Dec 2012	2.403	Dec 2013	-		2.403	Continuing	Continuing	Continuing
IRST - Development Support	WR	NAWCAD:Lakehurst, NJ	0.564	0.376	Dec 2011	0.603	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
IRST - Development Support	WR	FRC Southeast:Jacksonville, FL	2.056	0.761	Dec 2011	1.694	Dec 2012	0.950	Dec 2013	-		0.950	Continuing	Continuing	Continuing
IRST - Development Support	WR	FRC Southwest:North Island, CA	0.157	0.058	Dec 2011	0.430	Dec 2012	0.037	Dec 2013	-		0.037	Continuing	Continuing	Continuing
IRST - Development Support	WR	NSMA:Arlington, VA	0.000	8.728	Apr 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DTS - S/W Development System Configuration Set (SCS) Distributed Targeting System (DTS)	Various	Boeing:St. Louis, MO	28.503	0.000		0.216	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
DTS - ILS	WR	Various:Various	0.000	0.154	Dec 2011	0.000		0.000		-		0.000	0.000	0.154	
MSI PH II Development Support	Various	NAWCWD:China Lake, CA	4.310	8.005	Nov 2011	2.231	Dec 2012	5.111	Dec 2013	-		5.111	Continuing	Continuing	Continuing
MSI PH II Development Support	WR	PMA205:Pax River, MD	0.774	0.000		0.638	Jan 2013	0.000		-		0.000	Continuing	Continuing	Continuing
MSI PH II Development Support	TBD	Boeing:St. Louis, MO	0.000	0.000		0.000		0.918	Dec 2013	-		0.918	Continuing	Continuing	Continuing
AGCAS/ATAWS Development Support	WR	NAWCWD:China Lake, CA	0.000	0.761	Apr 2012	0.500	Dec 2012	3.120	Dec 2013	-		3.120	Continuing	Continuing	Continuing
AGCAS/ATAWS Configuration Management	Various	Various:Various	0.000	0.000		0.052	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
MSI PH III Development Support - Sensor	WR	NAWCWD:China Lake, CA	0.000	0.000		6.917	Dec 2012	6.534	Dec 2013	-		6.534	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons				PROJECT 1662: F/A-18 Improvement					
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 Counter-Digital Radio Frequency Memory															
MSI PH III Development Support - Sensor Integration Counter-Digital Radio Frequency Memory	TBD	Boeing:St. Louis, MO	0.000	0.000		2.645	Dec 2012	7.192	Dec 2013	-		7.192	Continuing	Continuing	Continuing
S/W Development IDECM/HGESM	WR	NAWCWD:China Lake, CA	10.579	0.316	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Development Support - Sensor Integration SSG/SEI	WR	NAWCWD:China Lake, CA	1.638	0.589	Nov 2011	0.000		0.000		-		0.000	0.000	2.227	
SDB II - Development Support	WR	NAWCAD:Pax River, MD	0.000	0.000		0.000		4.000	Dec 2013	-		4.000	Continuing	Continuing	Continuing
SDB II - Development Support	WR	NAWCWD:China Lake, CA	0.000	0.000		0.000		3.000	Dec 2013	-		3.000	Continuing	Continuing	Continuing
SDB II - Software Development Support	WR	NAWCWD:China Lake, CA	0.000	0.000		0.000		6.624	Dec 2013	-		6.624	Continuing	Continuing	Continuing
Obsolescence Redesign	TBD	TBD:TBD	0.000	0.000		0.000		0.100	Jun 2014	-		0.100	Continuing	Continuing	Continuing
Prior Year Support costs no longer funded in FYDP	Various	Various:Various	2,919.391	0.000		0.000		0.000		-		0.000	0.000	2,919.391	
Subtotal			2,979.231	22.817		23.989		40.559		0.000		40.559			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IRST - Developmental Test & Evaluation (DT&E)	WR	NAWCAD:Pax River, MD	3.598	0.000		4.188	Dec 2012	7.200	Dec 2013	-		7.200	Continuing	Continuing	Continuing
IRST - DT&E	WR	NAWCWD:China Lake, CA	0.959	0.000		1.344	Dec 2012	14.100	Dec 2013	-		14.100	Continuing	Continuing	Continuing
IRST - Operational Test & Evaluation (OT&E)	WR	OPTEVFOR:VX-9	0.018	0.105	Dec 2011	0.560	Dec 2012	0.317	Dec 2013	-		0.317	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons				PROJECT 1662: F/A-18 Improvement					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DTS 2 - DT&E	WR	NAWCWD:China Lake, CA	7.053	1.876	Dec 2011	0.300	Dec 2012	0.000		-		0.000	0.000	9.229	
