Exhibit R-2, RDT&E Budget Item 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 0205633N: *Aviation Improvements*							
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	905.410	101.135	89.157	88.607	-	88.607	113.421	123.058	121.342	126.096	Continuing	Continuing
0601: *Acft Handling & Service Equip*	26.874	0.260	3.221	3.173	-	3.173	3.232	3.243	3.315	3.371	Continuing	Continuing
0852: *Consolidated Auto Support System*	94.361	32.525	8.325	6.496	-	6.496	6.635	6.736	6.875	6.991	Continuing	Continuing
1041: *Acft Equip Repl/Maint Prog*	34.274	2.972	3.238	3.273	-	3.273	3.344	3.398	3.468	3.528	Continuing	Continuing
1355: *Propulsion and Power Component Improvement Program*	749.901	60.673	61.296	70.497	-	70.497	90.844	94.685	96.693	112.206	Continuing	Continuing
2269: *EAF Matting*	0.000	4.705	13.077	5.168	-	5.168	9.366	14.996	10.991	0.000	0.000	58.303

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

Note

The Expeditionary Airfields (EAF) program is a FY2012 New Start. It was previously budgeted for in Program Element 0205633N, Project Unit 0601 and has been administatively moved to Project Unit 2269 within this same program element.

A. Mission Description and Budget Item Justification

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.

Project 0601 - Common Ground Equipment is a Naval Aviation Project to apply new technology to common support equipment necessary to support multiple aircraft.

Project 0852 - Consolidated Automated Support System is a standardized Automated Test Equipment with computer assisted, multi-function capabilities to support the maintenance of aircraft subsystems and missiles.

Project 1041 - Aircraft Equipment Reliability/Maintainability Improvement Program is the only Navy program that provides engineering support for in-service out-of-production aircraft equipment, and provides increased readiness at reduced operational and support cost.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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Project 1355 - Aircraft Engine Component Improvement Program develops reliability and maintainability and safety enhancements for in-service Navy aircraft engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, fuel systems, fuels, and lubricants.

Project 2269 - The EAF program designs, develops, tests and fields an Improved EAF Lighting Program to replace existing obsolete legacy EAF lighting system.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	100.415	89.157	96.658	-	96.658
Current President's Budget	101.135	89.157	88.607	-	88.607
Total Adjustments	0.720	0.000	-8.051	-	-8.051
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.907	0.000			
• SBIR/STTR Transfer	-2.187	0.000			
• Program Adjustments	0.000	0.000	-5.300	-	-5.300
• Rate/Misc Adjustments	0.000	0.000	-2.751	-	-2.751

Change Summary Explanation

Schedule:

Project 0601: Aircraft Spotting Dolly Milestone B, Prototype Phase, and Milestone C delayed as a result of the majority of funding being re-directed to a higher priority program.

Project 3190: The Navy canceled the Multi-Purpose Bomb Rack program in April 2011. Budget exhibits reflect cancellation.

Project 1041: Wiring Diagnostics and Prognostics effort was extended to account for technological challenges delaying completion. Ultra-high Density Power Storage was added as a spin-off effort of the Advanced Methods of Structural Repair project; this technology enables long-term structural health monitoring within inaccessible locations. Wireless Data Bus effort was accelerated into FY17 based on current progress of technology development. Improved Corrosion Preventative Compounds effort was extended so that emergent products can be evaluated. Advanced Methods of Structural Repair was extended due to delays in securing components to demonstrate repair. Corrosion Prevention and Control was extended to allow additional time for field evaluations. Subsystem Improvement Initiative scheduled completion was delayed due to increased complexity of the solution over what was originally anticipated. Expanded Qualification of Electro-Discharge Machine Drilling was added as an emergent capability with significant cost savings potential at the Fleet Readiness Centers (FRCs). MultiLayer Sacrificial Film Laminates for Windscreen Protection is a new effort to leverage Army investment in a multilayer product. Rapid Composite Tooling was added as an emergent capability with significant cost savings potential at the FRCs. Sensor Fusion for Advanced Prognostics effort was accelerated

into FY16 based on results of current university research. Maintainability of Signature-controlled Structures was accelerated into FY17 due to cost savings potential. Significant need existed to find cost-effective ways to maintain and verify the integrity of these structures.

Project 2269: Preliminary Design Review and Critical Design Review each slipped 8 quarters or 2 years to the right because the original schedule was based off of an estimate that was a complete Commercial Off The Shelf solution where there were no upfront design requirements.

Technical:

Project 0601: A recent market research effort determined that industry has Hydraulic Test Stands that will meet, with minor modification (modified COTS - APN7), the Navy's requirement. No Research and Development effort required.

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 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*	

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
0601: *Acft Handling & Service Equip*	26.874	0.260	3.221	3.173	-	3.173	3.232	3.243	3.315	3.371	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

Common Ground Equipment is a Naval Aviation project to apply new technology to common support equipment necessary to support multiple systems/aircraft within the Navy. The common support equipment items developed with this budget are briefed to the Air Force, Army and Coast Guard for possible use in joint procurement in the production phase.

New Program is Carrier/Amphibious Assault Ship Crash Crane (CV/AACC) in FY13. CV/AACC is required to remove damaged aircraft from the flight line. R&D resources are needed to identify not only replacements, but new technologies, which can increase the reliability and maintainability of this flight ops critical piece of equipment.

PEMA funding supports the evaluation, testing and integration to develop Portable Electronic Maintenance Aids (PEMA) Commercial Off the Shelf solution for portable device deployments across the Naval Aviation Enterprise. PEMA is a portable device utilized by maintainers with the implementation of digital maintenance capabilities (digital publications, Interactive Electronic Technical Manuals, Internet Protocol based data uploads, Binary digit data downloads, automated diagnostics, and planeside Naval Aviation Logistics Command/Management Information System. PEMAs are a mandatory display device supporting modern day Automated Maintenance Environment implemented for weapon systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Aircraft Spotting Dolly (ASD)	0.000	2.009	0.938
Articles:		1	0
Description: There are no commercially available towing vehicles that could even be modified to replace the capabilities of the present SD-2. An R & D effort will be required to design its replacement. Advances in batteries and alternating current motor drive systems in the past decade have made it feasible to design an electrically powered vehicle for the CV, CVN, and L-Class hanger deck spotting missions. Such a vehicle will be inherently more reliable, reduce maintenance, and eliminate the fumes and noise generated by a diesel engine. An electrically driven vehicle will provide much greater motion control for slow speeds to aid in the engagement to the aircraft nose gear. Proximity sensors will be incorporated to automatically stop the spotting dolly prior			

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 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
to accidental impact with the aircraft, other support equipment or bulkheads, increasing the safety of the spotting operations. The legacy ASD is close to thirty years old and experiencing parts obsolescence issues and general efficiency degradation. ***FY 2013 Plans:*** Procure prototype of Aircraft Spotting Dolly. ***FY 2014 Plans:*** Continue contractor and government run test.			
Title: Carrier/Amphibious Assault Ship Crash Crane (CV/AACC) ***Articles:*** ***Description:*** CV/AACC are required to remove damaged aircraft from the flight line. In 2004, a solicitation for a commerical off the shelf replacement for the existing shipboard crash crane was issued. Two bids were received, and after a complete evaluation with many rounds of discussions with the companies bidding, both proposals were found to be technically inadequate and the procurement effort was discontinued. As a result, the crash cranes have continued operation unchanged. Designed in the late 1980's, major systems are beginning to experience the obsolescence of spare parts and are in need of updating. R&D resources are needed to identify not only replacements, but new technologies, which can increase the reliability and maintainability of this flight ops critical piece of equipment. Systems updates would include the engine/generator and electrical updates to the motor drive/control system. An exploration of power sources other than diesel engines would be considered and a corrosion resistant boom. ***FY 2013 Plans:*** Initiate prototype development of CV/AACC. ***FY 2014 Plans:*** Initiate contractor and government run test.	0.000 0	0.714 0	1.790 1
Title: Portable Electronic Maintenance Aid (PEMA) ***Articles:*** ***Description:*** PEMA funding supports the evaluation, testing and integration to develop PEMA Commercial Off-the-Shelf (COTS) solution for portable device deployments across the Naval Aviation Enterprise. PEMA is a portable device utilized by maintainers with the implementation of digital maintenance capabilities (digital publications, Interactive Electronic Technical Manuals, Internet Protocol based data uploads, Binary digit data downloads, automated diagnostics, and planeside Naval Aviation Logistic Command Management Information System. PEMAs are a mandatory display device supporting modern day Automated Maintenance Environment implemented for weapon systems.	0.260 0	0.498 0	0.445 0

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 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Evaluate, test and integrate evolving COTS solutions. Conduct test & evaluation of Type/Model/Series peculiar software/hardware requirements and network connectivity compliance across the Global Information Grid prior to deployment to the fleet by a yearly release cycle. ***FY 2013 Plans:*** Evaluate, test and integrate evolving COTS solutions. Conduct test & evaluation of Type/Model/Series (T/M/S) peculiar software/ hardware requirements and network connectivity compliance across the Global Information Grid (GIG) prior to deployment to the fleet by a yearly release cycle. ***FY 2014 Plans:*** Evaluate, test and integrate evolving COTS solutions. Conduct test & evaluation of T/M/S peculiar software/hardware requirements and network connectivity compliance across the GIG prior to deployment to the fleet by a yearly release cycle.			
Accomplishments/Planned Programs Subtotals	0.260	3.221	3.173

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/0705: *Ground Support Equipment*	130.497	127.015	127.417		127.417	135.194	129.994	134.593	136.921	Continuing	Continuing
• OPN/4264: *Portable Electronic Maintenance Aids*	8.778	7.954	7.969		7.969	8.126	8.251	8.386	8.532	Continuing	Continuing

Remarks

D. Acquisition Strategy

Common Ground Equipment: This is a non ACAT program. Field activities propose tentative projects. Internal panel merits and selects projects. Field activities develop projects and submit results. Operational Advisory Group process selects projects to transition to procurement.

Portable Electronic Maintenance Aids: The management approach includes the Program Management Office residing at NAVAIR with Milestone Decision Authority delegated to the NAVAIR CIO. The evolutionary development approach will be used to execute requirements. Contracting for the prime integrator will be via competitively awarded Indefinite Delivery/Indefinite Quantity contracts.

