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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204136N: F/A-18 Squadrons							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	70.757	121.093	148.438	0.000	148.438	115.392	71.912	61.929	38.345	Continuing	Continuing
1662: F/A-18 Improvement	61.404	102.418	133.033	0.000	133.033	101.627	61.918	59.778	38.345	Continuing	Continuing
2065: F/A-18 Radar Upgrade	6.959	15.807	15.405	0.000	15.405	13.765	9.994	2.151	0.000	0.000	658.310
9999: Congressional Adds	2.394	2.868	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.893

A. Mission Description and Budget Item Justification

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 "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 NAVPLAN 2030. 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.

B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	73.050	127.733	0.000	0.000	0.000
Current President's Budget	70.757	121.093	148.438	0.000	148.438
Total Adjustments	-2.293	-6.640	148.438	0.000	148.438
• Congressional General Reductions		-0.505			
• Congressional Directed Reductions		-9.000			
• Congressional Rescissions	0.000	-0.015			
• Congressional Adds		2.880			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.468	0.000			
• SBIR/STTR Transfer	-1.824	0.000			
• Program Adjustments	0.000	0.000	148.438	0.000	148.438
• Rate/Misc Adjustments	-0.001	0.000	0.000	0.000	0.000

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<u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u>		FY 2009	FY 2010
Project: 9999: <i>Congressional Adds</i>			
Congressional Add: <i>Fighter Jet Noise Reduction Under Carrier Deck Operational Environment</i>		0.000	2.868
Congressional Add: <i>Distributed Targeting Processor</i>		2.394	0.000
Congressional Add Subtotals for Project: 9999		2.394	2.868
Congressional Add Totals for all Projects		2.394	2.868
<u>Change Summary Explanation</u>			
Technical: 1662: Technical changes beginning in FY 2010 are due to new start efforts for Sensor Integration (Multi-Ship Emitter Geo-Location and Sensor Integration - Air to Air, Air to Ground) and Maritime Multi-Sensor Integration Phase II.			
2065: Technical changes beginning in FY 2010 are due to additional funding for F/A-18 Distributed Targeting (AESA Multi-Jammer Electronic Protection).			
Schedule:			
1662: Full Rate Production was removed from the IDECM with AESA schedule because this effort will not produce or deliver hardware. This effort is software related. The schedule changes to the Infrared Search and Track (IRST) program are due to the program being upgraded from ACAT III to ACAT II, which is expected 1st QTR 2010 and will cause a slip in MS "B" and the rest of the schedule due to increased milestone requirements and documentation. Due to ACAT III designation for Distributed Targeting Capability beginning in FY 2009, the Network Centric Operations and Distributed Targeting Processor/Mass Storage Unit development and risk reduction activities were merged. Distributed Targeting Processor/Mass Storage Unit entered the acquisition cycle at post MS B and is currently on schedule for Fleet Initial Operational Capability in FY 2012. The change to the LRIP I milestone has been updated to accurately reflect 3rd QTR FY11; the prior budget incorrectly reported the date as 4th QTR FY10. MSI Phase I has been separated from the Single Ship Geolocation (SSG)/Specific Emitter Identification (SEI) Effort to ensure cognizance over the complete MSI Program. The delay in starting Network Centric Operations algorithm development is due to delays in contracting actions. The schedule changes beginning in FY 2010 are due to new start efforts for Sensor Integration: Multi-Ship Emitter Geo-Location and Air to Air, Air to Ground and Maritime Multi-Sensor Integration Phase II.			
2065: The H-6+ Fleet Release milestone has been updated to accurately reflect 4th QTR FY10; the prior budget incorrectly reported the date as 3rd QTR FY10.			
FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.			

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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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
1662: <i>F/A-18 Improvement</i>	61.404	102.418	133.033	0.000	133.033	101.627	61.918	59.778	38.345	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
F/A-18 Improvements (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 upgraded to incorporate new/enhanced weapons systems and avionics including Dual Mode Weapons, an Infrared Search and Track (IRST), Integrated Defensive Electronic Counter Measures (IDECM) integrated with the Active Electronically Scanned Array (AESA) to provide Narrow Band High Gain Electronic Attack (NBHGEA), Distributed Targeting precision strike capability through a Distributed Targeting Processor/Mass Storage Unit (DTP/MSU), and Sensor Integration through Multi-Sensor Integration (MSI) Phase I 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, 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, and enhanced software modifications based on reported fleet deficiencies. This funding line continues F/A-18E/F "Flight Plan" spiral capability development, which includes Sensor Integration - Multi-Ship Emitter Geo-Location capability and Sensor Integration - MSI Phase II capability. This budget also continues funding for F/A-18A-F Test Wing Maintenance support.											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Air to Ground Maritime Attack - Dual Mode Weapons						0.460	0.000	0.000	0.000	0.000	
Funding used to test the integration of various weapon configurations on F/A-18E/F aircraft.											
<i>FY 2009 Accomplishments:</i>											
Continued integration, validation, and verification of various weapon configurations on F/A-18E/F aircraft, to include Dual Mode Weapons and fleet-identified high priority weapons loads.											

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Sensor Integration - IDECM with AESA 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 including Integrated Defensive Electronic Counter Measures (IDECM) integrated with the Active Electronically Scanned Array (AESAs) to provide High Gain Electronic Support Measures (HGESM) and prove the concept of Narrow Band High Gain Electronic Attack (HGEA). Advanced development engineering and analysis of hardware/software is required to optimize fleet F/A-18 weapon systems for interoperability in a network centric tactical environment. FY 2010 Plans: Continue software development for IDECM integration with AESA to provide HGEA and HGESM capability to prove the concept of HGEA.		0.000	6.398	0.000	0.000	0.000
Distributed Targeting - NCO/DTP/MSU/MPI Funds are supporting development of a distributed targeting precision strike capability through a Distributed Targeting Processor/Mass Storage Unit (DTP/MSU). FY 2009 Accomplishments: Started ACAT III Program. The following items were accomplished: established an Integrated Process Team and project plan, including Program Work Breakdown Structure and Integrated Master Schedule (IMS); initiated NAVAIR Systems Engineering Technical Review (SETR) process; developed a Statement of Work, and System Performance Specification; negotiated and awarded contract to Boeing for Engineering and Manufacturing Development (EMD) phase; initiated hardware and software development and risk reduction activities; and initiated draft acquisition documentation such as Capabilities Production Document (CPD), Master Test Plan (TEMP). Additionally, conducted System Requirements Review (SRR) and Preliminary Design Review (PDR).		22.532	35.650	39.620	0.000	39.620