DTS 2 - DT&E	WR	NAWCAD:Pax River, MD	0.900	1.741	Nov 2011	0.300	Dec 2012	0.000		-		0.000	0.000	2.941	
DTS - OT&E	WR	OPTEVFOR:Norfolk, VA	0.747	0.800	Dec 2011	0.200	Dec 2012	0.000		-		0.000	0.000	1.747	
SI - OT&E - SSG/SEI	WR	Various:Various	1.057	0.300	Apr 2012	0.000		0.000		-		0.000	0.000	1.357	
MSI PH II - DT&E (MSI Phase II-3)	WR	Various:Various	4.567	4.650	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
MSI PH II - DT&E (MSI Phase II-4)	WR	Various:Various	0.000	0.339	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
MSI PH II OT&E	WR	OPTEVFOR:VX-9	0.000	0.204	Jul 2012	0.000		4.151	Dec 2013	-		4.151	Continuing	Continuing	Continuing
AGCAS/ATAWS DT&E	TBD	Various:Various	0.000	1.500	Apr 2012	1.700	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Advanced Precision Kill Weapon System II - Integration	WR	NAWCAD:Pax River, MD	0.000	2.000	Mar 2012	0.000		0.000		-		0.000	0.000	2.000	
SDB II - DT&E	WR	NAWCAD:Pax River, MD	0.000	0.000		0.000		4.000	Dec 2013	-		4.000	Continuing	Continuing	Continuing
SDB II - DT&E	WR	NAWCWD:China Lake, CA	0.000	0.000		0.000		3.000	Dec 2013	-		3.000	Continuing	Continuing	Continuing
Prior Year T&E costs no longer funded in FYDP	Various	Various:Various	96.763	0.000		0.000		0.000		-		0.000	0.000	96.763	
Subtotal			115.662	13.515		8.592		32.768		0.000		32.768			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 Mgmt Support - MISC	Various	NAWCAD:Pax River, MD	5.532	1.893	Dec 2011	2.468	Dec 2012	2.250	Dec 2013	-		2.250	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons				PROJECT 1662: F/A-18 Improvement					
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Seaport CSS - Program Management Support	C/CPFF	Wyle Lab:Pax River, MD	9.354	2.626	Dec 2011	3.620	Nov 2012	3.696	Nov 2013	-		3.696	5.019	24.315	24.315
Travel	Various	NAVAIR:Pax River, MD	3.550	0.539	Oct 2011	0.424	Dec 2012	0.312	Nov 2013	-		0.312	Continuing	Continuing	Continuing
Flight Plan Engineering	Various	NAWCAD:Pax River, MD	4.160	0.800	Dec 2011	2.000	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Flight Plan Engineering	Various	NAWCWD:China Lake, CA	9.340	2.150	Jan 2012	2.150	Jan 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Government Engineering Support	Various	Various:Various	0.886	2.522	Dec 2011	0.522	Nov 2012	2.472	Dec 2013	-		2.472	Continuing	Continuing	Continuing
Test Wing Maintenance Conversion	WR	NAWCAD:Pax River, MD	16.662	3.925	Jan 2012	5.367	Jan 2013	3.108	Dec 2013	-		3.108	Continuing	Continuing	Continuing
Test Wing Maintenance Conversion	WR	NAWCWD:China Lake, CA	16.662	3.925	Jan 2012	5.368	Jan 2013	3.035	Dec 2013	-		3.035	Continuing	Continuing	Continuing
Flight Plan / System Configuration Set Development & Integration	WR	NAWCAD:Pax River, MD	0.000	0.000		0.000		2.000	Dec 2013	-		2.000	Continuing	Continuing	Continuing
Flight Plan / System Configuration Set Development & Integration	WR	NAWCWD:China Lake, CA	0.000	0.000		0.000		2.100	Dec 2013	-		2.100	Continuing	Continuing	Continuing
Prior Year Mgmt costs no longer funded in FYDP	Various	Various:Various	35.611	0.000		0.000		0.000		-		0.000	0.000	35.611	
Subtotal			101.757	18.380		21.919		18.973		0.000		18.973			
Remarks Beginning in FY14 the Flight Plan Engineering efforts at Pax River and China Lake roll up under the Flight Plan / System Configuration Set Development & Integration program.															
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			3,793.777	97.361		124.223		128.032		0.000		128.032			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy																				DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>										R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>										PROJECT 1662: <i>F/A-18 Improvement</i>			

