Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0205633N *I Aviation Improvements*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	1,077.716	76.009	85.037	117.759	-	117.759	126.325	137.405	123.909	126.483	Continuing	Continuing
0601: *Acft Handling & Service Equip*	27.328	0.229	2.626	2.606	-	2.606	2.672	2.704	2.769	2.826	Continuing	Continuing
0852: *Consolidated Auto Support System*	139.870	8.346	6.533	6.550	-	6.550	6.697	6.809	6.957	7.102	Continuing	Continuing
1041: *Acft Equip Repl/Maint Prog*	40.176	3.229	3.243	3.322	-	3.322	3.465	3.485	3.516	3.588	Continuing	Continuing
1355: *Propulsion and Power Component Improvement Program*	862.163	59.037	60.251	87.008	-	87.008	95.416	109.427	110.667	112.967	Continuing	Continuing
2269: *Expeditionary Airfield Improvements*	8.179	5.168	12.384	18.273	-	18.273	18.075	14.980	-	-	-	77.059

A. Mission Description and Budget Item Justification

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.

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 Expeditionary Airfields (EAF) program designs, develops, tests and fields a sustainment lighting system to replace existing obsolete legacy EAF lighting system.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0205633N *I Aviation Improvements*			
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	78.608	106.936	120.820	-	120.820
Current President's Budget	76.009	85.037	117.759	-	117.759
Total Adjustments	-2.599	-21.899	-3.061	-	-3.061
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-26.899			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.690	-			
• SBIR/STTR Transfer	-1.910	-			
• Program Adjustments	-	-	1.500	-	1.500
• Rate/Misc Adjustments	0.001	-	-4.561	-	-4.561

Change Summary Explanation

The FY 2016 funding request was reduced by $2.703 million to account for the availability of prior year execution balances.

Cost:

Project 2269: Funding was added to the Expeditionary Airfields budget in FY 2015 for the "Center of Excellence" which includes an airfield to be used by USA/ USAF and USMC for exercises (including joint) and potentially expeditionary airfield installation/removal drills. Funding was added to the Expeditionary Airfields budget in FY 2016 by $4.0 million, FY 2017 by $5.5 million and FY 2018 by $14.9 million to properly price the Sustainment Lighting System effort.

Schedule:

Project 0601: Aircraft Spotting Dolly and Carrier/Amphibious Assault Ship Crash Crane schedule delayed as a result of the majority of funding being re-directed to a higher priority program within Project 0852.

Project 0852: eCASS Full Rate Production Decision Review/Full Rate Procurement moved to 3rd Quarter FY 2016 due to the acceleration of DT-C2 Testing which concludes in 2nd Quarter FY 2016.

Project 1041: Wiring Diagnostics & Prognostics and Subsystem Improvement Iniatives were extended from 4th Quarter FY 2016 to 4th Quarter FY 2020. Corrosion Prevention & Control and Advanced Methods of Structural Repair are extended from 4th Quarter FY 2015 to 4th Quarter FY 2020. Extensions are due to continuation of reliability, maintainability and safety improvements.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0205633N *I Aviation Improvements*

Project 2269: Milestone B moved from third quarter of fiscal year 2014 to first quarter of 2015 due to contract negotiation delays. As a result the other milestones, reviews and testing schedules were updated to support the Milestone B decision

Technical: Not Applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*				Project (Number/Name) 0601 / *Acft Handling & Service Equip*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
0601: *Acft Handling & Service Equip*	27.328	0.229	2.626	2.606	-	2.606	2.672	2.704	2.769	2.826	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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 Programs are Aircraft Spotting Dolly (ASD) and Carrier/Amphibious Assault Ship Crash Crane (CV/AACC) in FY15. ASD is an R&D program to develop next generation ASD. New ASD requires low profile and alternative power to allow safe spotting of all aircraft aboard carrier/amphibious class ships. 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.

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 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Title: Aircraft Spotting Dolly (ASD)	-	0.616	1.091	-	1.091
Articles:	-	-	1	-	1
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 to accidental impact with the aircraft, other support equipment or bulkheads, increasing the safety of the spotting					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
operations. The legacy ASD is close to thirty years old and experiencing parts obsolescence issues and general efficiency degradation. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** Coordinate requirements definition; perform market research and analysis of alternatives. ***FY 2016 Base Plans:*** Perform source selection, award prototype contract, and begin prototype phase. ***FY 2016 OCO Plans:*** N/A					
Title: Carrier/Amphibious Assault Ship Crash Crane (CV/AACC)	0.059	1.565	1.070	-	1.070
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 2014 Accomplishments:*** Initiate requirements definition. ***FY 2015 Plans:*** Continue requirements definition, market research and analysis of alternatives. ***FY 2016 Base Plans:*** Prepare source selection documentation, prepare test plan documents and initiate source selection. ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Portable Electronic Maintenance Aid (PEMA)	0.170	0.445	0.445	-	0.445
Articles:	-	-	-	-	-
Description: Portable Electronic Maintenance Aid (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. ***FY 2014 Accomplishments:*** 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 2015 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. ***FY 2016 Base 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. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.229	2.626	2.606	-	2.606