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: Conduct subsystem integration testing at vendor labs, acceptance and qualification testing, and risk reduction activities. Conduct Technology Readiness Assessment (TRA), Integrated Baseline Review (IBR), and Critical Design Review (CDR). Begin DTP/MSU system level lab, ground, and flight testing.						
FY 2011 Base Plans: Continue testing and certification of system.						
Distributed Targeting - IRST Phase I Technology development and engineering and manufacturing development of an Infrared Search & Track sensor for the F/A-18 E/F.		16.373	12.780	39.602	0.000	39.602
FY 2009 Accomplishments: Completed System Readiness Review I and awarded Technology Development Contract; commenced preliminary design and engineering trade studies.						
FY 2010 Plans: Reach Milestone B and enter Engineering and Development Phase.						
FY 2011 Base Plans: Continue Engineering and Development Phase and complete Critical Design Review and Design Readiness Review.						
Sensor Integration - SSG/SEI, HGEA/HGESM/IDECM 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, Single Ship Geolocation (SSG) and Specific Emitter Identification (SEI).		8.335	14.900	14.782	0.000	14.782

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: Continued software algorithm development to enhance target identification and location (SSG & SEI).						
FY 2010 Plans: Continue software algorithm development to enhance target identification and location (SSG & SEI).						
FY 2011 Base Plans: Continue software algorithm development to enhance target identification and location (SSG & SEI).						
Sensor Integration - MSI Phase I 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 including, Multi-Sensor Integration (MSI) Phase I capability. Advanced development engineering and analysis of hardware/software is required to optimize fleet F/A-18 weapon systems for interoperability in a network centric tactical environment. FY 2009 Accomplishments: Continued software algorithm development to correlate multiple ground and surface tracks from on-ship to off-ship sensor sources and to begin integration with the Common Tactical Picture and Blue Force Track information. FY 2011 Base Plans: Continue software algorithm development to correlate multiple ground and surface tracks from on-ship to off-ship sensor sources and to begin integration with the Common Tactical Picture and Blue Force Track information.		3.200	0.000	4.622	0.000	4.622
Sensor Integration - A/A, A/G & Maritime MSI Phase II		0.000	9.020	15.566	0.000	15.566

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Funding will be used to expand track and correlation support from emitting targets and tracks to improve lethality against stationary or moving targets. H10E effort is currently in the requirements definition/allocation phase, with expected fleet introduction in FY14. FY 2010 Plans: System Change review Board. FY 2011 Base Plans: Design reviews.								
Sensor Integration - Multi-Ship Emitter Geo-Location 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. Advanced development engineering and analysis of hardware/software is required to optimize fleet F/A-18 weapon systems for interoperability in a network centric tactical environment. This funding line continues F/A-18E/F "Flight Plan" spiral capability development, which includes Sensor Integration - Multi-Ship Emitter Geo-Location capability and Sensor Integration - MSI Phase II capability. FY 2010 Plans: Continue Emitter Geo-Location spiral development and integration of Multi-Ship Emitter Geo-Location capability in order to provide additional autonomous fix phase support for distributed targeting use, situational awareness and targeting information at maximum weapons deployment range increases survivability, and improve overall effectiveness of weapons inventory. FY 2011 Base Plans: Continue Emitter Geo-Location spiral development and integration of Multi-Ship Emitter Geo-Location capability in order to provide additional autonomous fix phase support for distributed targeting use,				0.000	12.510	7.791	0.000	7.791

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B. Accomplishments/Planned Program (\$ in Millions)											
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total			
situational awareness and targeting information at maximum weapons deployment range increases survivability, and improve overall effectiveness of weapons inventory.											
Test Wing Maintenance Conversion				10.504	11.160	11.050	0.000	11.050			
Funding supports maintenance of aircraft at NAVAIR Test Wing used to support Program Office objectives.											
FY 2009 Accomplishments: Performed aircraft maintenance on Test Wing Aircraft.											
FY 2010 Plans: Perform aircraft maintenance on Test Wing Aircraft.											
FY 2011 Base Plans: Perform aircraft maintenance on Test Wing Aircraft.											
Accomplishments/Planned Programs Subtotals				61.404	102.418	133.033	0.000	133.033			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• APN/0145: F/A-18E/F	1,812.068	1,499.902	1,784.894	0.000	1,784.894	468.761	2,246.690	194.268	0.000	0.000	39,745.605
• APN/0145C: F/A-18E/F AP	42.490	51.273	2.295	0.000	2.295	58.581	0.000	0.000	0.000	0.000	1,606.939
• APN/0143: EA-18G	1,567.005	1,606.871	1,028.801	0.000	1,028.801	2,355.947	91.030	48.961	8.480	0.000	9,168.881
• APN/0143C: EA-18G AP	46.693	20.496	55.081	0.000	55.081	0.000	0.000	0.000	0.000	0.000	246.510
• APN/05250: F-18 Series Mod	464.287	559.888	492.821	43.250	536.071	470.898	446.581	598.108	559.068	1,610.295	8,715.826
	114.527	55.485	22.042	0.000	22.042	16.783	17.031	17.725	18.509	0.000	262.102