E. Performance Metrics

Milestone Reviews

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 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Dev--ASD	C/FFP	TBD:TBD	0.000	0.000		1.509	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering-ASD	WR	NAWCAD:LAKEHURST, NJ	0.000	0.000		0.500	Nov 2012	0.438	Nov 2013	-		0.438	Continuing	Continuing	Continuing
Systems Engineering-CV/AACC	WR	NAWCAD:LAKEHURST, NJ	0.000	0.000		0.714	Nov 2012	0.355	Nov 2013	-		0.355	Continuing	Continuing	Continuing
Primary Hardware Dev-CV/AACC	C/FFP	TBD:TBD	0.000	0.000		0.000		0.750	Dec 2013	-		0.750	Continuing	Continuing	Continuing
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various:Various	17.517	0.000		0.000		0.000		-		0.000	0.000	17.517	
		Subtotal	17.517	0.000		2.723		1.543		0.000		1.543			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior year Support cost no longer funded in the FYDP	Various	Various:Various	8.857	0.000		0.000		0.000		-		0.000	0.000	8.857	
		Subtotal	8.857	0.000		0.000		0.000		0.000		0.000	0.000	8.857	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational T & E - PEMA	WR	NAWCAD:PAX RIVER, MD	0.000	0.260	Nov 2011	0.498	Nov 2012	0.445	Nov 2013	-		0.445	Continuing	Continuing	Continuing
C&G Test - ASD	WR	NAWCAD:PAX RIVER, MD	0.000	0.000		0.000		0.500	Nov 2013	-		0.500	Continuing	Continuing	Continuing
C&G Test - CV/AACC	WR	NAWCAD:PAX RIVER, MD	0.000	0.000		0.000		0.685	Nov 2013	-		0.685	Continuing	Continuing	Continuing

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 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*	

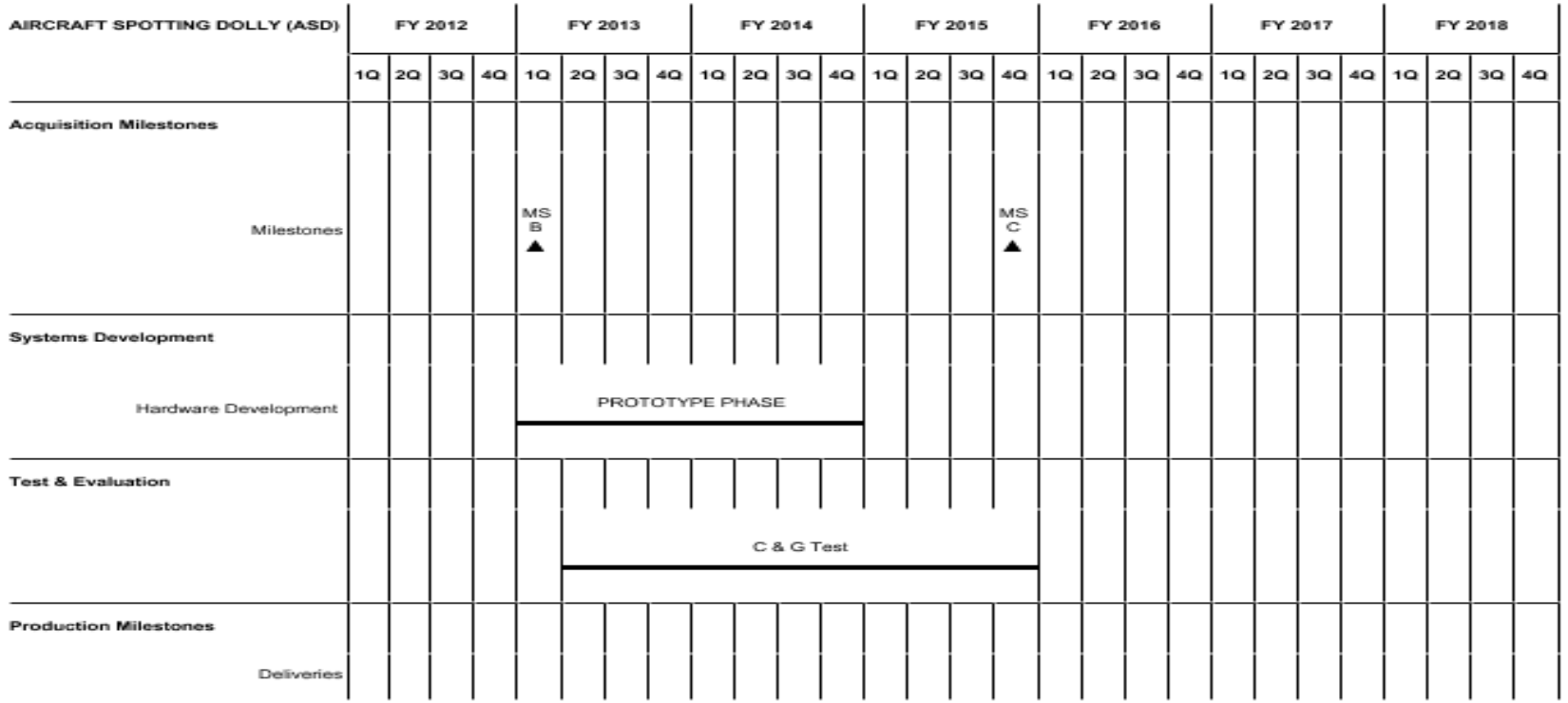
Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior year T&E cost no longer funded in the FYDP	Various	Various:Various	0.500	0.000		0.000		0.000		-		0.000	0.000	0.500	
		Subtotal	0.500	0.260		0.498		1.630		0.000		1.630			

	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	26.874	0.260		3.221		3.173		0.000		3.173			

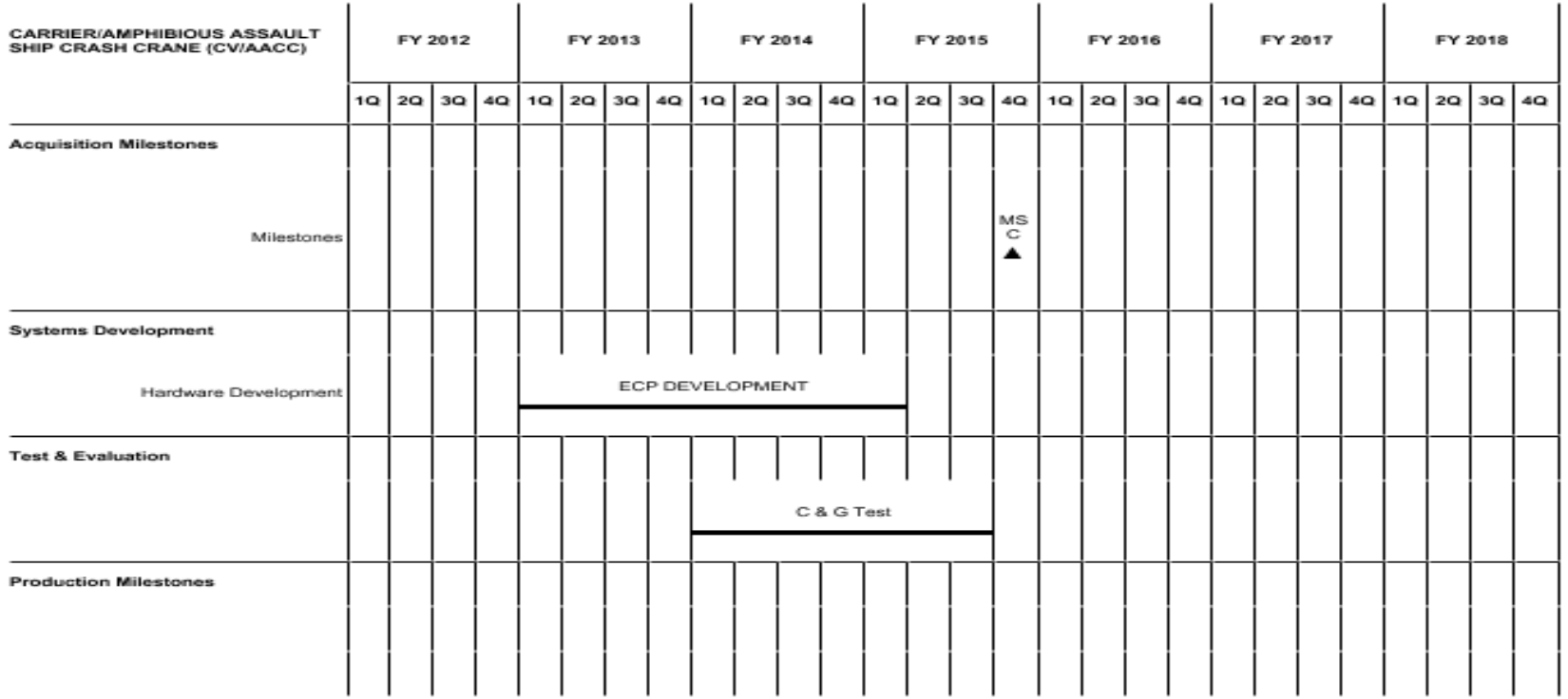
Remarks

Exhibit R-4, RDT&E Schedule Profile: 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 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*