Distributed Targeting System	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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																												
System Development																												
Hardware Development																												
Software Development																												
Reviews																												
Test and Evaluation																												
Developmental Testing																												
Operational Testing																												
Production Milestone																												
Contract Awards																												
Deliveries																												

2014PB - 0204136N - 1662

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PE 0204136N: *F/A-18 Squadrons*
Navy

R-1 Line #170

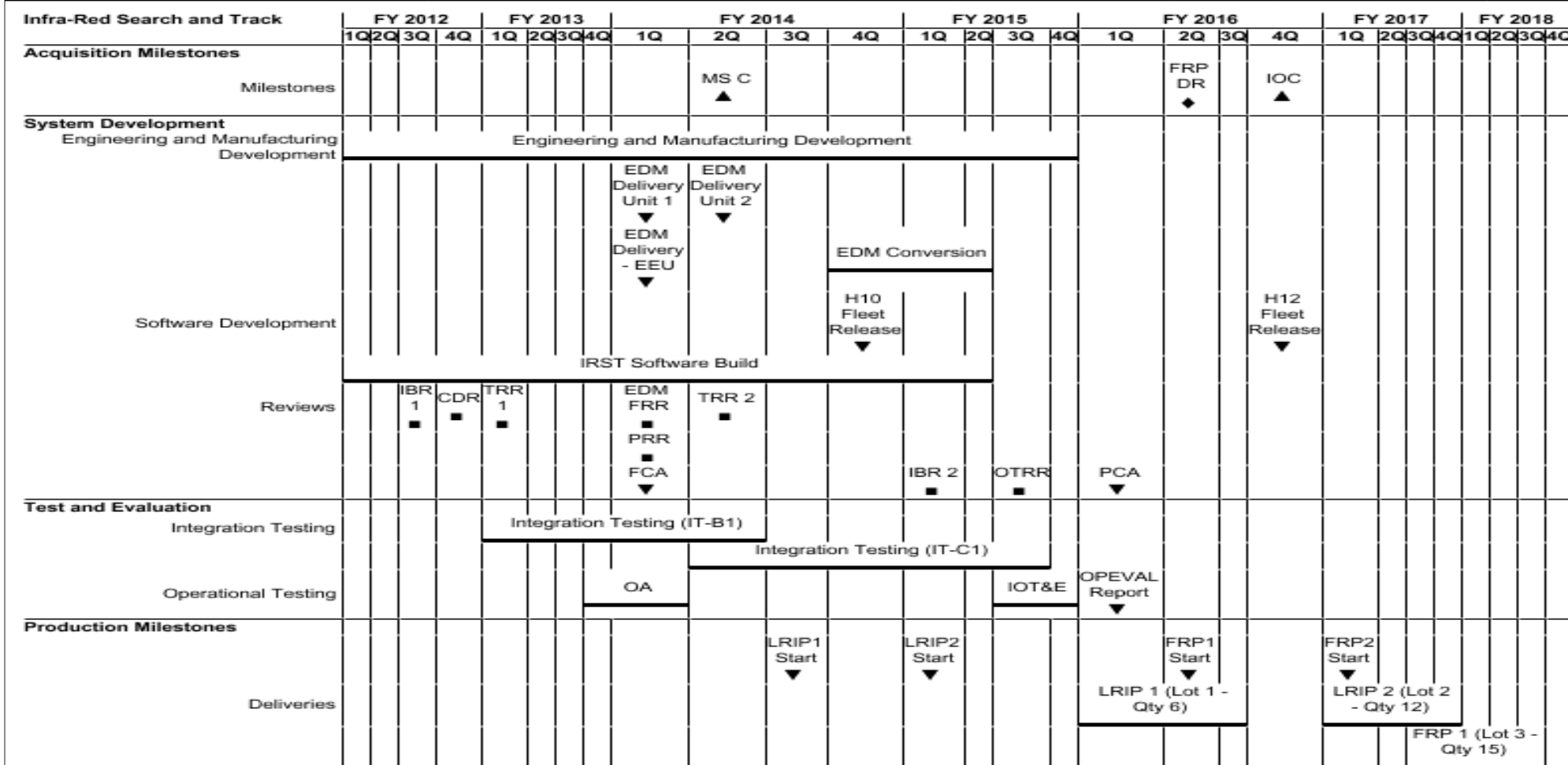
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1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0204136N: F/A-18 Squadrons

	PROJECT
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1662: *F/A-18 Improvement*

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PE 0204136N: *F/A-18 Squadrons*
Navy

R-1 Line #170

R-1 ITEM NOMENCLATURE

PE 0204136N: F/A-18 Squadrons

1662: *F/A-18 Improvement*[illegible]

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PE 0204136N: *F/A-18 Squadrons*
Navy

R-1 Line #170

R-1 ITEM NOMENCLATURE

PE 0204136N: F/A-18 Squadrons

1662: *F/A-18 Improvement*

2014PB - 0204136N - 1662

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PE 0204136N: *F/A-18 Squadrons*
Navy

R-1 Line #170

R-1 ITEM NOMENCLATURE

PE 0204136N: *F/A-18 Squadrons*

1662: *F/A-18 Improvement*

[illegible]