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• RD TEN/3063: EA-18G Development											
D. Acquisition Strategy											
<p>The F/A-18 Improvements 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 NAVPLAN 2030. The major programs within the F/A-18 Improvements project are based on six Weapon System Capabilities: Distributed Targeting Air to Ground (A/G) and Maritime, Distributed Targeting Air to Air (A/A), Net Centric Operations/Battle Space Management, Sensor Integration, A/G and Maritime Attack, and A/A Attack. The major efforts included in this project are: Dual Mode Weapons integration; an Infrared Search and Track (IRST); Integrated Defensive Electronic Counter Measures (IDECM) integrated with the Active Electronically Scanned Array (AESA) to provide Narrow Band High Gain Electronic Attack; Distributed Targeting capability through a Distributed Targeting Processor/Mass Storage Unit (DTP/MSU); Sensor Integration through Multi-Ship Emitter Geo-Location capability and Multi-Sensor Integration (MSI) Phase I and Phase II 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 & simulations, investigative flight testing.</p> <p>- Infrared Search & Track (IRST). The IRST Phase I program is a Navy program entering the Systems Design and Development phase at Milestone B in FY 2010. A Phase 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 2014.</p> <p>- Distributed Targeting. Distributed Targeting development is provided on a sole source cost plus incentive fee contract for Engineering Manufacturing and Development (EMD) activities. The program is 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 ECP efforts and is designated for all domestic Super Hornets.</p> <p>- Sensor Integration. Sensor Integration development is provided on a sole source cost plus fixed fee contract on an Research and Development (R&D) Basic Ordering Agreement to Raytheon.</p>											
E. Performance Metrics											
<p>The Distributed Targeting Program effort Initial Operational Capability (IOC) in FY2012. IRST Program to achieve Milestone "B" in 3rd Quarter of FY2010, Milestone "C" in 2nd Quarter of FY2013, and IOC in 4th Quarter of FY2014.</p>											

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Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Prior Year Costs	Various/CPAF	Various Various	454.785	0.000		0.000		0.000		0.000	0.000	454.785	Continuing	
Primary Hdw Development ANAV	Various/Various	Boeing St. Louis, MO	0.175	0.000		0.000		0.000		0.000	0.000	0.175	Continuing	
Weapons Integration - Dual Mode	Various/Various	NAWCAD Pax River, MD	0.460	0.000		0.000		0.000		0.000	0.000	0.460	Continuing	
Primary Development EW Sensor	Various/Various	Various Various	0.000	0.000		1.813	Jan 2011	0.000		1.813	2.405	4.218	Continuing	
Primary Development EW Sensor	Various/Various	Boeing St. Louis, MO	2.980	2.750	Jan 2010	0.600	Apr 2011	0.000		0.600	0.175	6.505	Continuing	
Primary Development EW Sensor	WR	NAWCWD China Lake, CA	0.230	0.000		1.755	Jan 2011	0.000		1.755	0.313	2.298	Continuing	
Primary Hardware Dev IRST	C/CPFF	MDA St. Louis, MO	13.479	5.329	May 2010	31.150	Jan 2011	0.000		31.150	24.160	74.118	74.118	
Primary Hardware Dev NCO/DTP	C/FFP	Boeing St. Louis, MO	14.677	12.467	May 2010	9.002	May 2011	0.000		9.002	1.479	37.625	37.625	
Sensor Integration APSC	WR	NAWCWD China Lake, CA	1.785	0.000		0.486	Jan 2011	0.000		0.486	0.080	2.351	Continuing	
Sensor Integration APSC	Various/Various	Raytheon Goleta, CA	2.891	1.250	Mar 2010	2.200	Mar 2011	0.000		2.200	0.000	6.341	Continuing	
Dev Sensor Integration (SSG/SEI)	WR	NAWCWD China Lake, CA	0.523	0.000		1.574	Jan 2011	0.000		1.574	2.886	4.983	Continuing	
Dev Sensor Integration (SSG/SEI)	Various/Various	Boeing St. Louis, MO	2.960	0.000		2.050	Mar 2011	0.000		2.050	0.264	5.274	Continuing	
		Various	0.000	0.000		2.868	Jan 2011	0.000		2.868	3.035	5.903	Continuing	

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Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Sensor Integration (SSG/SEI)	Various/ Various	Various											
SW Dev IDECM - HGEA/HGESM	Various/ Various	Boeing St. Louis, MO	1.482	0.000		0.914	Mar 2011	0.000		0.914	0.203	2.599	Continuing
SW Dev IDECM - HGEA/HGESM	WR	NAWCWD China Lake, CA	0.390	0.000		1.522	Jan 2011	0.000		1.522	0.244	2.156	Continuing
SW Dev IDECM - HGEA/HGESM	Various/ Various	TBD Not Specified	0.000	0.000		2.542	Jan 2011	0.000		2.542	3.161	5.703	Continuing
Development Sensor Integration (Multi Ship Geo)	WR	NAWCWD China Lake, CA	0.000	0.000		2.779	Jan 2011	0.000		2.779	4.569	7.348	Continuing
Development Sensor Integration (Multi Ship Geo)	Various/ Various	Raytheon Goleta, CA	0.000	0.000		1.310	Jan 2011	0.000		1.310	2.665	3.975	Continuing
Development Sensor Integration (Multi Ship Geo)	Various/ Various	Boeing St. Louis, MO	0.000	0.000		1.315	Jan 2011	0.000		1.315	2.665	3.980	Continuing
Aircraft Integration IDECM	WR	NAWCWD China Lake, CA	0.000	1.500	Jan 2010	0.000		0.000		0.000	0.000	1.500	Continuing
Automatic Ground Collision Avoidance System	Various/ Various	Various Various	0.000	0.000		0.000		0.000		0.000	48.599	48.599	Continuing
Subtotal			496.817	23.296		63.880		0.000		63.880	96.903	680.896	111.743
Remarks													