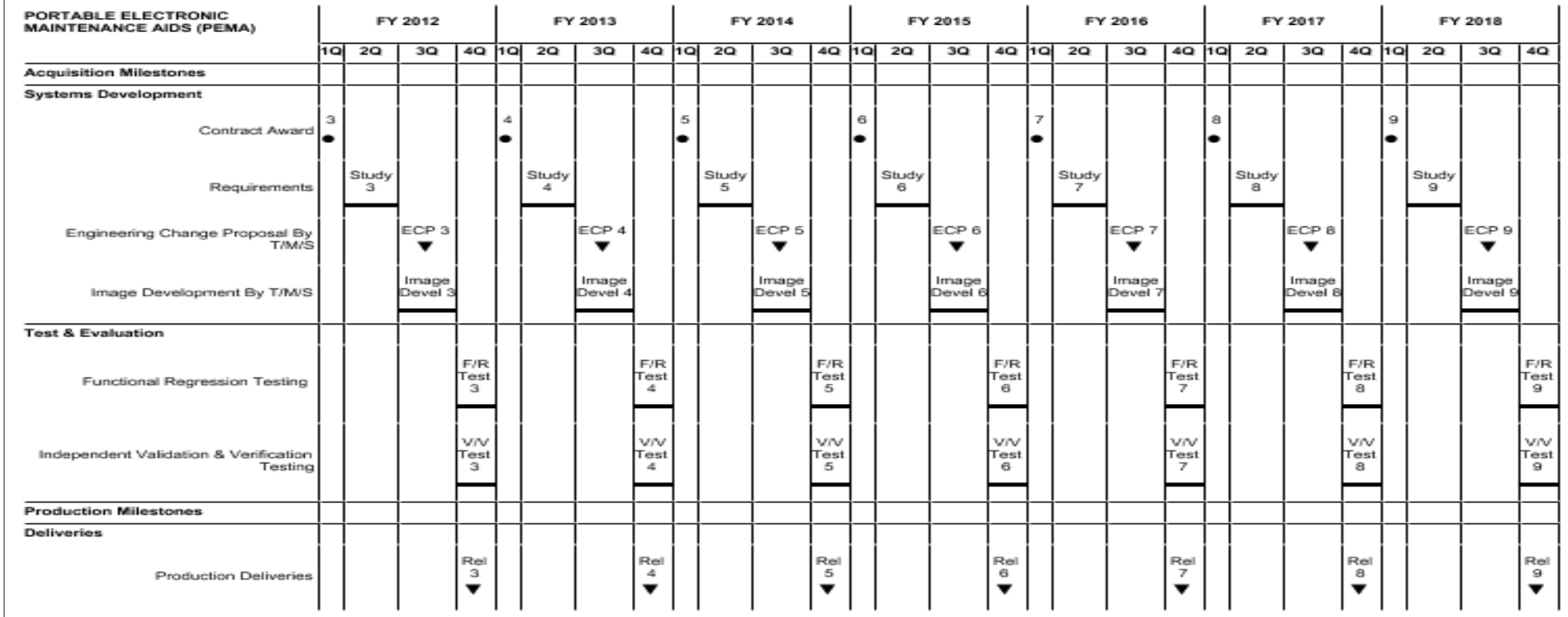
2014PB - 0205633N - 0601

Exhibit R-4, RDT&E Schedule Profile: 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 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*



2014PB - 0205633N - 0601

Exhibit R-4, RDT&E Schedule Profile: 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 0205633N: *Aviation Improvements*	**PROJECT** 0601: *Acft Handling & Service Equip*



2014PB - 0205633N - 0601

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 0205633N: *Aviation Improvements*	**PROJECT** 0601: *Acft Handling & Service Equip*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AIRCRAFT SPOTTING DOLLY (ASD)				
Acquisition Milestones: Milestones: ASD-MILESTONE B	1	2013	1	2013
Acquisition Milestones: Milestones: ASD-MILESTONE C	4	2015	4	2015
Systems Development: Hardware Development: ASD - Reqts Analysis Doc (RAD) Dev / PROTOTYPE PHASE	1	2013	4	2014
Test & Evaluation: ASD - CONTRACTOR AND GOVT RUN TESTING	2	2013	4	2015
CARRIER/AMPHIBIOUS ASSAULT SHIP CRASH CRANE (CV/AACC)				
Acquisition Milestones: Milestones: MILESTONE C	4	2015	4	2015
Systems Development: Hardware Development: CV/AACC-ECP DEVELOPMENT	1	2013	1	2015
Test & Evaluation: CV/AACC-CONTRACTOR AND GOVT RUN TESTING	1	2014	3	2015
PORTABLE ELECTRONIC MAINTENANCE AIDS (PEMA)				
Systems Development: Contract Award: Contract Award 3	1	2012	1	2012
Systems Development: Contract Award: Contract Award 4	1	2013	1	2013
Systems Development: Contract Award: Contract Award 5	1	2014	1	2014
Systems Development: Contract Award: Contract Award 6	1	2015	1	2015
Systems Development: Contract Award: Contract Award 7	1	2016	1	2016
Systems Development: Contract Award: Contract Award 8	1	2017	1	2017
Systems Development: Contract Award: Contract Award 9	1	2018	1	2018
Systems Development: Requirements: Requirements Study Complete 3	2	2012	2	2012
Systems Development: Requirements: Requirements Study Complete 4	2	2013	2	2013
Systems Development: Requirements: Requirements Study Complete 5	2	2014	2	2014
Systems Development: Requirements: Requirements Study Complete 6	2	2015	2	2015

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 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Requirements: Requirements Study Complete 7	2	2016	2	2016
Systems Development: Requirements: Requirements Study Complete 8	2	2017	2	2017
Systems Development: Requirements: Requirements Study Complete 9	2	2018	2	2018
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 3	3	2012	3	2012
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 4	3	2013	3	2013
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 5	3	2014	3	2014
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 6	3	2015	3	2015
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 7	3	2016	3	2016
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 8	3	2017	3	2017
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 9	3	2018	3	2018
Systems Development: Image Development By T/M/S: Image Development By T/M/S 3	3	2012	3	2012
Systems Development: Image Development By T/M/S: Image Development By T/M/S 4	3	2013	3	2013
Systems Development: Image Development By T/M/S: Image Development By T/M/S 5	3	2014	3	2014
Systems Development: Image Development By T/M/S: Image Development By T/M/S 6	3	2015	3	2015
Systems Development: Image Development By T/M/S: Image Development By T/M/S 7	3	2016	3	2016

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 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Image Development By T/M/S: Image Development By T/M/S 8	3	2017	3	2017
Systems Development: Image Development By T/M/S: Image Development By T/M/S 9	3	2018	3	2018
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 3	4	2012	4	2012
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 4	4	2013	4	2013
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 5	4	2014	4	2014
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 6	4	2015	4	2015
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 7	4	2016	4	2016
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 8	4	2017	4	2017
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 9	4	2018	4	2018
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 3	4	2012	4	2012
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 4	4	2013	4	2013
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 5	4	2014	4	2014
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 6	4	2015	4	2015
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 7	4	2016	4	2016
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 8	4	2017	4	2017
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 9	4	2018	4	2018
Deliveries: Production Deliveries: Production Delivery, Release 3	4	2012	4	2012
Deliveries: Production Deliveries: Production Delivery, Release 4	4	2013	4	2013

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 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: Production Deliveries: Production Delivery, Release 5	4	2014	4	2014
Deliveries: Production Deliveries: Production Delivery, Release 6	4	2015	4	2015
Deliveries: Production Deliveries: Production Delivery, Release 7	4	2016	4	2016
Deliveries: Production Deliveries: Production Delivery, Release 8	4	2017	4	2017
Deliveries: Production Deliveries: Production Delivery, Release 9	4	2018	4	2018

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 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*	

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
0852: *Consolidated Auto Support System*	94.361	32.525	8.325	6.496	-	6.496	6.635	6.736	6.875	6.991	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

The electronic Consolidated Automated Support System (eCASS) project is the system design and development of the latest generation of the US Navy's CASS family of automatic test systems. The legacy CASS system was designed and developed in the 1980's and commenced fielding in 1992. As such, it is reaching the end of its useful life due to obsolescence issues. eCASS is the replacement system for legacy CASS systems, which provides Naval aircraft avionics component maintenance and repair support at Intermediate and Depot maintenance facilities both shore-based and afloat. As a CASS replacement program, the eCASS program objectives remain the same as that of CASS. Specifically: (1) increase material readiness; (2) reduce life cycle costs; (3) improve tester sustainability at depot and intermediate maintenance levels; (4) reduce proliferation of unique test equipment, and (5) provide test capability for existing and emerging avionics/electronics aircraft weapon systems.

The Test Technology Development project involves analysis, application, maturation, integration and testing of emerging electronic, mechanical and optical test technologies for potential military utility in support of Naval avionics testing and repair. Specific technologies being developed include synthetic instruments, new Advanced Targeting Forward Looking Infrared electro-optics capabilities, multi-analog test capability to enable functional testing, and modernization elements for the CASS family of automatic test systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: eCASS Development	32.525	7.925	6.196
Articles:	8	0	0
Description: Develop, integrate and test an Automatic Test System (ATS) to replace legacy CASS systems. The new ATS will be compatible with and capable of hosting the hundreds of existing Test Programs that are currently utilized on legacy CASS at the Intermediate and Depot levels of maintenance, as well as any emerging Test Programs that may require greater test capability than provided by legacy CASS.			
FY 2012 Accomplishments:			

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 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Conduct eCASS system Critical Design Review, procure initial Engineering Development Models, initiate Test Program Set integration, and conduct Test Readiness Review (TRR). Commence Developmental Test DT-B1 and DT-B2 test events. ***FY 2013 Plans:*** Continue Test Program Set integration. Conduct Production Readiness Review. Conduct Milestone C Review. Conduct TRR. Commence DT-C1 test event. ***FY 2014 Plans:*** Continue DT-C1/DT-C2 test events. Award LRIP Option.			
Title: Test Technology Development ***Articles:*** ***Description:*** Develops, integrates, and evolves enhanced test capabilities and technologies for insertion into the Consolidated Automated Support System (CASS) family of test systems. As weapon system electronics evolve, new test capabilities are required to support advanced systems. Existing test capabilities must be extended in range, accuracy, time and frequency domains in order to sustain the required test accuracy ratios for weapon systems support (the automatic test system must be four times as accurate as the asset being tested). ***FY 2013 Plans:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. ***FY 2014 Plans:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems.	0.000	0.400 1	0.300 1
Accomplishments/Planned Programs Subtotals	32.525	8.325	6.496

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/0705: *Common Ground Equip APN-7*	68.414	93.186	93.802		93.802	95.610	96.503	98.542	100.223	Continuing	Continuing

Remarks

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 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*

D. Acquisition Strategy

Formal test technology reviews with industry are conducted annually (cooperative Joint Services initiative) to define maturity of needed technologies. Further studies are conducted as needed. Procurement strategy is determined by market survey and cooperative opportunities.