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0705: *Ground Support Equipment*	108.080	120.361	120.665	-	120.665	125.221	126.348	128.879	131.404	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/4264: *Portable Electronic Maintenance Aids*	7.969	-	-	-	-	-	-	-	-	-	39.499
• OPN/4268: *Aviation Support Equipment*	-	7.746	7.762	-	7.762	7.547	7.717	7.884	8.050	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 Naval Air Systems Command Chief Information Officer. 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 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 0601 / *Acft Handling & Service Equip*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Dev--ASD	C/FFP	TBD : TBD	0.000	-		0.316	May 2015	0.441	Mar 2016	-		0.441	Continuing	Continuing	Continuing
Systems Engineering-ASD	WR	NAWCAD : LAKEHURST, NJ	0.000	-		0.150	Nov 2014	0.550	Nov 2015	-		0.550	Continuing	Continuing	Continuing
Systems Engineering-CV/AACC	WR	NAWCAD : LAKEHURST, NJ	0.000	0.059	Nov 2013	0.485	Nov 2014	0.870	Nov 2015	-		0.870	Continuing	Continuing	Continuing
Primary Hardware Dev-CV/AACC	C/FFP	TBD : TBD	0.000	-		0.537	Mar 2015	-		-		-	Continuing	Continuing	Continuing
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	17.517	-		-		-		-		-	-	17.517	-
		Subtotal	17.517	0.059		1.488		1.861		-		1.861	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 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	-		-		-		-		-	-	8.857	-
		Subtotal	8.857	-		-		-		-		-	-	8.857	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational T & E - PEMA	WR	NAWCAD : PAX RIVER, MD	0.454	0.170	Nov 2013	0.445	Nov 2014	0.445	Nov 2015	-		0.445	Continuing	Continuing	Continuing
C&G Test - ASD	WR	NAWCAD : PAX RIVER, MD	0.000	-		0.150	Nov 2014	0.100	Nov 2015	-		0.100	Continuing	Continuing	Continuing
C&G Test - CV/AACC	WR	NAWCAD : PAX RIVER, MD	0.000	-		0.543	Nov 2014	0.200	Nov 2015	-		0.200	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 0601 / *Acft Handling & Service Equip*	

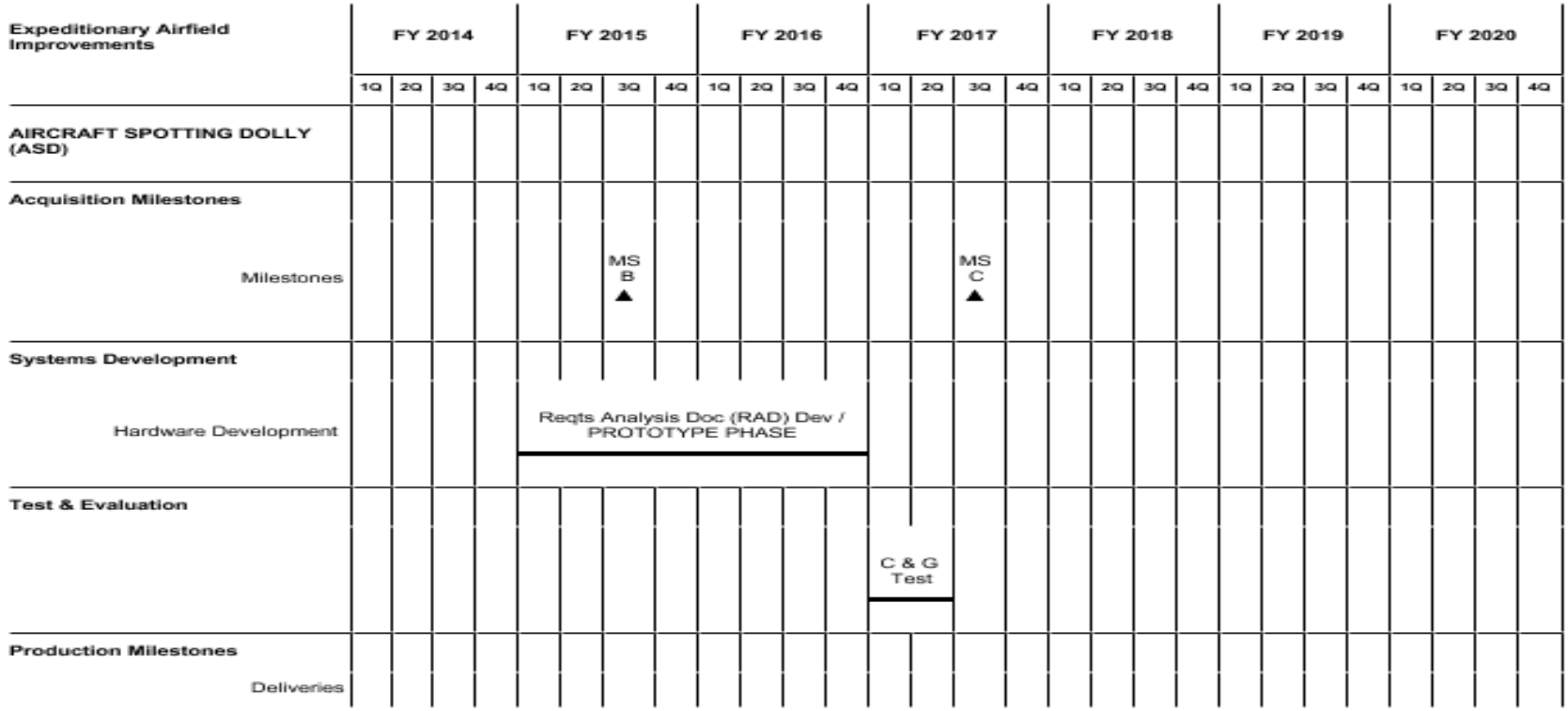
Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 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	-		-		-		-		-	-	0.500	-
		Subtotal	0.954	0.170		1.138		0.745		-		0.745	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	27.328	0.229		2.626		2.606		-		2.606	-	-	-