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Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Costs	Various/ Various	Various Various	2,901.493	0.000		0.000		0.000		0.000	0.000	2,901.493	Continuing
Software Development (Misc)	Various/ Various	Various Various	1.868	0.000		0.000		0.000		0.000	0.000	1.868	Continuing
Software Development IRST	WR	NAWCWD China Lake, CA	0.000	0.000		0.000		0.000		0.000	3.000	3.000	Continuing
Software Dev IDECM - HGEA/HGESM	WR	NAWCWD China Lake, CA	1.121	9.300	Dec 2009	0.158	Dec 2010	0.000		0.158	0.000	10.579	Continuing
Development Support IRST	WR	NAWCWD China Lake, CA	2.093	2.634	Nov 2009	0.995	Nov 2010	0.000		0.995	1.000	6.722	Continuing
Development Support IRST	WR	NAWCAD Pax River, MD	3.182	2.158	Nov 2009	1.197	Nov 2010	0.000		1.197	1.367	7.904	Continuing
Development Support IRST	WR	NAWCAD Lakehurst, NJ	0.083	0.099	Feb 2010	0.382	Feb 2011	0.000		0.382	0.200	0.764	Continuing
Development Support IRST	WR	FRC Southeast Jacksonville, FL	0.665	0.446	Nov 2009	0.945	Nov 2010	0.000		0.945	1.000	3.056	Continuing
Development Support IRST	WR	FRC Southwest North Island, CA	0.040	0.042	Nov 2009	0.075	Nov 2010	0.000		0.075	0.075	0.232	Continuing
Software Dev (TDL) NCO/DTP	Various/ Various	Boeing St. Louis, MO	8.532	12.534	Jan 2010	7.937	May 2011	0.000		7.937	30.770	59.773	59.773
Development Support - Sensor Integration (SSG/SEI)	WR	NAWCWD China Lake, CA	0.000	1.500	Dec 2009	0.138	Dec 2010	0.000		0.138	0.000	1.638	Continuing
Development Support - Sensor Integration (MSI Ph II)	Various/ Various	NAWCWD China Lake, CA	0.000	1.533	Jan 2010	2.688	Jan 2011	0.000		2.688	3.470	7.691	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
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>					
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Development Support - Sensor Integration (MSI Ph II)	Various/ Various	Boeing St. Louis, MO	0.000	4.998	Jan 2010	8.757	Jan 2011	0.000		8.757	10.410	24.165	24.165	
Development Support - Sensor Integration (Multi Ship Geo)	WR	NAWCWD China Lake, CA	0.000	6.745	Jan 2010	0.826	Jan 2011	0.000		0.826	1.288	8.859	Continuing	
Development Support EW Sensor MSI Phase I	WR	NAWCWD China Lake, CA	0.058	0.000		0.424	Jan 2011	0.000		0.424	0.500	0.982	Continuing	
Development Support - Sensor Integration (SSG/SEI)	Various/ Various	Raytheon Goleta, CA	0.000	1.250	Jan 2010	0.000		0.000		0.000	0.000	1.250	Continuing	
Development Support - Sensor Integration (SSG/SEI)	Various/ Various	Boeing St. Louis, MO	0.000	2.750	Jan 2010	0.000		0.000		0.000	0.000	2.750	Continuing	
Development Support - Sensor Integration (Multi Ship Geo)	Various/ Various	Raytheon Goleta, CA	0.000	2.714	Jan 2010	0.000		0.000		0.000	0.000	2.714	Continuing	
Development Support (Multi Ship Geo)	Various/ Various	Boeing St. Louis, MO	0.000	2.715	Jan 2010	0.000		0.000		0.000	0.000	2.715	Continuing	
Subtotal			2,919.135	51.418		24.522		0.000		24.522	53.080	3,048.155	83.938	
Remarks														

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
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 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Prior Year Costs	Various/ Various	Various Various	76.085	0.000		0.000		0.000		0.000	0.000	76.085	Continuing	
DT&E ANAV	WR	NAWCAD Pax River, MD	1.800	0.000		0.000		0.000		0.000	0.000	1.800	Continuing	
DT&E ANAV	WR	NAWCWD China Lake, CA	1.557	0.000		0.000		0.000		0.000	0.000	1.557	Continuing	
OT&E ANAV	WR	OPTEVFOR Norfolk, VA	0.200	0.000		0.000		0.000		0.000	0.000	0.200	Continuing	
DT&E IRST	WR	NAWCAD Pax River, MD	1.130	1.793	Nov 2009	0.675	Nov 2010	0.000		0.675	0.600	4.198	Continuing	
DT&E IRST	WR	NAWCWD China Lake, CA	0.609	0.150	Nov 2009	0.200	Nov 2010	0.000		0.200	1.800	2.759	Continuing	
ODT&E IRST	WR	OPTEVFOR VX-9	0.008	0.005	Feb 2010	0.005	Feb 2011	0.000		0.005	1.700	1.718	Continuing	
DT&E Dist Targeting NCO/DTP1	WR	NAWCWD China Lake, CA	2.907	3.049	Jan 2010	10.584	Jan 2011	0.000		10.584	1.808	18.348	Continuing	
DT&E Dist Targeting NCO/DTP2	WR	NAWCWD China Lake, CA	0.085	0.065	Jan 2010	6.903	Jan 2011	0.000		6.903	0.045	7.098	Continuing	
OT&E Dist Targeting NCO/DTP	WR	OPTEVFOR Norfolk, VA	0.350	0.100	Jan 2010	0.400	Jan 2011	0.000		0.400	3.000	3.850	Continuing	
OT&E Sensor Integration - SSG/SEI/ MSI Ph I	WR	OPTEVFOR Norfolk, VA	0.027	1.000	Apr 2010	0.030	Apr 2011	0.000		0.030	0.032	1.089	Continuing	
DT&E Sensor Integration - MSI Ph II-3	WR	NAWCAD Pax River, MD	0.000	1.830	Jan 2010	2.737	Jan 2011	0.000		2.737	3.670	8.237	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010																																																																																																											
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<p>Test and Evaluation (\$ in Millions)</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Cost Category Item</th> <th rowspan="2">Contract Method & Type</th> <th rowspan="2">Performing Activity & Location</th> <th rowspan="2">Total Prior Years Cost</th> <th colspan="2">FY 2010</th> <th colspan="2">FY 2011 Base</th> <th colspan="2">FY 2011 OCO</th> <th>FY 2011 Total</th> <th rowspan="2">Cost To Complete</th> <th rowspan="2">Total Cost</th> <th rowspan="2">Target Value of Contract</th> </tr> <tr> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>DT&E Sensor Integration - MSI Ph II-4</td> <td>WR</td> <td>FRC Southwest North Island, CA</td> <td align="right">0.000</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">0.390</td> <td align="right">0.390</td> <td>Continuing</td> </tr> <tr> <td align="right" colspan="3">Subtotal</td><td align="right">84.758</td><td align="right">7.992</td><td></td><td align="right">21.534</td><td></td><td align="right">0.000</td><td></td><td align="right">21.534</td><td align="right">13.045</td><td align="right">127.329</td><td></td></tr> </tbody> </table>														Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	DT&E Sensor Integration - MSI Ph II-4	WR	FRC Southwest North Island, CA	0.000	0.000		0.000		0.000		0.000	0.390	0.390	Continuing	Subtotal			84.758	7.992		21.534		0.000		21.534	13.045	127.329																																																									
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract																																																																																																									
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DT&E Sensor Integration - MSI Ph II-4	WR	FRC Southwest North Island, CA	0.000	0.000		0.000		0.000		0.000	0.390	0.390	Continuing																																																																																																									
Subtotal			84.758	7.992		21.534		0.000		21.534	13.045	127.329																																																																																																										
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Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract																																																																																																									
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost																																																																																																												
Prior Year Costs	Various/ Various	Various Various	23.156	0.000		0.000		0.000		0.000	0.000	23.156	Continuing																																																																																																									
Program Mgmt Support NCO/DTP	WR	NAVAIR Pax River, MD	1.816	0.232	Jan 2010	1.819	Jan 2011	0.000		1.819	0.448	4.315	Continuing																																																																																																									
Govt Eng Support NCO/ DTP	WR	NAWCAD Pax River, MD	2.915	1.400	Jan 2010	1.451	Jan 2011	0.000		1.451	0.050	5.816	Continuing																																																																																																									
Program Mgmt Sup (MISC)	Various/ Various	NAWCAD Pax River, MD	0.733	0.000		1.342	Jan 2011	0.000		1.342	16.843	18.918	Continuing																																																																																																									
Program Mgmt Sup (PMMAC-MSS)	C/CPFF	NAWCAD Pax River, MD	4.454	2.400	Nov 2009	2.500	Nov 2010	0.000		2.500	8.000	17.354	17.354																																																																																																									
Travel	Various/ Various	NAWCAD Pax River, MD	1.750	0.800	Feb 2010	1.000	Feb 2011	0.000		1.000	3.200	6.750	Continuing																																																																																																									