E. Performance Metrics

Milestone Reviews

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 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Dev eCASS	C/CPIF	LOCKHEED MARTIN:ORLANDO, FL	43.380	31.169	Dec 2011	5.796	Dec 2012	4.217	Dec 2013	-		4.217	Continuing	Continuing	Continuing
Primary Hdw Dev Test Technology	C/CPFF	Various:Various	0.882	0.000		0.300	Dec 2012	0.250	Dec 2013	-		0.250	Continuing	Continuing	Continuing
Prior Year Prod Dev no longer funded in the FYDP	Various	Various:Various	28.397	0.000		0.000		0.000		-		0.000	0.000	28.397	
		Subtotal	72.659	31.169		6.096		4.467		0.000		4.467			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
eCASS Support	WR	Various:Various	2.451	0.391	Jan 2012	0.956	Dec 2012	0.900	Dec 2013	-		0.900	Continuing	Continuing	Continuing
eCASS Support	WR	NAWC AD:Lakehurst, NJ	4.150	0.715	Jan 2012	1.052	Dec 2012	0.976	Dec 2013	-		0.976	Continuing	Continuing	Continuing
Test Technology Support	WR	Various:Various	0.450	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Prior Year Support cost no longer funded in the FDYP	Various	Various:Various	12.403	0.000		0.000		0.000		-		0.000	0.000	12.403	
		Subtotal	19.454	1.106		2.008		1.876		0.000		1.876			

Management Services ($ in Millions)

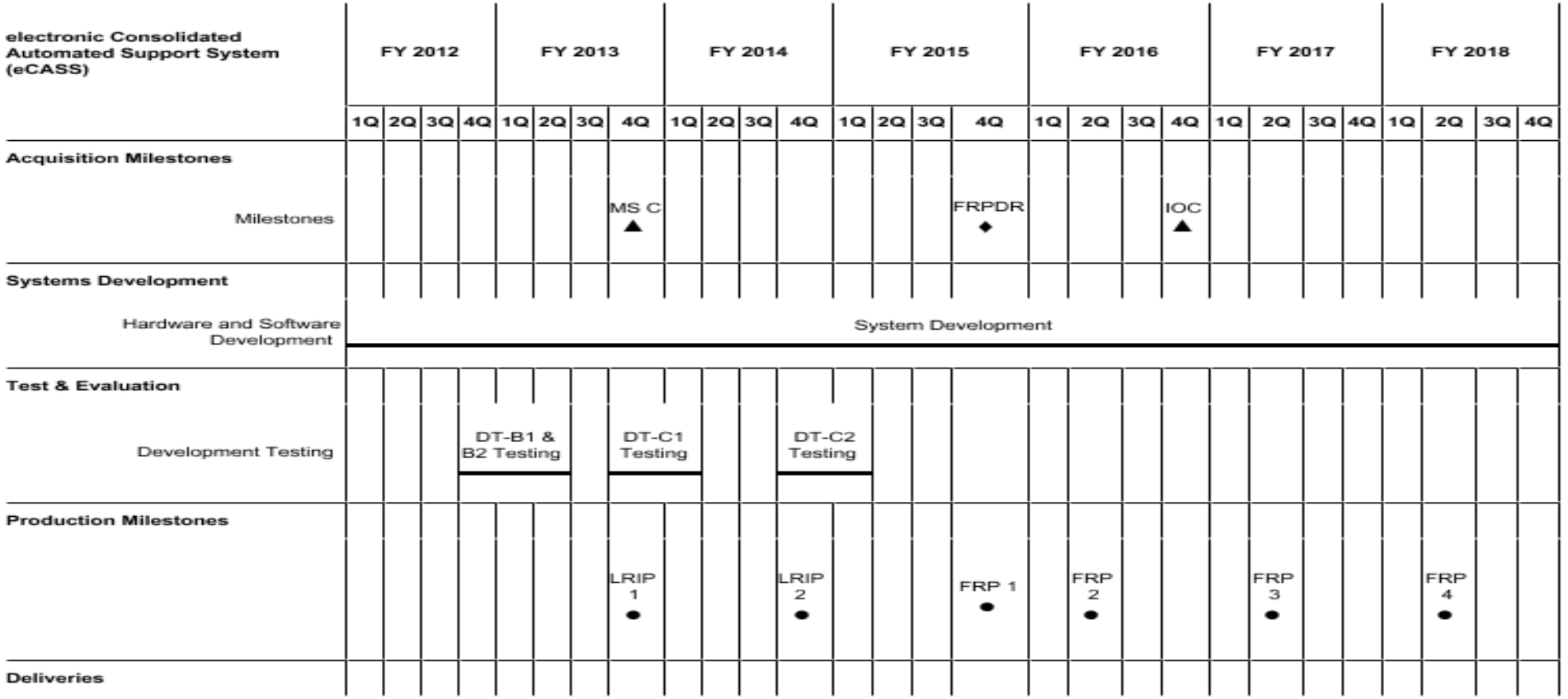
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
eCASS Travel	WR	Various:Various	0.379	0.250	May 2012	0.121	May 2013	0.103	May 2014	-		0.103	Continuing	Continuing	Continuing
Test Tech Travel	WR	Various:Various	0.200	0.000		0.100	May 2013	0.050	May 2014	-		0.050	Continuing	Continuing	Continuing
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various:Various	1.669	0.000		0.000		0.000		-		0.000	0.000	1.669	
		Subtotal	2.248	0.250		0.221		0.153		0.000		0.153			

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 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*	

	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	94.361	32.525		8.325		6.496		0.000		6.496			

Remarks

Exhibit R-4, RDT&E Schedule Profile: 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 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*



2014PB - 0205633N - 0852

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 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
electronic Consolidated Automated Support System (eCASS)				
Acquisition Milestones: Milestones: Milestone C	4	2013	4	2013
Acquisition Milestones: Milestones: Full Rate Production Decision Review	4	2015	4	2015
Acquisition Milestones: Milestones: Initial Operating Capability	4	2016	4	2016
Systems Development: Hardware and Software Development: eCASS System Development	1	2012	4	2018
Test & Evaluation: Development Testing: eCASS DT-B1 & B2 Testing	4	2012	2	2013
Test & Evaluation: Development Testing: eCASS DT-C1 Testing	4	2013	1	2014
Test & Evaluation: Development Testing: eCASS DT-C2 Testing	4	2014	1	2015
Production Milestones: eCASS LRIP 1-APN	4	2013	4	2013
Production Milestones: eCASS LRIP 2-APN	4	2014	4	2014
Production Milestones: eCASS FRP 1-APN	4	2015	4	2015
Production Milestones: eCASS FRP 2-APN	2	2016	2	2016
Production Milestones: eCASS FRP3-APN	2	2017	2	2017
Production Milestones: eCASS FRP4-APN	2	2018	2	2018

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 0205633N: *Aviation Improvements*	PROJECT 1041: *Acft Equip Repl/Maint Prog*	

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
1041: *Acft Equip Repl/Maint Prog*	34.274	2.972	3.238	3.273	-	3.273	3.344	3.398	3.468	3.528	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

Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) is the only Navy program which provides Research, Development, Test & Evaluation engineering support specifically for in-service, out-of-production aircraft equipment. AERMIP increases readiness through reliability, maintainability, and safety improvements to existing systems and equipment installed in Naval aircraft. It also provides a transition vehicle to deploy Total Ownership Cost reduction initiatives through flight-test support and Fleet Test & Evaluation. It meets affordable readiness objectives by providing a cost-effective solution to obsolescence problems encountered when service lives are extended. AERMIP promotes commonality and standardization across aircraft platform lines and among the services through extension of application and use of non-developmental items. AERMIP also decreases life cycle costs through reduced operational and support costs. AERMIP facilitates the Operational, Safety and Improvement Program by applying proven low-risk solutions to current fleet problems. AERMIP also funds high-priority flight testing which is not associated with any acquisition or development program under the Flight Test General task.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Avionics and Wiring	0.846	0.713	0.596
Articles:	0	0	0

FY 2012 Accomplishments:

Qualify additional materials or pieces of equipment and the procedures/process required for their implementation. Test and evaluate off-board diagnostic equipment for generator diagnostics/prognostics. Refine algorithms for multiple battery models, including lithium chemistries. Continue testing in aircraft simulated environment. Pursue next-generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Address avionics-related reliability issues impacting multiple aircraft platforms.

FY 2013 Plans:

Perform sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments, including off-board equipment for generator and battery diagnostics and prognostics. Continue to enhance algorithms for multiple battery models covering additional legacy platforms. Pursue next-

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 0205633N: *Aviation Improvements*	PROJECT 1041: *Acft Equip Repl/Maint Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Address emergent avionics and wiring-related reliability issues impacting multiple aircraft platforms. ***FY 2014 Plans:*** Perform sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments, including off-board equipment for diagnostics and prognostics. Pursue next-generation technologies that reduce maintenance burden, including diagnosis and prognostics methods, and prove the applicability to Naval aviation. Address emergent avionics and wiring-related reliability issues impacting multiple aircraft platforms.			
Title: Air Vehicle	1.328	1.645	1.786
Articles:	0	0	0
FY 2012 Accomplishments: Qualify additional materials or pieces of equipment and the procedures/process required for their implementation. Develop new methods of structural repair with focus on lightweight, high-cost, and low observability platforms. Expand focus of human factors and advanced materials/coatings in corrosion prevention control. Expand use of protective coatings on aircraft components to resist abrasion, wear, and corrosion, while lowering maintenance hours and cost. ***FY 2013 Plans:*** Perform sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments. Develop expanded methods of structural repair with focus on low cost and reduced labor procedures that can be done in fleet environments. Continue expansion of human factors focus and advanced materials and coatings in corrosion prevention control. Based on advancement in material sciences, test and qualify new materials or equipment technologies and the procedures/process required for their implementation to improve operational reliability, while containing cost growth. ***FY 2014 Plans:*** Perform sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments. Continue development of expanded methods of structural repair with focus on low cost and reduced labor procedures that can be done in fleet environments. Continue expansion of human factors focus and advanced materials and coatings in corrosion prevention control. Based on advancement in technology, test and qualify new materials or equipment and the procedures/process required for their implementation to improve operational reliability, while containing cost growth. Begin efforts addressing rapid composite tooling, multi-layer sacrificial film laminates, and expanded qualification of electro-discharge machine drilling.			
Title: Systems Engineering Revitalization	0.798	0.880	0.891

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 0205633N: *Aviation Improvements*	PROJECT 1041: *Acft Equip Repl/Maint Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Articles:	0	0	0
FY 2012 Accomplishments: Complete initial version of the Systems Engineering Technical Review web-based checklist tool. Identify web-tool critical limitations and implement changes and improvements within the tool. Investigate systems engineering processes and tools across Naval Air Systems Command domains inclusive of end item performance derivation from operational requirements and the associated concept of operations, with the derivation remaining relevant to the mission and system architectures.			
FY 2013 Plans: Perform continuous and systematic update of the Systems Engineering Technical Review (SETR) web-based checklist tool. Continue to identify web-tool critical limitations and implement changes and improvements within the tool to increase the effectiveness and efficiency of the tool. Continue to investigate systems engineering processes and tools across Naval Air Systems Command domains, inclusive of end item performance derivation from operational requirements and the associated concept of operations, with the derivation remaining relevant to the mission and system architectures and the goals of improving operational reliability while containing life-cycle costs.			
FY 2014 Plans: Perform continuous and systematic update of the SETR web-downloadable checklist tool. Continue to identify critical limitations and implement changes and improvements within the tool to increase the effectiveness and efficiency of the tool. Continue to investigate systems engineering processes and tools across Naval Air Systems Command domains, inclusive of the end item performance derivation from operational requirements and the associated concept of operations, with the derivation remaining relevant to the mission and system architectures and the goals of improving operational reliability while containing life-cycle costs.			
Accomplishments/Planned Programs Subtotals	2.972	3.238	3.273

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This is a non-ACAT program. Procurement strategy is determined by market survey and cooperative opportunities.