Remarks

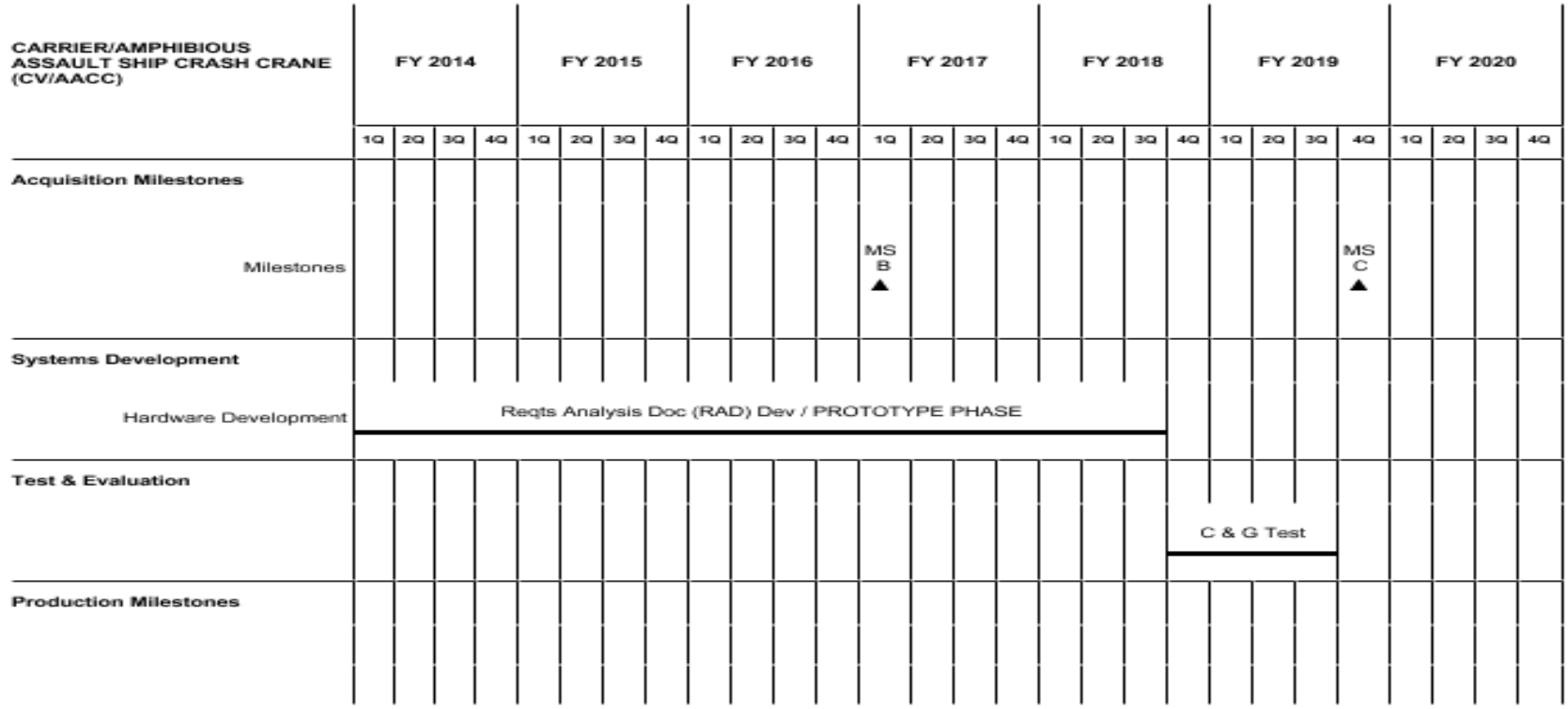
Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*



2016PB - 0205633N - 0601

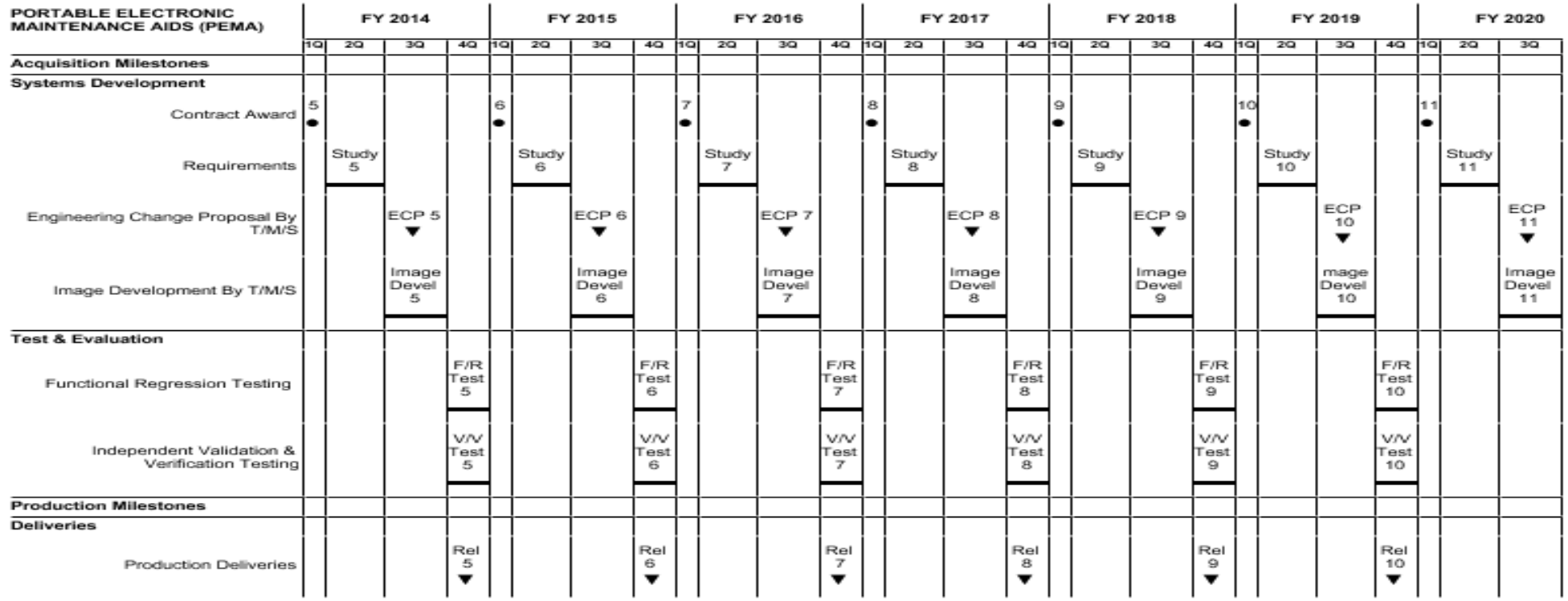
Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*