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
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 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Flight Plan Engineering	Various/ Various	NAWCAD Pax River, MD	1.800	1.100	Jan 2010	1.260	Jan 2011	0.000		1.260	3.515	7.675	Continuing	
Flight Plan Engineering	Various/ Various	NAWCWD China Lake, CA	4.200	2.200	Jan 2010	2.940	Jan 2011	0.000		2.940	8.203	17.543	Continuing	
Gov Eng Support MSI PH II	WR	NAWCAD Pax River, MD	0.000	0.260	Jan 2010	0.327	Jan 2011	0.000		0.327	0.510	1.097	Continuing	
Gov Eng Support IRST	WR	NAWCAD Pax River, MD	0.000	0.000		0.750	Dec 2010	0.000		0.750	0.000	0.750	Continuing	
Test Wing Maintenance Conversion	WR	Various Various	14.306	11.320	Jan 2010	9.708	Jan 2011	0.000		9.708	57.871	93.205	Continuing	
Subtotal			55.130	19.712		23.097		0.000		23.097	98.640	196.579	17.354	
Remarks														
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			3,555.840	102.418		133.033		0.000		133.033	261.668	4,052.959	213.035	
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy

DATE: February 2010

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	
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1662: *F/A-18 Improvement*

APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME																PROJECT NUMBER AND NAME											
1319 RDT&E, N / BA-7 Operational System Dev				0204136N F/A-18 SQUADRONS																1662 F/A-18 Improvement											
NCO/DTP/MSU/MPI				2009				2010				2011				2012				2013				2014				2015			
Fiscal Year				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																															
Hardware Development				<div><div></div><div>MSU HW Development</div><div></div><div>MPI HW Develop</div><div></div><div>Qual Testing</div><div></div><div>Reliability Testing</div><div></div><div>MS-C</div><div></div><div>IOC</div></div>																											
Software Development (Geo-registration & JSOW template)				<div><div></div><div></div><div>DTP Software</div><div></div><div>MC Software</div><div></div><div>MP Software</div></div>																											
System Integration Geo-registration/JSOW				<div><div></div><div></div><div></div><div>TRR</div><div></div><div>Geo-reg/JSOW Template Integration Testing</div></div>																											
Test & Evaluation				<div><div></div><div></div><div></div><div></div><div></div><div>FTRR</div><div></div><div>DT Flight Testing</div><div></div><div></div><div>OT H8 Flt Test</div></div>																											
Production Milestones				<div><div></div><div></div><div></div><div></div><div></div><div></div><div>ECP</div><div></div><div>LRIP-1</div><div></div><div>LRIP-2</div><div></div><div>FRP</div></div>																											

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

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

1662: *F/A-18 Improvement*

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy																							DATE: February 2010						
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APPROPRIATION/BUDGET ACTIVITY 1319 RDT&E, N / BA-7 Operational System Dev												PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons								PROJECT NUMBER AND NAME 1662 F/A-18 Improvement									
SSG/SEI, HGEA/HGESM/IDECM		2009				2010				2011				2012				2013				2014				2015			
Fiscal Year																													
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																													
Software Development						SW Development																							
Software Integration						SW Integration																							
Validation/Verification, IT&E										V/V, IT&E																			
Operational Evaluation														 OTRR				 Fleet Release											
														OPEVAL															

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy

DATE: February 2010

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

MSI Phase I		2009				2010				2011				2012				2013				2014				2015			
Fiscal Year		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																													
Software Development																													
Software Integration																													
Validation/Verification, IT&E																													
Operational Evaluation																													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy																DATE: February 2010													
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APPROPRIATION/BUDGET ACTIVITY 1319 RDT&E, N / BA-7 Operational System Dev						PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons												PROJECT NUMBER AND NAME 1662 F/A-18 Improvement											
Fiscal Year		2009				2010				2011				2012				2013				2014				2015			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																													
Requirements Definition																													
Design & Development																													
Integration Testing																													
Test Readiness Review																													
Operational Test																													
Production Milestones																													