E. Performance Metrics

The Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) program will, at a minimum, fund 8 to 15 projects a year that investigate and evaluate reliability and maintainability improvements to in-service, out-of-production aircraft equipment. AERMIP projects will have a greater than 75% success rate of insertion into Department of the Navy warfighting systems or support infrastructure.

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 0205633N: *Aviation Improvements*	PROJECT 1041: *Acft Equip Repl/Maint Prog*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng - Avionics/Wiring	WR	NAWCAD:Patuxent River, MD	4.590	0.604	Nov 2011	0.293	Oct 2012	0.398	Oct 2013	-		0.398	Continuing	Continuing	Continuing
Sys Eng - Avionics/Wiring	C/FFP	Various:Various	0.505	0.000		0.050	Feb 2013	0.085	Feb 2014	-		0.085	0.000	0.640	0.640
Sys Eng - Avionics/Wiring	C/FFP	GEM Power:Redlands, CA	0.000	0.000		0.100	Mar 2013	0.000		-		0.000	0.000	0.100	0.100
Sys Eng - Avionics/Wiring	C/FFP	PCKA:West Lafayette, IN	0.000	0.000		0.100	Mar 2013	0.000		-		0.000	0.000	0.100	0.100
Sys Eng - Avionics/Wiring	WR	FRC:Cherry Point, NC	0.000	0.000		0.100	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	NAWCAD:Patuxent River, MD	6.119	0.682	Nov 2011	0.652	Oct 2012	0.732	Oct 2013	-		0.732	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:San Diego, CA	0.508	0.229	Dec 2011	0.130	Nov 2012	0.146	Nov 2013	-		0.146	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:Cherry Point, NC	0.428	0.221	Dec 2011	0.224	Nov 2012	0.250	Nov 2013	-		0.250	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:Jacksonville, FL	0.460	0.148	Dec 2011	0.275	Nov 2012	0.309	Nov 2013	-		0.309	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	C/FFP	Various:Various	0.712	0.050	Mar 2012	0.211	Jan 2013	0.237	Jan 2014	-		0.237	0.000	1.210	1.210
Sys Eng - SE Revitalization	WR	NAWCAD:Patuxent River, MD	0.792	0.003	Dec 2011	0.003	Oct 2012	0.003	Oct 2013	-		0.003	Continuing	Continuing	Continuing
Sys Eng - SE Revitalization	C/FFP	L-3 Communications:Marlton, NJ	2.059	0.795	Mar 2012	0.877	Jan 2013	0.888	Jan 2014	-		0.888	0.000	4.619	4.619
Sys Eng - NAE Corrosion	WR	NAWCAD:Patuxent River, MD	0.608	0.000		0.000		0.000		-		0.000	0.000	0.608	
Sys Eng - NAE Corrosion	WR	FRC:San Diego, CA	0.100	0.000		0.000		0.000		-		0.000	0.000	0.100	
Sys Eng - NAE Corrosion	WR	FRC:Cherry Point, NC	0.125	0.000		0.000		0.000		-		0.000	0.000	0.125	
Sys Eng - NAE Corrosion	WR	FRC:Jacksonville, FL	0.130	0.000		0.000		0.000		-		0.000	0.000	0.130	
Prior Year Prod Dev no longer funded in the FYDP	Various	Various:Various	1.504	0.000		0.000		0.000		-		0.000	0.000	1.504	1.504
		Subtotal	18.640	2.732		3.015		3.048		0.000		3.048			

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 0205633N: *Aviation Improvements*	PROJECT 1041: *Acft Equip Repl/Maint Prog*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Support cost no longer funded in the FYDP	Various	Various:Various	12.480	0.000		0.000		0.000		-		0.000	0.000	12.480	
		Subtotal	12.480	0.000		0.000		0.000		0.000		0.000	0.000	12.480	

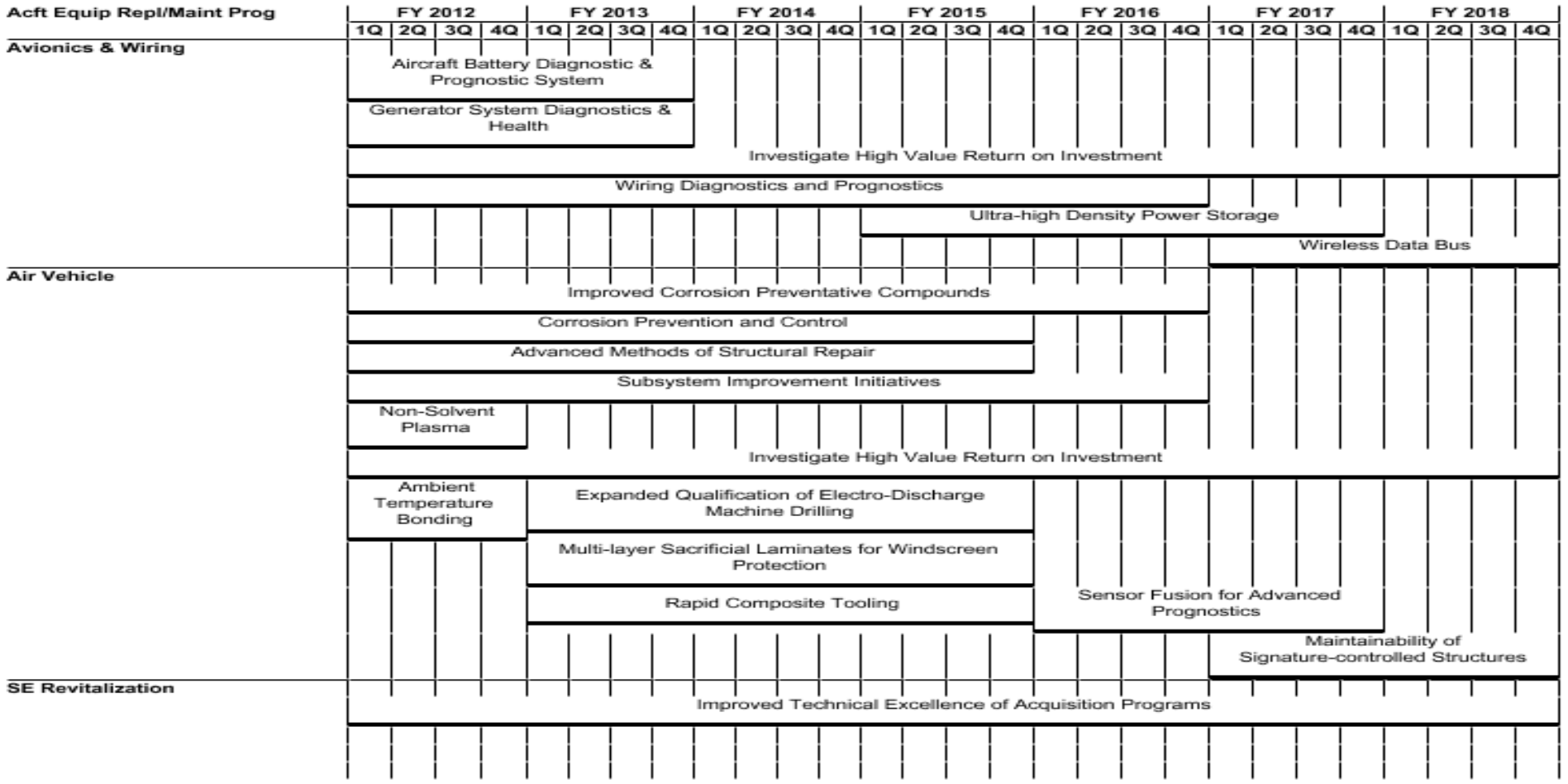
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD:Patuxent River, MD	1.183	0.240	Nov 2011	0.223	Oct 2012	0.220	Oct 2013	-		0.220	Continuing	Continuing	Continuing
Travel	WR	NAVAIR:Patuxent River, MD	0.094	0.000		0.000		0.005	Jan 2014	-		0.005	0.000	0.099	
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various:Various	1.877	0.000		0.000		0.000		-		0.000	0.000	1.877	1.877
		Subtotal	3.154	0.240		0.223		0.225		0.000		0.225			

	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	34.274	2.972		3.238		3.273		0.000		3.273			

Remarks

Exhibit R-4, RDT&E Schedule Profile: 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 0205633N: *Aviation Improvements*	PROJECT 1041: *Acft Equip Repl/Maint Prog*



2014OSD - 0205633N - 1041

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 0205633N: *Aviation Improvements*	**PROJECT** 1041: *Acft Equip Repl/Maint Prog*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acft Equip Repl/Maint Prog				
Avionics & Wiring: Aircraft Battery Diagnostic & Prognostic System	1	2012	4	2013
Avionics & Wiring: Generator System Diagnostics & Health	1	2012	4	2013
Avionics & Wiring: Investigate High Value Return on Investment	1	2012	4	2018
Avionics & Wiring: Wiring Diagnostics and Prognostics	1	2012	4	2016
Avionics & Wiring: Ultra-high Density Power Storage	1	2015	4	2017
Avionics & Wiring: Wireless Data Bus	1	2017	4	2018
Air Vehicle: Improved Corrosion Preventative Compounds	1	2012	4	2016
Air Vehicle: Corrosion Prevention and Control	1	2012	4	2015
Air Vehicle: Advanced Methods of Structural Repair	1	2012	4	2015
Air Vehicle: Subsystem Improvement Initiatives	1	2012	4	2016
Air Vehicle: Non-Solvent Plasma	1	2012	4	2012
Air Vehicle: Investigate High Value Return on Investment	1	2012	4	2018
Air Vehicle: Ambient Temperature Bonding	1	2012	4	2012
Air Vehicle: Expanded Qualification of Electro-Discharge Machine Drilling	1	2013	4	2015
Air Vehicle: Multi-layer Sacrificial Laminates for Windscreen Protection	1	2013	4	2015
Air Vehicle: Rapid Composite Tooling	1	2013	4	2015
Air Vehicle: Sensor Fusion for Advanced Prognostics	1	2016	4	2017
Air Vehicle: Maintainability of Signature-controlled Structures	1	2017	4	2018
SE Revitalization: Improved Technical Excellence of Acquisition Programs	1	2012	4	2018

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 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*	

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
1355: *Propulsion and Power Component Improvement Program*	749.901	60.673	61.296	70.497	-	70.497	90.844	94.685	96.693	112.206	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