2016PB - 0205633N - 0601

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*



2016PB - 0205633N - 0601

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Expeditionary Airfield Improvements				
Acquisition Milestones: Milestones: ASD-MILESTONE B	3	2015	3	2015
Acquisition Milestones: Milestones: ASD-MILESTONE C	3	2017	3	2017
Systems Development: Hardware Development: ASD - Reqts Analysis Doc (RAD) Dev / PROTOTYPE PHASE	1	2015	4	2016
Test & Evaluation: ASD - CONTRACTOR AND GOVT RUN TESTING	1	2017	2	2017
CARRIER/AMPHIBIOUS ASSAULT SHIP CRASH CRANE (CV/AACC)				
Acquisition Milestones: Milestones: MILESTONE B	1	2017	1	2017
Acquisition Milestones: Milestones: MILESTONE C	4	2019	4	2019
Systems Development: Hardware Development: CV/AACC-Reqts Analysis Doc (RAD) Dev / PROTOTYPE PHASE	1	2014	3	2018
Test & Evaluation: CV/AACC-CONTRACTOR AND GOVT RUN TESTING	4	2018	3	2019
PORTABLE ELECTRONIC MAINTENANCE AIDS (PEMA)				
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: Contract Award: Contract Award 10	1	2019	1	2019
Systems Development: Contract Award: Contract Award 11	1	2020	1	2020
Systems Development: Requirements: Requirements Study Complete 5	2	2014	2	2014
Systems Development: Requirements: Requirements Study Complete 6	2	2015	2	2015
Systems Development: Requirements: Requirements Study Complete 7	2	2016	2	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Requirements: Requirements Study Complete 8	2	2017	2	2017
Systems Development: Requirements: Requirements Study Complete 9	2	2018	2	2018
Systems Development: Requirements: Requirements Study Complete 10	2	2019	2	2019
Systems Development: Requirements: Requirements Study Complete 11	2	2020	2	2020
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: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 10	3	2019	3	2019
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 11	3	2020	3	2020
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
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

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 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 10	3	2019	3	2019
Systems Development: Image Development By T/M/S: Image Development By T/M/S 11	3	2020	3	2020
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: Functional Regression Testing: Functional/Regression Testing 10	4	2019	4	2019
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 11	4	2020	4	2020
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
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 10	4	2019	4	2019
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 11	4	2020	4	2020
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

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: Production Deliveries: Production Delivery, Release 8	4	2017	4	2017
Deliveries: Production Deliveries: Production Delivery, Release 9	4	2018	4	2018
Deliveries: Production Deliveries: Production Delivery, Release 10	4	2019	4	2019
Deliveries: Production Deliveries: Production Delivery, Release 11	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*				Project (Number/Name) 0852 / *Consolidated Auto Support System*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
0852: *Consolidated Auto Support System*	139.870	8.346	6.533	6.550	-	6.550	6.697	6.809	6.957	7.102	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Title: eCASS Development	8.246	6.233	5.333	-	5.333
Articles:	-	-	-	-	-
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 2014 Accomplishments: Conduct Milestone C Review. Conduct test events. Award LRIP Option(s) (APN-7).					
FY 2015 Plans: Continue test events.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0852 / *Consolidated Auto Support System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue test events. ***FY 2016 OCO Plans:*** N/A					
Title: Test Technology Development	0.100	0.300	1.217	-	1.217
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 2014 Accomplishments:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. ***FY 2015 Plans:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. ***FY 2016 Base Plans:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. Emphasis will be placed on development and studies for the replacement of the CASS Electro-Optics console. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	8.346	6.533	6.550	-	6.550

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0705: *Consolidated Automated Support System*	89.662	80.908	103.016	-	103.016	94.405	96.012	97.904	99.862	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0852 / *Consolidated Auto Support System*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

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 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 0852 / *Consolidated Auto Support System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Dev eCASS	C/CPIF	Lockheed Martin : Orlando, FL	86.799	7.847	Dec 2013	4.161	Oct 2014	3.400	Dec 2015	-		3.400	Continuing	Continuing	Continuing
Primary Hdw Dev Test Technology	C/CPFF	Various : Various	0.882	0.100	Dec 2013	0.250	Jan 2015	1.166	Dec 2015	-		1.166	Continuing	Continuing	Continuing
Prior Year Prod Dev no longer funded in the FYDP	Various	Various : Various	28.397	-		-		-		-		-	-	28.397	-
		Subtotal	116.078	7.947		4.411		4.566		-		4.566	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
eCASS Support	WR	Various : Various	2.989	0.050	Dec 2013	0.627	Oct 2014	0.816	Dec 2015	-		0.816	Continuing	Continuing	Continuing
eCASS Support	WR	NAWC AD : Lakehurst, NJ	5.365	0.324	Dec 2013	1.359	Oct 2014	1.029	Dec 2015	-		1.029	Continuing	Continuing	Continuing
Prior Year Support cost no longer funded in the FDYP	Various	Various : Various	12.853	-		-		-		-		-	-	12.853	-
		Subtotal	21.207	0.374		1.986		1.845		-		1.845	-	-	-