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APPROPRIATION/BUDGET ACTIVITY 1319 RDT&E, N / BA-7 Operational System Dev						PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons												PROJECT NUMBER AND NAME 1662 F/A-18 Improvement										
Fiscal Year	2009				2010				2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Requirements Definition																												
Software Design Interfaces																												
ALR-67(V)3 Op Flt Program (OFP) Mod																												
H8 Software Release																												
Test & Evaluation Milestones																												
IT&E Test																												
Operational Test																												
ALR-67(V)3 ECP																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
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

Event	Start		End	
	Quarter	Year	Quarter	Year
NCO/DTP/MSU/MPI	1	2009	1	2013
- Mass Storage Unit HW Development	1	2009	4	2009
- Mission Planning Interface HW Development	1	2009	4	2010
- Milestone C	3	2010	4	2010
- Initial Operational Capability	4	2012	4	2012
- Qual Testing	4	2009	2	2010
- Reliability Testing	1	2010	4	2010
- Distributed Targeting Processor SW Development	1	2009	4	2010
- Mission Computer SW Development	2	2009	4	2010
- Mission Planning SW Development	2	2009	4	2010
- DTP Test Readiness Review	2	2010	3	2010
- Geo-reg/JSOW Template Integration Testing	3	2010	2	2011
- Geo-reg/JSOW Template Fleet Test Readiness Review (FTRR)	1	2011	2	2011
- Geo-reg/JSOW Template Developmental Flight Test	2	2011	1	2012
- Geo-reg/JSOW Template Operational Test H8 Flight Test	2	2012	1	2013
- Low Rate Initial Production (LRIP 1)	3	2011	3	2011
- LRIP 2	1	2012	2	2012
- Full Rate Production (FRP)	1	2013	1	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010	
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	
Event	Quarter	Year	Quarter	Year
- Engineering Change Proposal (ECP)	3	2009	4	2011
IRST	1	2009	4	2015
- Milestone B	2	2010	2	2010
- Engineering and Manufacturing Development	2	2010	4	2014
- System Readiness Review (SRR) 1	1	2009	1	2009
- System Readiness Review (SRR) 2	4	2009	4	2009
- System Functional Review (SFR)	4	2009	4	2009
- Integrated Baseline Review (IBR)	2	2010	2	2010
- Preliminary Design Review (PDR)	1	2010	1	2010
- Critical Design Review (CDR)	1	2011	1	2011
- Design Readiness Review (DRR)	2	2011	2	2011
- Eng Dev Model (EDM) IRST Delivery - Lab/IT&E (Unit 1)	3	2012	3	2012
- Eng Dev Model (EDM) IRST Delivery - Lab/IT&E (Unit 2)	3	2012	3	2012
- Eng Dev Model (EDM) IRST Delivery - (Unit 3)	4	2012	4	2012
- EDM Conversion	1	2014	2	2014
- Test Readiness Review (TRR)	4	2012	4	2012
- Operational Assessment (OA)	1	2013	1	2013
- Functional Configuration Audit (FCA)	4	2012	4	2012
- Developmental Testing (DT-IIB)	2	2012	4	2012
- Preproduction Readiness Review (PRR)	4	2012	4	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010	
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	
Event	Quarter	Year	Quarter	Year
- Build Readiness Review I	2	2012	2	2012
- Build Readiness Review II	2	2013	2	2013
- H10 Fleet Release	4	2014	4	2014
- Milestone C (MS C)	2	2013	2	2013
- Start Low Rate Initial Production I	2	2013	2	2013
- Developmental Testing/Tech Eval (DT-IC/TECHEVAL)	3	2013	1	2014
- Operational Testing II-B	3	2012	4	2012
- Operational Testing Readiness Review (OTRR)	2	2014	2	2014
- Operational Test 1-C	1	2014	1	2014
- Operational Test Evaluation (OT-IC) (OPEVAL)	3	2014	4	2014
- EMD Start	2	2010	2	2010
- Start Low Rate Initial Production II	1	2014	1	2014
- Low Rate Initial Production I Delivery	4	2014	1	2015
- FRP I Start	3	2015	3	2015
- Physical Configuration Audit (PCA)	3	2014	3	2014
- LRIP II Delivery	3	2015	4	2015
- IOC	4	2014	4	2014
SSG/SEI; HGEA/HGESM/IDECM	1	2009	4	2012
- SSG Software Development	1	2009	2	2011
- SSG Software Integration	2	2009	2	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010	
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	
Event	Quarter	Year	Quarter	Year
- SSG V/V, Integrated Test Evaluation (IT&E old TECHEVAL)	3	2011	4	2011
- SSG Operational Evaluation (OPEVAL)	1	2012	3	2012
- SSG Operational Test Readiness Review (OTRR)	1	2012	1	2012
- SSG Fleet Release	4	2012	4	2012
MSI Phase I	1	2009	4	2012
- MSI Software Development	1	2009	2	2011
- MSI Software Integration	2	2009	2	2011
- MSI V/V, Integrated Test Evaluation (IT&E old TECHEVAL)	3	2011	4	2011
- MSI Operational Evaluation (OPEVAL)	1	2012	3	2012
- MSI Operational Test Readiness Review (OTRR)	1	2012	1	2012
- MSI Fleet Release	4	2012	4	2012
A/A, A/G & Maritime MSI Phase II	2	2009	4	2013
- MSI Requirements Definition	2	2009	4	2009
- Design & Development	1	2010	4	2011
- Integration Testing	3	2011	4	2012
- MSI Test Readiness Review	3	2011	3	2011
- Operational Test (H9)	4	2012	1	2013
- Fleet Release	4	2013	4	2013
Multi-Ship Emitter Geo-Location	2	2009	4	2014
- Requirements Definition	2	2009	2	2009

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
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>	