2014PB - 0204136N - 1662

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PE 0204136N: *F/A-18 Squadrons*
Navy

R-1 Line #170

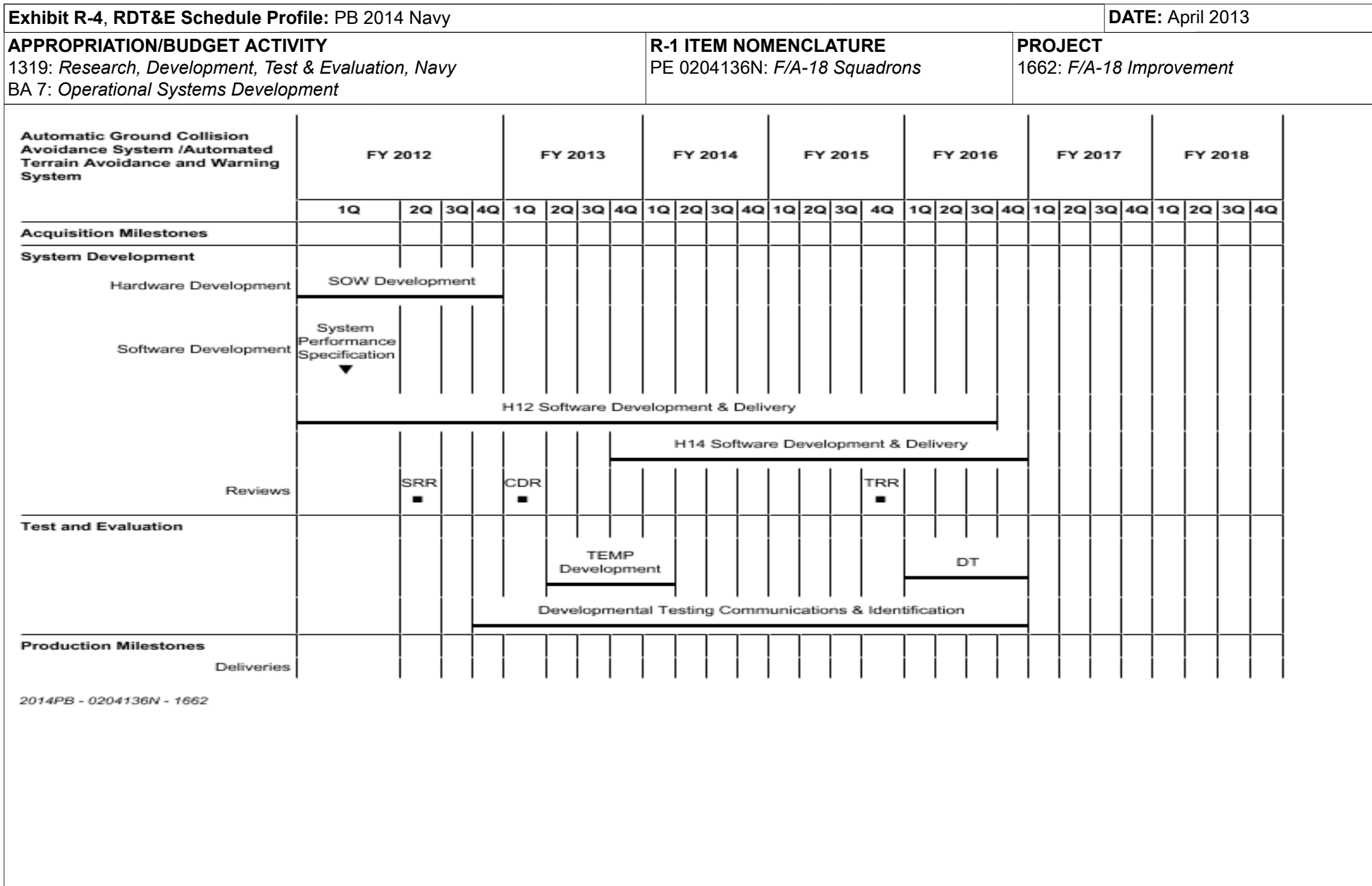
R-1 ITEM NOMENCLATURE

PE 0204136N: *F/A-18 Squadrons*

1662: *F/A-18 Improvement*

2014PB - 0204136N - 1662

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PE 0204136N: *F/A-18 Squadrons*
Navy

R-1 Line #170

R-1 ITEM NOMENCLATURE

PE 0204136N: F/A-18 Squadrons

1662: *F/A-18 Improvement*[illegible]

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PE 0204136N: *F/A-18 Squadrons*
Navy

R-1 Line #170

R-1 ITEM NOMENCLATURE

PE 0204136N: *F/A-18 Squadrons*

1662: *F/A-18 Improvement*

[illegible]