Management Services ($ in Millions)

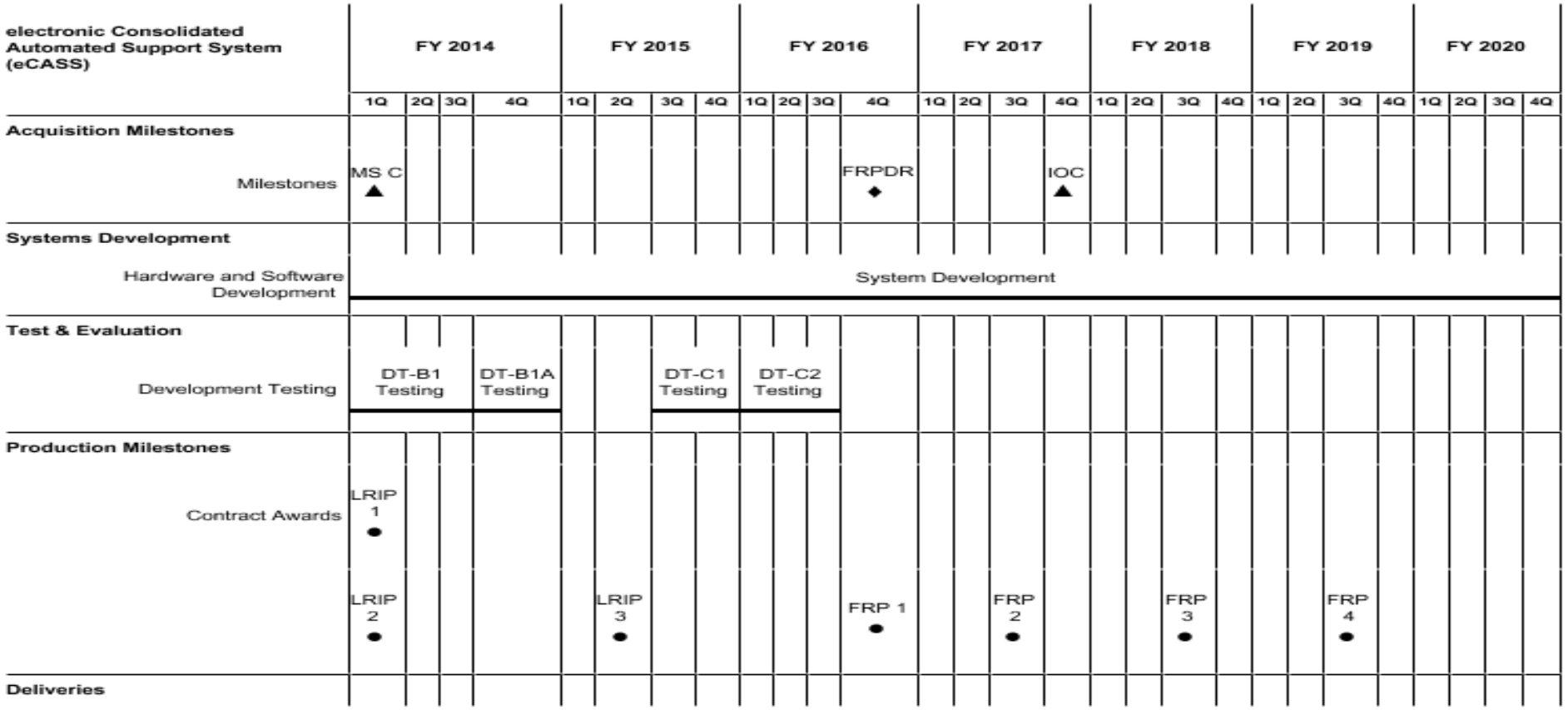
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
eCASS Travel	WR	Various : Various	0.716	0.025	Nov 2013	0.086	Nov 2014	0.088	Nov 2015	-		0.088	Continuing	Continuing	Continuing
Test Tech Travel	WR	Various : Various	0.200	-		0.050	Nov 2014	0.051	Nov 2015	-		0.051	Continuing	Continuing	Continuing
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various : Various	1.669	-		-		-		-		-	-	1.669	-
		Subtotal	2.585	0.025		0.136		0.139		-		0.139	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 0852 / *Consolidated Auto Support System*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	139.870	8.346		6.533		6.550		-		6.550	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0852 / *Consolidated Auto Support System*