The Propulsion and Power Engine Component Improvement Program (CIP) provides the only source of critical design and development engineering support to resolve safety, reliability and maintainability deficiencies of in-service Navy and Marine Corps aircraft propulsion systems. The highest priority issues CIP addresses concern safety-of-flight deficiencies, which account for approximately 80% of CIP efforts. The program also corrects service-revealed deficiencies, improves Operational Readiness and Reliability and Maintainability, and reduces platform Life Cycle Cost. Budgets are allocated across platform-specific teams and multi-platform product support teams based upon long term strategies to achieve safety and affordable readiness goals; the R-3 exhibit details annual portions of those long-term strategies. CIP tasks have reduced the rate of in-flight aborts, safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance work hours, and overall cost of ownership. This is accomplished through the maintenance and validation of specification performance, testing to qualify engineering changes, verifying life limits, and improving the inherent reliability of the propulsion and power systems as an integral part of Reliability Centered Maintenance initiatives. Historically, the missions, tactics, and environmental exposure of military aircraft systems change to meet new threats or operational demands, and often result in unforeseen problems, which if not corrected, can cause critical safety/readiness degradation, such as those experienced during OPERATIONS DESERT SHIELD/ DESERT STORM, ENDURING FREEDOM, and IRAQI FREEDOM due to sand erosion. In addition, new problems arise through actual fleet deployment and usage of the aircraft. System development programs, while geared to resolve as many problems as possible before deployment, cannot duplicate actual operations or account for the vast array of environmental and usage variables, particularly when aircraft missions vary from those that the aircraft was designed to perform. Therefore, it has been found that CIP can provide an immediate engineering response to these flight-critical problems and accelerated engine testing can avoid potential problems. CIP starts after development and Navy acceptance of the first production article and addresses usage and life problems not covered by warranties. CIP addresses engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, aircraft wiring, and fuel and lubricant systems. These efforts continue over the system's life, gradually decreasing to a minimum level sufficient to maintain the reliability, and decrease the operating costs, of older inventory. CIP is a highly leveraged and cooperative tri-service program with Foreign Military Sales participation.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: P3, E2, C2, C130 (T56)	5.837	8.403	7.800
Articles:	0	0	0
FY 2012 Accomplishments:			

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 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Redesign the Aft Cone-Adaptor significant engine removal contributor. Begin design and fabrication of a replacement to the current electronic control system which will no longer be repairable due to obsolescence. Complete further testing on in-service hardware to extend the T1 blade re-use limit. Continue the Analytical Condition Inspections program. Qualify redesigned combustor liner. Continue to investigate all service revealed deficiencies. Redesigns for C-2 engine reliability improvements, Scavenge Oil System Improvements. Initiate Gearbox improvements. Improve turbine vane durability for improve engine reliability. ***FY 2013 Plans:*** Complete redesign the Aft Cone-Adaptor significant engine removal contributor. Continue design and fabrication of a replacement to the current electronic control system which will no longer be repairable due to obsolescence. Complete the Analytical Condition Inspections program. Complete qualification of redesigned combustor liner. Continue to investigate all service revealed deficiencies. Complete Gearbox improvements. Complete turbine vane durability project. ***FY 2014 Plans:*** Develop requirements and initiate design for an engine oil health monitoring system. Initiate design of more robust external scavenge pump. Continue development and testing of compressor blade/vane coating to improve corrosion and erosion resistance. Complete redesign and qualification of 3-4 turbine spacer. Complete qualification and begin incorporation of new reduction gearbox assembly planet gear bearing assembly. Complete incorporation of front compressor bearing labyrinth seal. Complete down-select program for new propeller brake. Complete redesign and begin incorporation of new front turbine bearing cage. Complete improvement and being incorporation of front turbine bearing support.			
Title: E2/C2/C130/P3 (Props)	1.410	1.500	1.900
Articles:	0	0	0
FY 2012 Accomplishments: Continue research and testing of potential NP2000 Blade Erosion Coatings. Complete P-3/C-130 propeller taper bore corrosion testing and implement design change as required. Continue build of NP2000 Control System Working Model. Continue to investigate all service revealed deficiencies. ***FY 2013 Plans:*** Complete research and testing of potential NP2000 Blade Erosion Coatings. Complete build of NP2000 Control System Working Model. Continue to investigate all service revealed deficiencies. ***FY 2014 Plans:*** Conduct flight testing of NP2000 modernized pump housing. Complete Fleet service evaluation of NP2000 blade erosion film. Continue to investigate all service revealed deficiencies. Begin fleet incorporation of P-3/C-130 taper bore plug.			
Title: EA-6B (J52)	1.569	2.423	2.300
Articles:	0	0	0

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Complete incorporation of the new 4.5 bearing, new 4.5 bearing inner race nut torque value and torque tooling. Maintenance awareness will be presented at Operational & Intermediate levels. Begin development of a Thermal Barrier Coating for the combustion chamber interior surfaces. Develop a repair for the wear found in the inlet case vane driver boss replacement. ***FY 2013 Plans:*** Complete incorporation of torque value and torque tooling. Complete development of a Thermal Barrier Coating for the combustion chamber interior surfaces. Develop updated repair and inspection criteria for fielded components. ***FY 2014 Plans:*** Incorporate thermal barrier coating combustion chambers into the fleet assets. Implement and continue updating repair and inspection criteria for fielded components. Implement fuel flow-meter bracket redesign.			
Title: SH-60B/F, HH-60H, MH-60R/S (T700)	2.572	2.571	3.575
Articles:	0	0	0
FY 2012 Accomplishments: Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Continue a Fleet Leader of the Automatic Wire Analyzer at Naval Air Station North Island to train operators, develop procedures, and measure effectiveness. Continue the redesign of the Main Transmission Gearbox from Magnesium to Aluminum. ***FY 2013 Plans:*** Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Complete a Fleet Leader of the Automatic Wire Analyzer at Naval Air Station North Island to train operators, develop procedures, and measure effectiveness. Complete the redesign of the Main Transmission Gearbox from Magnesium to Aluminum. ***FY 2014 Plans:*** Implement safety changes (Stage 1 Blades, Dual Auto-Contingency). Develop and qualify corrosion reduction efforts on the H-60 intermediate and tail gearboxes. Develop new Li-Polymer battery for the H-60 to decrease maintenance man-hour requirements and total ownership costs.			
Title: H-1 (T400/T700)	1.050	1.792	1.105
Articles:	0	0	0
FY 2012 Accomplishments: Begin development of T700-401 engine harness testor. Complete LiPoly battery for H-1 upgrades. Continue support of common T700 engine projects. ***FY 2013 Plans:***			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Complete development of T700-401 engine harness testor. Continue support of common T700 engine projects. ***FY 2014 Plans:*** Complete qualification of T700-401 engine harness tester. Continue support of common T700 engine projects.			
Title: AV-8B (F402)	4.081	5.241	4.810
Articles:	0	0	0
FY 2012 Accomplishments: Engineering Change Proposals for low plasticity burnishing of low pressure compressor stage one, two and three blades, fuel leak redesign of Engine Variable Inlet Control System (EVICS), Hydro Mechanical Unit (HMU) permanent magnet alternator, fuel manifold pipe leakage redesign, meandering wire magnetometer inspection technique for low pressure compressor stage one blade dovetails. ***FY 2013 Plans:*** Complete effort for low plasticity burnishing of low pressure compressor stage one, two and three blades. Complete fuel leak redesign of EVICS, HMU permanent magnet alternator, fuel manifold pipe leakage redesign, meandering wire magnetometer inspection technique for low pressure compressor stage one blade dovetails. ***FY 2014 Plans:*** Complete Low Pressure Compressor 1 blade redesign program, complete effort for low plasticity burnishing of low pressure compressor stage two and three blades, prepare for accelerated simulated mission endurance test, and prepare engine performance recovery plan.			
Title: H-53/H-46/H-3 (T58/T64)	5.919	9.427	4.795
Articles:	0	0	0
FY 2012 Accomplishments: H-46/H-3 (T58) Complete qualification of Next Generation Coating for 1st stage compressor blades. H-53 (T64) Complete mid sump improvements and modernized torque sensor effort continue. Continue Fuel control reliability improvement program. Continue life management analysis and Reliability Centered Maintenance efforts. ***FY 2013 Plans:*** H-46/H-3 (T58) Continue to develop inspection and repair criteria for fielded components. H-53 (T64)			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Complete modernized torque sensor effort. Complete Fuel control reliability improvement program. Continue life management program, Prognostic Diagnostic based management analysis and Reliability Centered Maintenance efforts. ***FY 2014 Plans:*** Complete fuel control reliability and main engine carbon seal improvement programs. Continue life management analysis and reliability centered maintenance efforts. Continue to develop inspection and repair criteria for fielded components.			
Title: F-18 C/D/E/F (F414/F404)	17.525	16.589	17.340
Articles:	0	0	0
FY 2012 Accomplishments: Flameholder attachment redesign. Full Authority Digital Electronic Control obsolescence redesign. Turbine disk dovetail edge of contact improvements. Near real time damage assessment. Field performance management. High Pressure Compressor throat wear limit expansion. Oil pressure cautions. Main Fuel Control improvements to reduce mission aborts. ***FY 2013 Plans:*** Complete flameholder attachment redesign. Complete Full Authority Digital Electronic Control obsolescence redesign. Complete turbine disk dovetail edge of contact improvements. Complete Main Fuel Control improvements to reduce mission aborts. Begin mission analysis updates. Continue to develop lifting model. Continue life limited part life extension. Continue to develop inspection and repair criteria. ***FY 2014 Plans:*** Test cell performance management process to improve operability and reduce unscheduled engine removals, Variable Exhaust Nozzle (VEN) pump cover life improvement, pilot spraybar flow optimization to improve light off times, AB spraybar heat shield durability improvements, fuel nozzle life increase, alternate compressor blade rub coats to improve repairability and blade tip sealing performance, low plasticity burnishing qualification complete and approved for future stage 2 fan blade procurements, improved VEN pump and anti-ice valve qualified and available to Fleet.			
Title: T-45 (F405)	1.949	4.714	6.625
Articles:	0	0	0
FY 2012 Accomplishments: Continue to address safety issues reported from fleet. Analysis and redesign components based on service revealed deficiencies. ***FY 2013 Plans:*** Complete to address safety issues reported from fleet. Analysis and redesign components based on service revealed deficiencies. ***FY 2014 Plans:***			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue redesign work to reduce impact of cost and readiness drivers for the F405 engine based on service revealed deficiencies and address safety issues reported from fleet. Complete component testing and initiate engine testing of low pressure compressor blade improvements to mitigate blade root cracking in-service and reduce scrap rate at overhaul. Complete high pressure compressor redesigns to improve corrosion resistance and continue redesigns to improve performance retention. Continue redesign of engine correct rotation system to reduce high failure rate and reduce cost of ownership.			
Title: V-22 Propulsion	6.412	0.000	1.200
Articles:	0		0
FY 2012 Accomplishments: Initiate Drive system corrosion improvement project, drive system lead the fleet, Full Authority Digital Engine Control Troubleshooting, constant frequency generator to Accessory gearbox casting change. Continue Infrared suppressor removal study, software generation, upper Nacelle system and compressor coating Trade Studies. Complete engine and system management plans.			
FY 2014 Plans: Continue to support the V-22 propulsion system in funding valid propulsion and power component improvement program efforts to address safety, reliability, and/or maintainability issues.			
Title: Multi-Platform Product Support Teams	12.349	7.849	9.358
Articles:	0	0	0
FY 2012 Accomplishments: Continue projects to provide common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; and improve electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing.			
FY 2013 Plans: Continue projects to provide common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; and improve electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing.			
FY 2014 Plans:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue projects to provide common support to multiple platforms in the areas of improved drive systems; secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improved products and processes for fuels, lubricants, and refueling equipment; and improved electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing.			
Title: Adversary (J85) (F100) ***Articles:*** ***FY 2013 Plans:*** Continue contribution to common Component Improvement Program tasks with United States Air Force for F100 and J85 Engine. J85 unique tasks include rotating part life update and fuel control redesign. ***FY 2014 Plans:*** Continue contribution to common Component Improvement Program with U.S. Air Force and Foreign Military Sales group for the J85 engine. The most prevalent tasks for the J85 engine are Stage 1 turbine nozzle durability, compressor life cycle fatigue life update, and high-pressure turbine second-stage shroud heat shield.	0.000	0.787 0	0.585 0
Title: Joint Strike Fighter (F135 Engine) ***Articles:*** ***FY 2014 Plans:*** Work with Joint Program Office and U.S. Air Force (USAF) to prioritize and develop engineering project descriptions that resolve Fleet revealed deficiencies that are not part of system development. In concert with the USAF, support Joint service Lead-the-Fleet (LTF) engine testing on the conventional takeoff and landing/aircraft carriers system. Future efforts will include procurement of short takeoff and vertical landing hardware to initiate LTF testing.	0.000	0.000	9.104 0
Accomplishments/Planned Programs Subtotals	60.673	61.296	70.497