2014PB - 0204136N - 1662

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Distributed Targeting System</i>				
Acquisition Milestones: Milestones: Initial Operational Capability	3	2013	3	2013
System Development: Software Development: DT/OT Software Error Correction Development	1	2013	4	2013
Test and Evaluation: Developmental Testing: DT Flight Testing	1	2012	1	2013
Test and Evaluation: Operational Testing: OT Flight Testing	2	2012	1	2013
Production Milestone: Contract Awards: LRIP 2 RDTEN	1	2013	1	2013
Production Milestone: Contract Awards: Full Rate Production (FRP)	3	2013	3	2013
Production Milestone: Deliveries: LRIP 1 RDTEN (Lot 1 - Qty 30)	1	2013	4	2013
Production Milestone: Deliveries: LRIP 2 RDTEN (Lot 2 - Qty 64)	1	2014	4	2014
Production Milestone: Deliveries: FRP-1 (Lot 3 - Qty 63)	3	2014	2	2015
Production Milestone: Deliveries: FRP-2 (Lot 4 - Qty 69)	3	2015	2	2016
Production Milestone: Deliveries: FRP-3 (Lot 5 - Qty 80)	3	2016	2	2017
Production Milestone: Deliveries: FRP-4 (Lot 6 - Qty 31)	3	2017	2	2018
Production Milestone: Deliveries: FRP-5 (Lot 7 - Qty 40)	3	2018	4	2018
<i>Infra-Red Search and Track</i>				
Acquisition Milestones: Milestones: Full Rate Production Decision Review (FRP DR)	2	2016	2	2016
Acquisition Milestones: Milestones: Milestone C (MS C)	2	2014	2	2014
Acquisition Milestones: Milestones: Initial Operational Capability (IOC)	4	2016	4	2016
System Development: Engineering and Manufacturing Development: Engineering and Manufacturing Development	1	2012	4	2015
System Development: Engineering and Manufacturing Development: Eng Dev Model (EDM) IRST Delivery - Lab/IT&E (Unit 1)	1	2014	1	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons		PROJECT 1662: F/A-18 Improvement
		Start		End
Events by Sub Project		Quarter	Year	Quarter Year
System Development: Engineering and Manufacturing Development: Eng Dev Model (EDM) IRST Delivery - Lab/IT&E (Unit 2)		2	2014	2 2014
System Development: Engineering and Manufacturing Development: Eng Dev Model (EDM) IRST Delivery - (Environmental Evaluation Unit-EEU)		1	2014	1 2014
System Development: Engineering and Manufacturing Development: EDM Conversion		4	2014	2 2015
System Development: Software Development: H10 Fleet Release		4	2014	4 2014
System Development: Software Development: H12 Fleet Release		4	2016	4 2016
System Development: Software Development: IRST Software Build		1	2012	2 2015
System Development: Reviews: Integrated Baseline Review (IBR) 1		3	2012	3 2012
System Development: Reviews: Critical Design Review (CDR)		4	2012	4 2012
System Development: Reviews: Fleet Readiness Review Engineering Development Model (EDM FRR)		1	2014	1 2014
System Development: Reviews: Test Readiness Review (TRR) 1		1	2013	1 2013
System Development: Reviews: Test Readiness Review (TRR) 2		2	2014	2 2014
System Development: Reviews: Preproduction Readiness Review (PRR)		1	2014	1 2014
System Development: Reviews: Functional Configuration Audit (FCA)		1	2014	1 2014
System Development: Reviews: Integrated Baseline Review (IBR) 2		1	2015	1 2015
System Development: Reviews: Operational Testing Readiness Review (OTRR)		3	2015	3 2015
System Development: Reviews: Physical Configuration Audit (PCA)		1	2016	1 2016
Test and Evaluation: Integration Testing: Integration Testing (IT-B1)		1	2013	2 2014
Test and Evaluation: Integration Testing: Integration Testing (IT-C1)		2	2014	3 2015
Test and Evaluation: Operational Testing: Operational Assessment (OA)		4	2013	1 2014
Test and Evaluation: Operational Testing: Integrated Operational Test & Evaluation (IOT&E)		3	2015	4 2015
Test and Evaluation: Operational Testing: OPEVAL Report		1	2016	1 2016
Production Milestones: LRIP 1 APN		3	2014	3 2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons		PROJECT 1662: F/A-18 Improvement	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Production Milestones: LRIP 2 APN		1	2015	1	2015
Production Milestones: FRP I Start		2	2016	2	2016
Production Milestones: FRP 2 Start		1	2017	1	2017
Production Milestones: Deliveries: Low Rate Initial Production 1 (Lot 1 - Qty 6)		1	2016	3	2016
Production Milestones: Deliveries: Low Rate Initial Production 2 (Lot 2 - Qty 12)		1	2017	4	2017
Production Milestones: Deliveries: Full Rate Production Lot 1 (Lot 3 - Qty 15)		3	2017	3	2018
Production Milestones: Deliveries: Full Rate Production Lot 2 (Lot 4 - Qty 15)		2	2018	4	2018
Single Ship Geolocation/Specific Emitter Identification, High Gain Electronic Support Measures					
System Development: Software Development		1	2012	4	2013
System Development: Reviews: Operational Testing Readiness Review (OTRR)		1	2012	1	2012
Test and Evaluation: Operational Evaluation (OPEVAL)		1	2012	3	2012
Production Milestones: Deliveries: Fleet Release		4	2012	4	2012
Multi Sensor Integration Phase I					
System Development: Software Development: Software Integration MSI PH I		1	2012	1	2012
System Development: Reviews: Operational Testing Readiness Review (OTRR) MSI		3	2012	3	2012
Test and Evaluation: Operational Evaluation (OPEVAL) MSI		3	2012	1	2013
Production Milestones: Deliveries: Fleet Release MSI Ph I		2	2013	2	2013
Multi Sensor Integration Phase II					
System Development: Design & Development		1	2012	2	2012
Test and Evaluation: Integration Testing MSI		2	2012	2	2013
Test and Evaluation: Operational Testing H10		1	2014	3	2014
Production Milestones: Deliveries: Fleet Release MSI Ph II		4	2014	4	2014
Multi Sensor Integration Phase III					
System Development: Design & Development MSI Ph III/H12		1	2013	2	2014
Test and Evaluation: Integration Testing MSI Ph III/H12		2	2014	1	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons		PROJECT 1662: F/A-18 Improvement	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Test and Evaluation: OT MSI Ph III/H12		1	2016	3	2016
Production Milestones: Fleet Release MSI Ph III/H12		4	2016	4	2016
Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System					
System Development: Hardware Development: Statement of Work Development		1	2012	4	2012
System Development: Software Development: System Performance Specification		1	2012	1	2012
System Development: Software Development: H12 Software Development & Delivery		1	2012	3	2016
System Development: Software Development: H14 Software Development & Delivery		4	2013	4	2016
System Development: Reviews: System Software Review (SSR)		2	2012	2	2012
System Development: Reviews: Critical Design Review (CDR)		1	2013	1	2013
System Development: Reviews: Test Readiness Review (TRR)		4	2015	4	2015
Test and Evaluation: Developmental Testing		1	2016	4	2016
Test and Evaluation: TEMP Development		2	2013	1	2014
Test and Evaluation: Developmental Testing Communications & Identification		4	2012	4	2016
Small Diameter Bomb II / Joint Miniature Munitions Bomb Rack Unit					
Acquisition Milestones: SDB II MS C		2	2014	2	2014
System Development: SDB II Tech Development		2	2014	3	2015
System Development: SDB II System Spec and Design		4	2015	2	2018
System Development: JMM BRU Tech Development		2	2014	3	2015
System Development: JMM BRU System Spec and Design		4	2015	2	2018
System Development: SDB II / JMM BRU Software Development		2	2014	4	2018
Test and Evaluation: SDB II Integration DT&E		3	2014	4	2018
Test and Evaluation: JMM BRU Integration DT&E		3	2014	4	2018
Production Milestones: SDB II LRIP 1 RD TEN (Lot 4 Qty 90)		2	2017	2	2017
Production Milestones: JMM BRU LRIP 1 RD TEN (Lot 1 Qty 40)		2	2018	2	2018
Obsolescence Redesign					