2016PB - 0205633N - 0852

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 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	1	2014	1	2014
Acquisition Milestones: Milestones: Full Rate Production Decision Review	4	2016	4	2016
Acquisition Milestones: Milestones: Initial Operating Capability	4	2017	4	2017
Systems Development: Hardware and Software Development: eCASS System Development	1	2014	4	2020
Test & Evaluation: Development Testing: eCASS DT-B1 Testing	1	2014	3	2014
Test & Evaluation: Development Testing: eCASS DT-B1A Testing	4	2014	4	2014
Test & Evaluation: Development Testing: eCASS DT-C1 Testing	3	2015	4	2015
Test & Evaluation: Development Testing: eCASS DT-C2 Testing	1	2016	3	2016
Production Milestones: Contract Awards: eCASS LRIP 1-APN	1	2014	1	2014
Production Milestones: Contract Awards: eCASS LRIP 2-APN	1	2014	1	2014
Production Milestones: Contract Awards: eCASS LRIP 3-APN	2	2015	2	2015
Production Milestones: Contract Awards: eCASS FRP 1-APN	4	2016	4	2016
Production Milestones: Contract Awards: eCASS FRP 2-APN	3	2017	3	2017
Production Milestones: Contract Awards: eCASS FRP 3-APN	3	2018	3	2018
Production Milestones: Contract Awards: eCASS FRP 4-APN	3	2019	3	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 1041 / *Acft Equip Repl/Maint Prog*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1041: *Acft Equip Repl/Maint Prog*	40.176	3.229	3.243	3.322	-	3.322	3.465	3.485	3.516	3.588	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Avionics and Wiring	0.596	0.534	0.550	-	0.550
Articles:	-	-	-	-	-
FY 2014 Accomplishments: 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.					
FY 2015 Plans: Qualify additional material or pieces of equipment and the procedures or processes required for implementation. Test and evaluate equipment for effectiveness of wiring diagnostics and prognostics. Purse technology advances in ultra-high density power storage from industry. Address avionics related reliability/maintainability issues impacting multiple aircraft platforms while continuing to investigate high value return on investment initiatives. Begin to review and investigate high speed data connector reliability in aircraft subsystems.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Test and evaluate equipment for effectiveness of wiring diagnostics and prognostics. Continue pursuit of technology advances in ultra-high density power storage from industry. Address avionics related reliability/ maintainability issues impacting multiple aircraft platforms while continuing to investigate high value return on investment initiatives. Qualify additional material or pieces of equipment and the procedures or processes required for implementation. Continue to review and investigate high speed data connector reliability in aircraft subsystems. ***FY 2016 OCO Plans:*** N/A					
Title: Air Vehicle	1.790	1.821	1.858	-	1.858
Articles:	-	-	-	-	-
FY 2014 Accomplishments: 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. ***FY 2015 Plans:*** 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. Continue development of expanded methods of structural repair with focus on low cost and reduced labor procedures that can be done in fleet environments. Address rapid composite tooling and expansion of human factors focus through enhanced maintainer performance. Continue to qualify multi-layer sacrificial film laminates, expanded qualification of electro-discharge machine drilling and advanced materials/coatings for corrosion prevention control. Address subsystem related reliability/maintainability issues impacting multiple aircraft platforms while continuing to investigate high value return on investment initiatives. Begin efforts to qualify improved cold spray component repair, high performance paint strippers, structural adhesive bond primer, structural component life improvement through cold-work, and maintainability of aircraft slip resistant surface treatment. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
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. Provide human factors focus to improve maintainability through enhanced maintainer performance. Begin development of sensor fusion for advanced prognostics with focus on low cost and reduced labor procedures that can be done in fleet environments. Continue to qualify improved corrosion preventative compounds. Address subsystem related reliability/maintainability issues impacting multiple aircraft platforms while continuing to investigate high value return on investment initiatives. Maintain efforts to qualify improved methods of cold spray component repair. ***FY 2016 OCO Plans:*** N/A					
Title: Systems Engineering Revitalization	0.843	0.888	0.914	-	0.914
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Perform continuous and systematic update of the Systems Engineering Technical Review (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. ***FY 2015 Plans:*** First, continue improvements in the SETR process by adopting Model Based Systems Engineering techniques and begin socializing changes with functional engineering competencies gaining support. Second, continue checklist implementation and maintenance. Improve user interfaces, possible cloud hosting, update checklist to every changing policy direction, and explore implementation on SIPRNET. Third, develop, improve, and maintain the NAVAIR Systems Engineering (SE) Web Portal to assist in dissemination of SE Policy, SE Tools and Checklists. ***FY 2016 Base Plans:*** First, continue improvements in the SE process through model-centric analysis and design techniques in an attempt to shorten acquisition timelines and "Speed to the Fleet" at the system program of record level. Second, correct any deficiencies in the conversion to web based checklist tool, implement tool in SIPRNET, and					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
execute future upgrades. Third checklist questions will be updated to account for ever changing policy direction and streamlined across the acquisition lifecycle to focus the review on its core elements. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	3.229	3.243	3.322	-	3.322