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This is a NON-ACAT program. Procurement strategy is determined by market survey and cooperative opportunities.

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E. Performance Metrics

The Component Improvement Program (CIP) will support engineering design and development efforts for 100% of the safety of flight issues on in-service propulsion and power systems covered under the program. In FY11 and FY12, this equates to more than 350 individual Engineering Project Descriptions (EPDs). CIP will also address reliability and maintainability deficiencies equating to at least another 150 individual EPDs. Similar projects have increased the aggregate engine reliability across the USN/USMC fleet, as measured by the mean flight hours between engine removals, by 40% over the past seven years.

Program execution will be actively managed on 100% of the projects via contractor earned value data and overall obligation and expenditure rates as reflected in Navy ERP. Data will be analyzed and measured against OSD/FMB benchmarks on a monthly basis.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy		DATE: April 2013
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng T56 Engine Program	WR	NAWCAD:PAX RIVER, MD	24.360	1.796	Oct 2011	3.361	Oct 2012	3.120	Oct 2013	-		3.120	Continuing	Continuing	Continuing
Sys Eng T56 Engine Program	SS/CPFF	ROLLS ROYCE:IN	35.311	4.115	Mar 2012	5.059	Jan 2013	4.708	Jan 2014	-		4.708	0.000	49.193	49.193
Sys Eng T56 Engine Program	WR	FRC-E:Cherry Point, NC	0.000	0.112	Nov 2011	0.000		0.000		-		0.000	0.000	0.112	
Sys Eng T56 Engine Program	WR	FRC-SE:Jacksonville, FL	0.000	0.218	Nov 2011	0.000		0.000		-		0.000	0.000	0.218	
Sys Eng Props Program	SS/CPFF	HAM SUNSTRAND:Windsor, CT	13.739	2.431	Jan 2012	1.500	Jan 2013	1.900	Jan 2014	-		1.900	0.000	19.570	19.570
Sys Eng Props Program	WR	FRC-E:Cherry Point, NC	0.000	0.388	Nov 2011	0.000		0.000		-		0.000	0.000	0.388	
Sys Eng J52 Engine Program	WR	NAWCAD:PAX RIVER, MD	11.312	0.547	Oct 2011	0.969	Oct 2012	0.920	Oct 2013	-		0.920	Continuing	Continuing	Continuing
Sys Eng J52 Engine Program	SS/CPFF	P&W:FLORIDA	37.968	0.952	Apr 2012	1.454	Jan 2013	1.380	Jan 2014	-		1.380	0.000	41.754	41.754
Sys Eng T700 Engine Program	WR	NAWCAD:PAX RIVER, MD	10.540	0.791	Oct 2011	1.028	Oct 2012	1.430	Oct 2013	-		1.430	Continuing	Continuing	Continuing
Sys Eng T700 Engine Program	SS/CPFF	GE:MASS	24.999	1.856	Feb 2012	1.543	Jan 2013	2.145	Jan 2014	-		2.145	0.000	30.543	30.543
Sys Eng T400 Engine Program	WR	NAWCAD:PAX RIVER, MD	0.000	0.000		0.717	Oct 2012	0.442	Oct 2013	-		0.442	Continuing	Continuing	Continuing
Sys Eng T400 Engine Program	SS/CPFF	P&W:FLORIDA	5.210	0.000		1.075	Jan 2013	0.663	Jan 2014	-		0.663	0.000	6.948	6.948
Sys Eng T400 Engine Program	WR	NSWC:Crane, IN	0.000	0.077	Feb 2012	0.000		0.000		-		0.000	0.000	0.077	
Sys Eng T400 Engine Program	SS/CPFF	Dow Kokam:Detroit, MI	0.000	0.290	Sep 2012	0.000		0.000		-		0.000	0.000	0.290	0.290
Sys Eng F402 Engine Program	WR	NAWCAD:PAX RIVER, MD	10.916	1.302	Oct 2011	2.096	Oct 2012	1.924	Oct 2013	-		1.924	Continuing	Continuing	Continuing

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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng F402 Engine Program	SS/CPFF	ROLLS ROYCE:UK	55.856	2.336	Dec 2011	3.145	Jan 2013	2.886	Jan 2014	-		2.886	0.000	64.223	64.223
Sys Eng F402 Engine Program	WR	NAWCWD:China Lake, CA	0.000	0.800	Feb 2012	0.000		0.000		-		0.000	0.000	0.800	
Sys Eng F402 Engine Program	WR	FRC-E:Cherry Point, NC	0.000	0.020	Jul 2012	0.000		0.000		-		0.000	0.000	0.020	
Sys Eng T58/T64 Engine Program	WR	NAWCAD:PAX RIVER, MD	24.495	2.584	Oct 2011	3.771	Oct 2012	1.918	Oct 2013	-		1.918	Continuing	Continuing	Continuing
Sys Eng T58/T64 Engine Program	SS/CPFF	GE:MASS	74.481	2.458	Jan 2012	5.656	Jan 2013	2.877	Jan 2014	-		2.877	0.000	85.472	85.472
Sys Eng F414/F404 Engine Program	WR	NAWCAD:PAX RIVER, MD	13.968	5.336	Oct 2011	6.648	Oct 2012	6.771	Oct 2013	-		6.771	Continuing	Continuing	Continuing
Sys Eng F414/F404 Engine Program	SS/CPFF	GE:MASS	89.758	13.377	Feb 2012	9.965	Jan 2013	10.569	Jan 2014	-		10.569	0.000	123.669	123.669
Sys Eng F414/F404 Engine Program	SS/CPFF	Honeywell:Tempe, AZ	0.000	0.350	Sep 2012	0.000		0.000		-		0.000	0.000	0.350	0.350
Sys Eng F405 Engine Program	WR	NAWCAD:PAX RIVER, MD	2.722	0.834	Oct 2011	1.886	Oct 2012	2.650	Oct 2013	-		2.650	Continuing	Continuing	Continuing
Sys Eng F405 Engine Program	SS/CPFF	ROLLS ROYCE:UK	25.813	1.450	Mar 2012	2.828	Jan 2013	3.975	Jan 2014	-		3.975	0.000	34.066	34.066
Sys Eng V-22 Propulsion Program	WR	NAWCAD:PAX RIVER, MD	1.800	2.100	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Sys Eng V-22 Propulsion Program	SS/FFP	Bell- Boeing:Ft. Worth, TX	3.400	0.577	Dec 2011	0.000		1.200	Jan 2014	-		1.200	0.000	5.177	5.177
Sys Eng V-22 Propulsion Program	SS/CPFF	Rolls Royce:UK	0.000	0.612	Sep 2012	0.000		0.000		-		0.000	0.000	0.612	0.612
Sys Eng Adversary J85 Engine Program	WR	NAWCAD:PAX RIVER, MD	0.000	0.252	Apr 2012	0.787	Jan 2013	0.585	Jan 2014	-		0.585	Continuing	Continuing	Continuing
Sys Eng Adversary J85 Engine Program	WR	FRC-SE:Jacksonville, FL	0.000	0.008	Jan 2012	0.000		0.000		-		0.000	0.000	0.008	
Sys Eng Adversary J85 Engine Program	SS/CPFF	GE:MASS	0.000	0.036	Mar 2012	0.000		0.000		-		0.000	0.000	0.036	0.036

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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng JSF Engine Program	WR	NAWCAD:PAX RIVER, MD	0.000	0.000		0.000		2.804	Oct 2013	-		2.804	Continuing	Continuing	Continuing
Sys Eng JSF Engine Program	SS/FFP	P&W:FLORIDA	0.000	0.000		0.000		6.300	Jan 2014	-		6.300	0.000	6.300	6.300
Sys Eng Lab Fld Activity-1.0 or more	WR	NAWCAD:PAX RIVER, MD	185.951	10.965	Oct 2011	7.006	Oct 2012	8.438	Oct 2013	-		8.438	Continuing	Continuing	Continuing
Sys Eng Other In-House Spt	Various	Various:Various	19.517	0.300	Oct 2011	0.200	Nov 2012	0.200	Nov 2013	-		0.200	Continuing	Continuing	Continuing
GFE*	Reqn	DES/DLA:Various	10.913	1.000	Dec 2011	0.200	Jan 2013	0.200	Jan 2014	-		0.200	Continuing	Continuing	Continuing
Prior Year Prod Dev costs no longer funded in the FYDP	Various	Various:Various	53.921	0.000		0.000		0.000		-		0.000	0.000	53.921	
		Subtotal	736.950	60.270		60.894		70.005		0.000		70.005			