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>		PROJECT 1662: <i>F/A-18 Improvement</i>
		Start		End
Events by Sub Project		Quarter	Year	Quarter
System Development: F/A-18 Weapon System & Ancillary Equipment: Obsolescence Redesign Development & Testing		1	2014	4
				2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons				PROJECT 2065: F/A-18 Radar Upgrade			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2065: F/A-18 Radar Upgrade	616.533	50.952	64.076	3.086	-	3.086	3.197	3.172	0.000	0.000	0.000	741.016
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
F/A-18 Radio Detection and Ranging (RADAR) Upgrade: The F/A-18 RADAR Upgrade, Active Electronically Scanned Array (AESA) development program, which began in FY 1999, is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series RADAR. The AESA system corrects operational test deficiencies noted in the AN/APG-73. It provides multi-target tracking, Synthetic Aperture RADAR (SAR) imagery, SAR Target Location Error (TLE), and improved spotlight map resolution. In addition, it provides greater lethality than previous F/A-18 RADARs by allowing full tactical support of existing and planned air-to-air (A/A) and air-to-ground (A/G) weapons and it significantly increases A/A and A/G detection and tracking ranges. The AESA system provides greater survivability through self-protection and standoff jamming capabilities, while its greater range allows for reduced detection by enemy RADAR. This budget continues spiral capability development of AESA with increased efforts to address Phase II Operational Requirements Document requirements such as Counter-Electronic Attack 1 (CEA 1) against multiple Radio Frequency Emitters, AESA Multi-Jammer Electronic Protection (EP), Precision TLE Improvement, Monopulse and 5th/6th Channel development and Air Combat Maneuvering/Short Range Search and Track development and includes upgrades to Radar Instrumentation, test and evaluation assets and threat assets, and upgraded modeling and simulation of both clean and Electronic Attack threat environments. Budget also supports development and testing of design modifications to address obsolescence issues with APG-65, APG-73 and APG-79 RADAR systems.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Distributed Targeting - AESA EP Engineering and Manufacturing Development Articles: Description: The AESA system provides greater survivability through self-protection and standoff jamming capabilities. This budget continues spiral capability development of AESA by increased efforts to address Phase II Operational Requirements Document requirements. FY 2012 Accomplishments: Continue EMD efforts. Continue hardware developmental and refinement to the inherent EP.									2.457 0	0.000	0.000	
Title: Distributed Targeting - CEA 1 Software Development, Developmental Testing, Operational Testing, & Integration Articles: Description: Funding being utilized to support software capabilities development, integration and associated testing.									48.495 0	64.076 0	2.986 0	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy							DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons			PROJECT 2065: F/A-18 Radar Upgrade				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2012	FY 2013	FY 2014		
FY 2012 Accomplishments: Continue software (SW) development, Development Testing, systems integration efforts, and Active Electronically Scanned Array (AESA) Operational Test and Evaluation (OT&E) inclusive of some Follow On Test and Evaluation (FOT&E) for Hardware (HW) and SW change efforts. Begin AESA Counter-Electronic Attack 1 (CEA 1) efforts.											
FY 2013 Plans: Continue SW development, Development Testing, systems integration efforts, and AESA OT&E inclusive of some FOT&E for HW and SW change efforts. Continue AESA CEA 1 efforts.											
FY 2014 Plans: Continue hardware and software development, integration and testing of instrumentation required to support AESA Radar spiral capability upgrades.											
Title: F/A-18 RADAR Obsolescence Redesign Description: Develop and test design modifications to address obsolescence issues. FY 2014 Plans: Develop and test design modifications to hardware components and software systems in response to F/A-18 RADAR system obsolescence issues.							0.000	0.000	0.100 0		
Articles:											
Accomplishments/Planned Programs Subtotals							50.952	64.076	3.086		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APN/0145: F/A-18E/F	2,237.500	2,035.131	206.551		206.551	0.000	0.000	0.000	0.000	0.000	41,638.932
• APN/0145C: F/A-18E/F AP	63.262	30.296	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1,650.192
• APN/0143: EA-18G	994.477	1,027.443	21.812		21.812	7.990	0.000	0.000	0.000	0.000	8,650.438
• APN/1043C: EA-18G AP	28.119	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	263.668
• APN/05250: F-18 Series Mod (OSIP 002-07)	88.251	119.586	185.855		185.855	217.194	285.401	202.307	271.835	215.740	1,967.838
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>
D. Acquisition Strategy The AESA program continues developmental efforts following a successful Full Rate Production milestone decision, after completing a two-phase Acquisition approach during the FY1999 through FY2007 timeframe. This strategy continues utilization of reform initiatives such as: early partnering with industry; leveraging industry investment; optimizing use of Commercial Off-The Shelf software and Non-Developmental Item; using Cost as an Independent Variable; and Electronic Data Deliverables. Basic Ordering Agreement orders for Request for Proposal developments are in place for Boeing, the airframe prime manufacturer/integrator, and Raytheon, the Radio Detection and Ranging manufacturer, for focused risk reduction and sustainment of prior developmental activities.		
E. Performance Metrics Execute the system engineering process for software delivery and support the design and development of Electronic Protection, air to air, and air to ground capabilities.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons				PROJECT 2065: F/A-18 Radar Upgrade					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 H/W Development	WR	NSMA:Arlington, VA	4.910	0.100	Feb 2012	0.000		0.000		-		0.000	0.000	5.010	
Systems Engineering	WR	NAWCWD:China Lake, CA	1.095	0.474	Nov 2011	0.000		0.000		-		0.000	0.000	1.569	
Systems Engineering	WR	NAWCAD:Pax River, MD	1.046	0.545	Nov 2011	1.392	Nov 2012	0.000		-		0.000	0.000	2.983	
CEA 1 - Development/ Integration Counter Electronic Attack #1 (CEA 1)	Various	NSMA:Arlington, VA	0.000	40.038	Jun 2012	52.748	Dec 2012	0.000		-		0.000	0.000	92.786	
CEA 1 - Development / Integration	MIPR	AFMC:Washington, DC	0.000	2.500	Apr 2012	0.000		0.000		-		0.000	0.000	2.500	
Prior Year Prod Dev cost no longer funded in FYDP	Various	Various:Various	459.116	0.000		0.000		0.000		-		0.000	0.000	459.116	
Subtotal			466.167	43.657		54.140		0.000		0.000		0.000	0.000	563.964	
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development (Instrumentation)	WR	NAWCWD:China Lake, CA	32.991	1.654	Aug 2012	7.284	Dec 2012	2.680	Dec 2013	-		2.680	5.739	50.348	
Integrated Logistics Support	WR	Various:Various	1.511	0.516	Nov 2011	0.000		0.000		-		0.000	0.000	2.027	
Obsolescence Redesign	TBD	TBD:TBD	0.000	0.000		0.000		0.100	Jun 2014	-		0.100	0.000	0.100	
Subtotal			34.502	2.170		7.284		2.780		0.000		2.780	5.739	52.475	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy													DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development							R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons				PROJECT 2065: F/A-18 Radar Upgrade				