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 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 1041 / *Acft Equip Repl/Maint Prog*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng - Avionics/Wiring	WR	NAWCAD : Patuxent River, MD	5.444	0.144	Oct 2013	0.399	Oct 2014	0.411	Oct 2015	-		0.411	Continuing	Continuing	Continuing
Sys Eng - Avionics/Wiring	C/FFP	Various : Various	0.555	-		0.050	Feb 2015	0.050	Mar 2016	-		0.050	-	0.655	0.655
Sys Eng - Avionics/Wiring	C/FFP	GEM Power : Redlands, CA	0.060	-		-		-		-		-	-	0.060	0.060
Sys Eng - Avionics/Wiring	C/FFP	PCKA : West Lafayette, IN	0.080	-		-		-		-		-	-	0.080	0.080
Sys Eng - Avionics/Wiring	WR	FRC-E : Cherry Point, NC	0.100	-		-		0.020	Nov 2015	-		0.020	-	0.120	-
Sys Eng - Avionics/Wiring	WR	FRC-SE : Jacksonville, FL	0.000	-		-		0.010	Nov 2015	-		0.010	-	0.010	-
Sys Eng - Avionics/Wiring	WR	FRC-SW : San Diego, CA	0.000	-		-		0.030	Nov 2015	-		0.030	-	0.030	-
Sys Eng - Air Vehicle	WR	NAWCAD : Patuxent River, MD	7.449	1.012	Oct 2013	0.810	Oct 2014	0.919	Oct 2015	-		0.919	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC-SW : San Diego, CA	0.864	0.373	Nov 2013	0.180	Nov 2014	0.200	Nov 2015	-		0.200	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC-E : Cherry Point, NC	0.909	0.475	Nov 2013	0.311	Nov 2014	0.300	Nov 2015	-		0.300	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC-SE : Jacksonville, FL	0.798	0.055	Nov 2013	0.230	Nov 2014	0.240	Nov 2015	-		0.240	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	C/FFP	Various : Various	0.962	-		0.170	Dec 2014	0.080	Feb 2016	-		0.080	-	1.212	1.212
Sys Eng - Air Vehicle	C/CPFF	Innovative Technology, Inc. : Santa Barbara, CA	0.000	0.106	Oct 2014	-		-		-		-	-	0.106	0.106
Sys Eng - SE Revitalization	WR	NAWCAD : Patuxent River, MD	0.798	0.003	Oct 2013	0.003	Oct 2014	0.003	Oct 2015	-		0.003	Continuing	Continuing	Continuing
Sys Eng - SE Revitalization	C/FFP	Engility Corp. : Chantilly, VA	3.356	0.571	Jan 2014	0.885	Jan 2015	0.854	Jan 2016	-		0.854	-	5.666	5.666
Sys Eng - SE Revitalization	C/CPFF	Stevens Inst of Technology : Hoboken, NJ	0.260	0.286	Apr 2014	-		-		-		-	-	0.546	0.546

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Sys Eng NAE/ Prod Dev no longer funded in the FYDP	Various	Various : Various	2.467	-		-		-		-		-	-	2.467	2.467
		Subtotal	24.102	3.025		3.038		3.117		-		3.117	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 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	-		-		-		-		-	-	12.480	-
		Subtotal	12.480	-		-		-		-		-	-	12.480	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD : Patuxent River, MD	1.623	0.204	Oct 2013	0.200	Oct 2014	0.205	Oct 2015	-		0.205	Continuing	Continuing	Continuing
Travel	WR	NAVAIR : Patuxent River, MD	0.094	-		0.005	Jan 2015	-		-		-	Continuing	Continuing	Continuing
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various : Various	1.877	-		-		-		-		-	-	1.877	-
		Subtotal	3.594	0.204		0.205		0.205		-		0.205	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	40.176	3.229		3.243		3.322		-		3.322	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*