Remarks

GFE includes expected cost of fuel necessary to support engine development and qualification testing.
Total may be off due to rounding.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	Various:Various	7.623	0.310	Dec 2011	0.310	Oct 2012	0.400	Oct 2013	-		0.400	Continuing	Continuing	Continuing
		Subtotal	7.623	0.310		0.310		0.400		0.000		0.400			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	Various	Various:Various	3.279	0.053	Oct 2011	0.053	Oct 2012	0.060	Oct 2013	-		0.060	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy		DATE: April 2013
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	3.279	0.053		0.053		0.060		0.000		0.060			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	NAVAIR:PAX RIVER, MD	0.602	0.040	Oct 2011	0.039	Oct 2012	0.032	Oct 2013	-		0.032	Continuing	Continuing	Continuing
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various:Various	1.447	0.000		0.000		0.000		-		0.000	0.000	1.447	
		Subtotal	2.049	0.040		0.039		0.032		0.000		0.032			

	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	749.901	60.673		61.296		70.497		0.000		70.497			

Remarks

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 0205633N: *Aviation Improvements*	PROJECT 2269: *EAF Matting*	

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
2269: *EAF Matting*	0.000	4.705	13.077	5.168	-	5.168	9.366	14.996	10.991	0.000	0.000	58.303
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

The Expeditionary Airfields (EAF) program was a FY2012 New Start. The EAF program designs, develops and tests an Improved EAF Lighting Program (IELP) to replace the obsolete legacy EAF lighting system. This system will provide EAF Marine Wing Support Squadrons with the required EAF equipment to install Forward Operating Bases and Forward Arming and Refueling Points. With the deployment of this equipment, the Marine Wing Support Squadrons can support all United States Marine Corps (USMC) aircraft allowing the Combatant Commanders the flexibility to deploy Aircraft Combat Elements to meet anticipated threats.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Expeditionary Airfields Improvements	4.705	13.077	5.168
Articles:	0	0	0
Description: The EAF program designs, develops, tests and fields an Improved EAF Lighing Program (IELP) to replace the obsolete legacy EAF lighting system. This system will provide EAF Marine Wing Support Squadrons with the required EAF equipment to install Forward Operating Bases and Forward Arming and Refueling Points. With the deployment of this equipment the Marine Wing Support Squadron can support all USMC aircraft allowing the Combatant Commanders the flexibility to deploy Aircraft Combat Elements to meet anticipated threats.			
FY 2012 Accomplishments: Design, development and integration of Improved EAF Lighting Program to support preliminary design reviews and critical design.			
FY 2013 Plans: Continues design, development and integration of Improved EAF Lighting Program to support preliminary design reviews and critical design. Conduct engineering technical reviews in preparation for Milestone B, which is scheduled to occur 1st quarter FY 2014, and conduct source selection for the primary hardware contractor.			
FY 2014 Plans: Continues design, development and integration of Improved EAF Lighting Program to support preliminary design reviews and critical design reviews. Note: The lighting requirement title changed from Sustainment Lighting to IELP March 2012.			
Accomplishments/Planned Programs Subtotals	4.705	13.077	5.168

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 0205633N: *Aviation Improvements*	PROJECT 2269: *EAF Matting*

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
• 0204161N/4208: *Expeditionary Airfields.*	55.561	66.878	8.792		8.792	8.955	9.096	9.284	9.439	Continuing	Continuing

Remarks

D. Acquisition Strategy

Expeditionary Airfields (EAF): The program will use a Full and Open competition contract strategy for the system design, development, integration and testing of the Improved EAF Lighting Program.

E. Performance Metrics

Milestone Reviews

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 0205633N: *Aviation Improvements*	PROJECT 2269: *EAF Matting*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analysis	C/FFP	TBD:TBD	0.000	0.500	Sep 2012	0.000		0.000		-		0.000	0.000	0.500	0.500
Systems Engineering	WR	NAWCAD:Lakehurst	0.000	2.250	Jun 2012	9.566	Nov 2012	2.479	Nov 2013	-		2.479	2.170	16.465	
Systems Engineering	WR	NAWCAD:Lakehrust	0.000	0.250	Aug 2012	0.000		0.000		-		0.000	0.000	0.250	
Primary Hardware Development	C/CPFF	TBD:TBD	0.000	0.000		0.000		2.231	Jun 2014	-		2.231	24.753	26.984	35.841
		Subtotal	0.000	3.000		9.566		4.710		0.000		4.710	26.923	44.199	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics	WR	NAWCAD:Lakehurst	0.000	0.200	Sep 2012	1.000	Nov 2012	0.203	Nov 2013	-		0.203	1.770	3.173	
Technical/Engr support	WR	NAWCAD:Lakehurst	0.000	1.015	Sep 2012	2.071	Nov 2012	0.000		-		0.000	4.797	7.883	
		Subtotal	0.000	1.215		3.071		0.203		0.000		0.203	6.567	11.056	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NAWCAD:Lakehurst	0.000	0.440	Jun 2012	0.440	Nov 2012	0.198	Nov 2013	-		0.198	1.863	2.941	
Opeval Test Support	WR	COMOPTEVFOR:Norfork	0.000	0.050	Jun 2012	0.000		0.057	Nov 2013	-		0.057	0.000	0.107	
		Subtotal	0.000	0.490		0.440		0.255		0.000		0.255	1.863	3.048	

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	4.705		13.077		5.168		0.000		5.168	35.353	58.303	

Remarks

Exhibit R-4, RDT&E Schedule Profile: 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 0205633N: *Aviation Improvements*	PROJECT 2269: *EAF Matting*

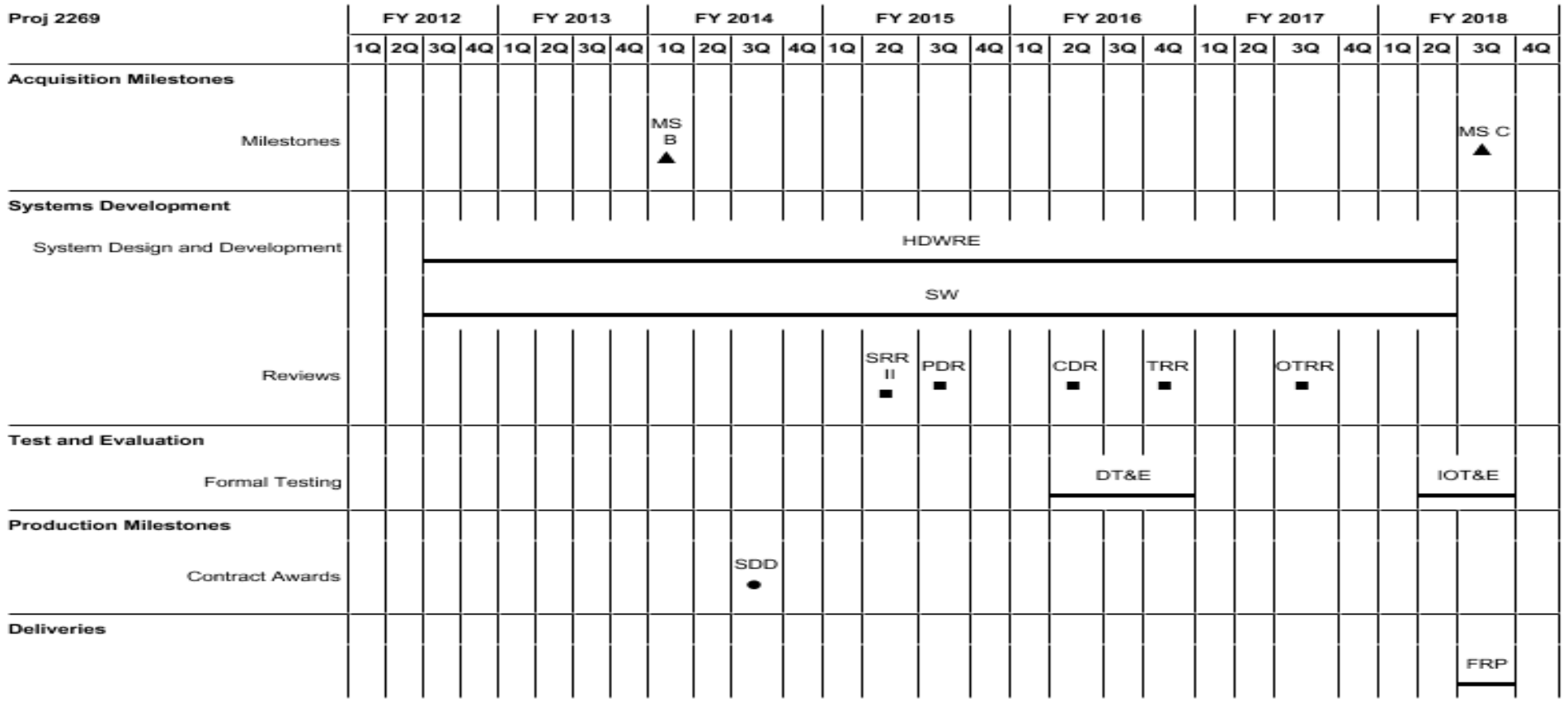

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 2269: *EAF Matting*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2269				
Acquisition Milestones: Milestones: Milestone B	1	2014	1	2014
Acquisition Milestones: Milestones: Milestone C	3	2018	3	2018
Systems Development: System Design and Development: Hardware Development	3	2012	2	2018
Systems Development: System Design and Development: Software Development	3	2012	2	2018
Systems Development: Reviews: Systems Requirements review	2	2015	2	2015
Systems Development: Reviews: Preliminary Design Review	3	2015	3	2015
Systems Development: Reviews: Critical Design Review	2	2016	2	2016
Systems Development: Reviews: Test Readiness Review	4	2016	4	2016
Systems Development: Reviews: Operational Test Readiness Review	3	2017	3	2017
Test and Evaluation: Formal Testing: Tech Eval/Dev T&E	2	2016	4	2016
Test and Evaluation: Formal Testing: Operational Evaluation Initial Test and Evaluation	2	2018	3	2018
Production Milestones: Contract Awards: Contract Award	3	2014	3	2014
Deliveries: Delivery: Lot 1	3	2018	3	2018