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWCWD:China Lake, CA	78.958	1.407	Nov 2011	0.000		0.000		-		0.000	0.000	80.365	
Prior Year T&E cost no longer funded in FYDP	Various	Various:Various	30.443	0.000		0.000		0.000		-		0.000	0.000	30.443	
Subtotal			109.401	1.407		0.000		0.000		0.000		0.000	0.000	110.808	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 (Seaport CSS)	C/CPFF	Wyle:Pax River, MD	4.187	1.869	Nov 2011	0.534	Nov 2012	0.124	Dec 2013	-		0.124	0.255	6.969	6.969
Travel	Various	NAVAIR:Pax River, MD	1.157	0.049	Nov 2011	0.057	Nov 2012	0.023	Oct 2013	-		0.023	0.048	1.334	
Contractor Engineering Support	Various	Various:Various	1.119	0.900	Nov 2011	0.351	Nov 2012	0.159	Nov 2013	-		0.159	0.327	2.856	
Program Management Support	WR	NAWCAD:Pax River, MD	0.000	0.900	Dec 2011	1.710	Nov 2012	0.000		-		0.000	0.000	2.610	
Subtotal			6.463	3.718		2.652		0.306		0.000		0.306	0.630	13.769	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	616.533	50.952	64.076	3.086	0.000	3.086	6.369	741.016	