Event	Start		End	
	Quarter	Year	Quarter	Year
- Software Design Interfaces	2	2010	1	2011
- ALR-67(V)3 Operational Flight Program (OFP) Mod	2	2011	4	2011
- H10 Software Release	4	2014	4	2014
- Operational Test Readiness Review (OTRR)	4	2013	4	2013
- IT&E Test	4	2012	4	2013
- Operational Test	1	2014	3	2014
- ALR-67(V3) Engineering Change Proposal (ECP)	2	2013	2	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
2065: <i>F/A-18 Radar Upgrade</i>	6.959	15.807	15.405	0.000	15.405	13.765	9.994	2.151	0.000	0.000	658.310
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification <p>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 for multi-target tracking, Synthetic Aperture RADAR (SAR) imagery, SAR Target Location Error (TLE), and improved spotlight map resolution. In addition, it provides for greater lethality than previous F/A-18 RADARs by allowing for 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 by increased efforts to address Phase II Operational Requirements Document requirements such as Electronic Protection (EP) against multiple Radio Frequency emitters (Distributed Targeting - AESA Multi-Jammer EP), Electronic Attack Multiple Targeted Track and Engagement and Aided Target Recognition via minimal hardware/maximum software changes. The effort will provide upgrades for EP capability against multiple radio frequency emitters. Higher Order Language (HOL) Software development and integration is also required for expanded A/A and A/G capabilities while in a tactical A/A and A/G threat Electronic Attack environment.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total						
Distributed Targeting - AESA EP Eng & Mfg Dev 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.	1.000	1.500	2.750	0.000	2.750						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: Continued Engineering Manufacturing Development efforts. Continued hardware developmental and refinement to the inherent Electronic Protection (EP) efforts that will increase the number of channels within the Receiver to enable Multi-Channel future software Multi-Jammer Electronic Protection (EP) activities.						
FY 2010 Plans: Continue Engineering Manufacturing Development efforts. Continue hardware developmental and refinement to the inherent Electronic Protection (EP) efforts that will increase the number of channels within the Receiver to enable Multi-Channel future software Multi-Jammer Electronic Protection (EP) activities.						
FY 2011 Base Plans: Continue Engineering Manufacturing Development efforts. Continue hardware developmental and refinement to the inherent Electronic Protection (EP) efforts that will increase the number of channels within the Receiver to enable Multi-Channel future software Multi-Jammer Electronic Protection (EP) activities.						
Dist Targeting - AESA EP SW Dev, DT, OT, & Integration Funding being utilized to support software capabilities development and associated testing.		5.959	14.307	12.655	0.000	12.655
FY 2009 Accomplishments: Continued software development, Development Testing, systems integration efforts, and AESA Operational Test and Evaluation inclusive of some Follow-on Test and Evaluation for minimal hardware/software change efforts. Continued Multi-Jammer Electronic Protection (EP) efforts which expands and improves upon current software capability for Electronic Protection against multiple Radio Frequency emitters, Electronic Attack, and improved Fixed/Ground Mobile Target detection and tracking.						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy							DATE: February 2010				
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 Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: Continue software development, Development Testing, systems integration efforts, and AESA Operational Test and Evaluation inclusive of some Follow-on Test and Evaluation for minimal hardware/software change efforts. Continue Multi-Jammer Electronic Protection (EP) efforts which expands and improves upon current software capability for Electronic Protection against multiple Radio Frequency emitters, Electronic Attack, and improved Fixed/Ground Mobile Target detection and tracking.											
FY 2011 Base Plans: Continue software development, Development Testing, systems integration efforts, and AESA Operational Test and Evaluation inclusive of some Follow-on Test and Evaluation for minimal hardware/software change efforts. Continue Multi-Jammer Electronic Protection (EP) efforts which expands and improves upon current software capability for Electronic Protection against multiple Radio Frequency emitters, Electronic Attack, and improved Fixed/Ground Mobile Target detection and tracking.											
Accomplishments/Planned Programs Subtotals							6.959	15.807	15.405	0.000	15.405
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• APN/0145: F/A-18E/F	1,812.068	1,499.902	1,784.894	0.000	1,784.894	468.761	2,246.690	194.268	0.000	0.000	39,745.605
• APN/0145C: F/A-18E/F AP	42.490	51.273	2.295	0.000	2.295	58.581	0.000	0.000	0.000	0.000	1,606.939
• APN/0143: EA-18G	1,567.005	1,606.871	1,028.801	0.000	1,028.801	2,355.947	91.030	48.961	8.480	0.000	9,168.881
• APN/1043C: EA-18G AP	46.693	20.496	55.081	0.000	55.081	0.000	0.000	0.000	0.000	0.000	246.510