Remarks

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PE 0204136N: *F/A-18 Squadrons*
Navy

R-1 Line #170

R-1 ITEM NOMENCLATURE

PE 0204136N: F/A-18 Squadrons

2065: F/A-18 Radar Upgrade



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F/A-18 Radar Upgrade</i>				
Systems Development: Hardware/Software Development: Obsolescence Redesign Development & Testing	1	2014	4	2016
Systems Development: Hardware/Software Development: Monopulse Study	3	2012	4	2013
Systems Development: Hardware/Software Development: Instrumentation Development	1	2012	1	2015
Systems Development: Hardware/Software Development: CEA #1	3	2012	4	2013
Systems Development: Hardware/Software Development: TLE Development	4	2012	2	2015
Systems Development: Hardware/Software Development: ACM Mode Development	1	2012	2	2015
Test & Evaluation: Integrated Test & Evaluation: H8 IT&E FOT&E2	1	2012	3	2012
Test & Evaluation: Integrated Test & Evaluation: H10 IT&E FOT&E2	2	2012	3	2014
Test & Evaluation: Integrated Test & Evaluation: H12 IT&E FOT&E2	3	2014	3	2016
Test & Evaluation: Anti-Tamper Development: IT&E PHASE 2	1	2012	1	2012
Production Milestones: Radar Deliveries: Retrofit Radar Deliveries	1	2012	4	2014
Production Milestones: Radar Deliveries: FRP Deliveries - 57 (Lot 33)	1	2012	1	2012
Production Milestones: Radar Deliveries: FRP Deliveries - 40 (Lot 34)	1	2012	4	2012
Production Milestones: Radar Deliveries: FRP Deliveries A - 46 (Lot 35)	1	2013	4	2013
Production Milestones: Radar Deliveries: FRP Deliveries B - 40 (Lot 36)	1	2014	4	2014
Production Milestones: Software Deliveries: H8 FLEET RELEASE	4	2012	4	2012
Production Milestones: Software Deliveries: H10 FLEET RELEASE	3	2014	3	2014
Production Milestones: Software Deliveries: H12 FLEET RELEASE	3	2016	3	2016