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy										DATE: February 2010	
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			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• APN/05250: F-18 Series Mod	464.287	559.888	492.821	43.250	536.071	470.898	446.581	598.108	559.068	1,610.295	8,715.826
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 (COTS) software and Non-Developmental Item; using Cost as an Independent Variable; and Electronic Data Deliverables. Basic Ordering Agreement (BOA) orders for Request for Proposal (RFP) developments are in place for Boeing, the airframe prime manufacturer/integrator, and Raytheon, the RADAR 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 (EP), Air-to-Air (A/A) and Air-to-Ground Capabilities.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
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>						
Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Primary Hardware Development1	SS/CPFF	Boeing St. Louis, MO	455.749	0.000		0.000		0.000		0.000	0.000	455.749	455.749	
GFE	SS/CPFF	Boeing St. Louis, MO	3.517	0.000		0.000		0.000		0.000	0.000	3.517	3.517	
Primary Hardware Development	Various/ TBD	NSMA Arlington, VA	2.410	1.500	Nov 2009	1.000	Nov 2010	0.000		1.000	4.850	9.760	Continuing	
Primary Hardware Development2	Various/ TBD	Boeing St. Louis, MO	0.000	0.000		1.750	Nov 2010	0.000		1.750	3.500	5.250	Continuing	
Systems Engineering	WR	NAWCWD China Lake, CA	0.565	0.000		0.530	Nov 2010	0.000		0.530	0.897	1.992	Continuing	
Systems Engineering	WR	NAWCAD Pax River, MD	0.435	0.000		0.611	Nov 2010	0.000		0.611	1.035	2.081	Continuing	
Subtotal			462.676	1.500		3.891		0.000		3.891	10.282	478.349	459.266	
Remarks														
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Software Development	WR	NAWCWD China Lake, CA	25.215	10.334	Nov 2009	7.014	Nov 2010	0.000		7.014	10.300	52.863	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
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>					
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	Various Various	1.511	0.000		0.000		0.000		0.000	0.000	1.511	Continuing
Subtotal			26.726	10.334		7.014		0.000		7.014	10.300	54.374	
Remarks													
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various Various	78.958	0.000		0.000		0.000		0.000	0.000	78.958	Continuing
Operational Test & Evaluation	WR	OPTEVFOR Norfolk, VA	13.384	0.000		0.000		0.000		0.000	4.777	18.161	Continuing
Developmental Test & Evaluation	Various/ Various	NAWCWD China Lake, CA	1.362	3.873	Nov 2009	3.260	Nov 2010	0.000		3.260	0.000	8.495	Continuing
Developmental Test & Evaluation	Various/ TBD	NSMA Arlington, VA	0.950	0.000		0.000		0.000		0.000	0.000	0.950	Continuing
Developmental Test & Evaluation	Various/ TBD	USAF Test Wing Eglin AFB, FL	1.440	0.000		0.000		0.000		0.000	0.000	1.440	Continuing
Developmental Test & Evaluation	WR	NAWCAD Pax River, MD	0.382	0.000		0.000		0.000		0.000	0.000	0.382	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
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>					
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			96.476	3.873		3.260		0.000		3.260	4.777	108.386	
Remarks													
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various/ Various	NAVAIR Pax River, MD	2.281	0.000		0.529	Nov 2010	0.000		0.529	0.897	3.707	Continuing
Travel	Various/ Various	NAVAIR Pax River, MD	0.968	0.100	Nov 2009	0.100	Nov 2010	0.000		0.100	0.300	1.468	Continuing
Contractor Engineering Support	Various/ Various	Various Various	0.508	0.000		0.611	Nov 2010	0.000		0.611	1.035	2.154	Continuing
Subtotal			3.757	0.100		1.240		0.000		1.240	2.232	7.329	
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			589.635	15.807		15.405		0.000		15.405	27.591	648.438	459.266

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy							DATE: February 2010	
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>			
	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Remarks								

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy																								DATE: February 2010									
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									
APPROPRIATION/BUDGET ACTIVITY 1319 RDT&E, N / BA-7 Operational System Dev												PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons												PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade									
Fiscal Year		2009				2010				2011				2012				2013				2014				2015							
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones		Deployment Window																															
Production Milestones & Radar Deliveries		FRP-Lot 31				FRP - Lot 32				FRP - Lot 33				FRP - Lot 34				FRP - Lot 35				FRP - Lot 36											
		(APN-1) Forward Fit				(APN-5) Retrofit Radars																											
						19				19				33				34				26											
Software Delivery		H5E FLEET REL				H6+ FLEET REL				H8 FLEET REL								H10 FLEET REL															
Integrated Test & Evaluation						H6 IT&E; FOT&E2																											
										H8 IT&E; FOT&E2																							
																		H10 IT&E; FOT&E2															
		H5 IT&E																															
AT Development		AT Develop.																															
						IT&E Phase 2																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
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

Event	Start		End	
	Quarter	Year	Quarter	Year
Deployment Window	1	2009	2	2010
H5 IT&E	1	2009	2	2009
H6 IT&E FOT&E2	1	2009	4	2010
H8 IT&E FOT&E2	3	2010	3	2012
H10 IT&E FOT&E2	4	2012	4	2014
H5 Fleet Release	4	2009	4	2009
Full Rate Production (FRP) Deliveries (Lot 31)	1	2009	2	2010
FRP Deliveries (Lot 32)	2	2010	2	2011
Depot Standup	4	2010	4	2010
Retrofit Radar Deliveries	1	2010	1	2015
FRP Deliveries (Lot 33)	2	2011	1	2012
FRP Deliveries (Lot 34)	1	2012	4	2012
FRP Deliveries (Lot 35)	1	2013	4	2013
FRP Deliveries (Lot 36)	1	2014	4	2014
H6+ FLEET RELEASE	4	2010	4	2010
H8 FLEET RELEASE	1	2012	1	2012
H10 FLEET RELEASE	1	2014	1	2014
AT Development	1	2009	3	2009

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010	
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>
		Start		End
Event		Quarter	Year	Quarter Year
IT&E PHASE 2		1	2009	4 2010

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
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 9999: <i>Congressional Adds</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	2.394	2.868	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.893
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification Congressional Add: (9E13A) Distributed Targeting Processor (DTP). The Navy will continue development of Distributed Targeting (DT)/Image Correlation Targeting (ICT) capabilities. This capability allows the F/A-18 E/F to self-target through the weather and mensurated target coordinates onboard the aircraft for use with precision weapons. Target Location Error is reduced to provide improvements in strike engagements against both fixed and moving, time sensitive and non-time sensitive targets. Precision targeting can be performed at ranges that result in improved platform survivability. Precision targeting can be performed autonomously providing improvements in naval extended range fires. DT/ICT capability of improved lethality is derived from reduced target location error that supports current J-series weapons and results in a shortened kill chain by performing on-board mensuration.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010			
Congressional Add: Fighter Jet Noise Reduction Under Carrier Deck Operational Environment <i>FY 2010 Plans:</i> Initiate Jet Noise Reduction activities.							0.000	2.868			
Congressional Add: Distributed Targeting Processor <i>FY 2009 Accomplishments:</i> Continued integration of the Distributed Target Processor (DTP) to provide a baseline capability that can generate precision targeting coordinates for the F/A-18EF.							2.394	0.000			
Congressional Adds Subtotals							2.394	2.868			

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
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 9999: <i>Congressional Adds</i>
<p><u>C. Other Program Funding Summary (\$ in Millions)</u> N/A</p> <p><u>D. Acquisition Strategy</u> Not required for Congressional Adds.</p> <p><u>E. Performance Metrics</u> Not required for Congressional Adds.</p>		

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