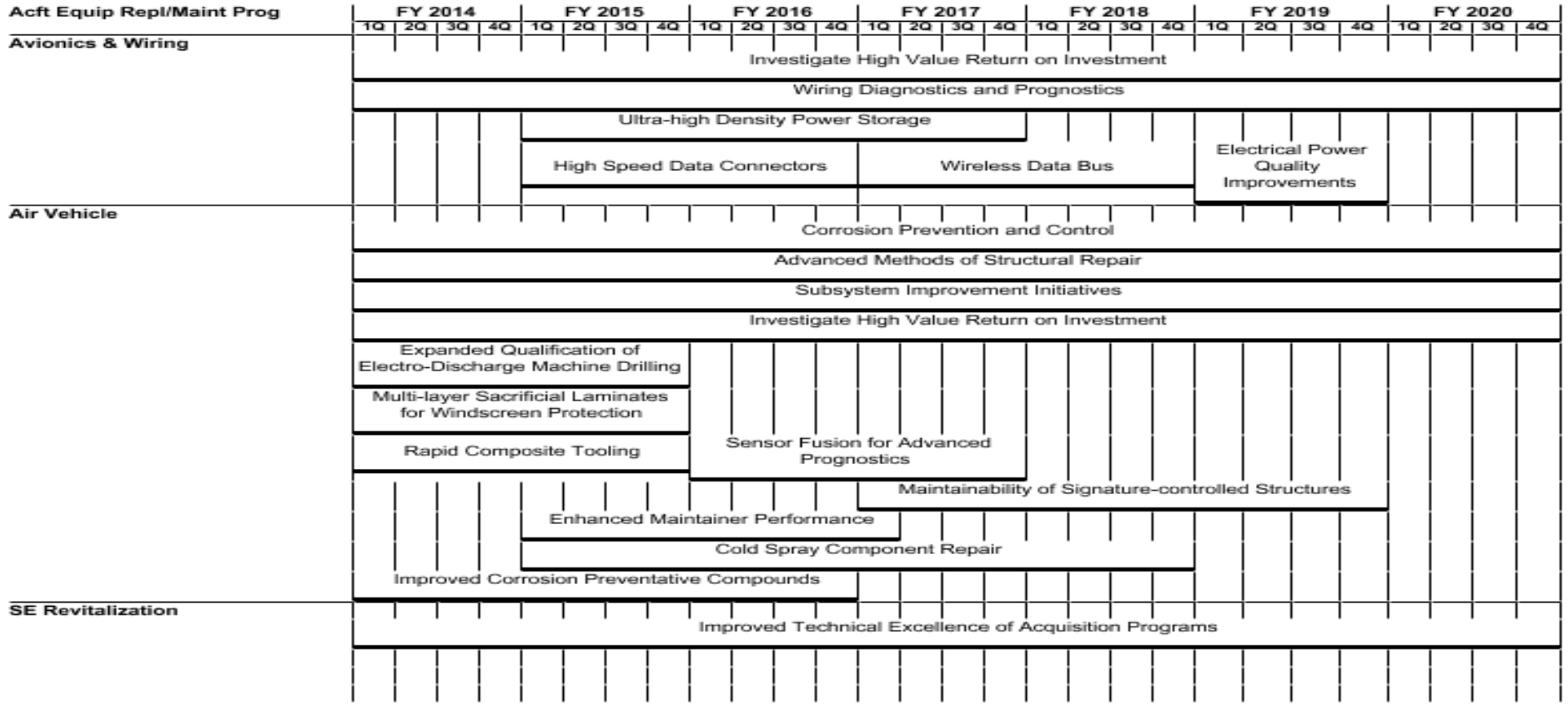

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acft Equip Repl/Maint Prog				
Avionics & Wiring: Investigate High Value Return on Investment	1	2014	4	2020
Avionics & Wiring: Wiring Diagnostics and Prognostics	1	2014	4	2020
Avionics & Wiring: Ultra-high Density Power Storage	1	2015	4	2017
Avionics & Wiring: Wireless Data Bus	1	2017	4	2018
Avionics & Wiring: Electrical Power Quality Improvements	1	2019	4	2019
Avionics & Wiring: High Speed Data Connectors	1	2015	4	2016
Air Vehicle: Corrosion Prevention and Control	1	2014	4	2020
Air Vehicle: Advanced Methods of Structural Repair	1	2014	4	2020
Air Vehicle: Subsystem Improvement Initiatives	1	2014	4	2020
Air Vehicle: Investigate High Value Return on Investment	1	2014	4	2020
Air Vehicle: Expanded Qualification of Electro-Discharge Machine Drilling	1	2014	4	2015
Air Vehicle: Multi-layer Sacrificial Laminates for Windscreen Protection	1	2014	4	2015
Air Vehicle: Rapid Composite Tooling	1	2014	4	2015
Air Vehicle: Sensor Fusion for Advanced Prognostics	1	2016	4	2017
Air Vehicle: Maintainability of Signature-controlled Structures	1	2017	4	2019
Air Vehicle: Enhanced Maintainer Performance	1	2015	1	2017
Air Vehicle: Cold Spray Component Repair	1	2015	4	2018
Air Vehicle: Improved Corrosion Preventative Compounds	1	2014	4	2016
SE Revitalization: Improved Technical Excellence of Acquisition Programs	1	2014	4	2020

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COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1355: *Propulsion and Power Component Improvement Program*	862.163	59.037	60.251	87.008	-	87.008	95.416	109.427	110.667	112.967	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Propulsion and Power (P&P) 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 P&P CIP addresses concern safety-of-flight deficiencies, which account for approximately 80% of P&P 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. P&P 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 P&P CIP can provide an immediate engineering response to these flight-critical problems and accelerated engine testing can avoid potential problems. P&P CIP starts after development and Navy acceptance of the first production article and addresses usage and life problems not covered by warranties. P&P 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. P&P 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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: P3, E2, C2, C130 (T56)	6.786	9.050	7.500	-	7.500
Articles:	-	-	-	-	-
FY 2014 Accomplishments: 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					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
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. ***FY 2015 Plans:*** Qualify and incorporate redesigned 3-4 turbine spacer to eliminate vibrational response at low-speed ground idle. Complete qualification and begin incorporation of compressor blade erosion corrosion-resistive coating. Complete qualification of oil health monitoring system. Begin redesign of fuel nozzles to eliminate coking and prevent hot section component damage. ***FY 2016 Base Plans:*** Complete prop shaft repair qualification effort and release repair to depot. Complete turbine clearance effort and release new limits to depot. Begin effort to evaluate pull-criteria and standardize engine performance measurement to ensure consistent, reliable, and accurate results are achieved by operators. Complete incorporation of scavenge filter assemblies and Y-fittings to alleviate oil loss caused by high scavenge back pressure. Complete engine qualification testing and submit engineering changes for production 3-4 turbine spacer, propeller brake redesign, planet gear bearing assembly, front turbine bearing cage, and front turbine bearing support redesigns. Complete reduction gearbox qualification testing for propeller brake redesign to improve reliability. ***FY 2016 OCO Plans:*** N/A					
Title: E2/C2/C130/P3 (Props)	2.935	1.930	2.750	-	2.750
Articles:	-	-	-	-	-
FY 2014 Accomplishments: 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. ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Complete flight testing of NP2000 modernized pump housing. Complete research and testing of potential NP2000 blade erosion prevention. Continue to investigate all service revealed deficiencies. ***FY 2016 Base Plans:*** Complete fleet incorporation of the NP2000 feather modification to eliminate a failure mode that caused an E-2C mishap. Begin fleet introduction of the NP2000 modernized pump housing and the actuator valve module with new transfer tube configuration. Begin field service evaluation of NP2000 blade erosion protection film. Continue fleet incorporation of NP2000 front spinner with repairable mounting hole. Begin field service evaluation of a new propeller anti/de-icing brush block for the C-130 and P-3 propeller. ***FY 2016 OCO Plans:*** N/A					
Title: EA-6B (J52)	1.565	1.410	1.050	-	1.050
Articles:	-	-	-	-	-
FY 2014 Accomplishments: 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. ***FY 2015 Plans:*** Implement and continue updating repair and inspection criteria for fielded components. Manage parts obsolescence issues. ***FY 2016 Base Plans:*** Implement and continue updating repair and inspection criteria for fielded components. Manage parts obsolescence issues. ***FY 2016 OCO Plans:*** N/A					
Title: SH-60B/F, HH-60H, MH-60R/S (T700)	2.183	4.090	2.750	-	2.750
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
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. ***FY 2015 Plans:*** Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Initiate T700 accelerated simulated mission endurance testing to demonstrate newly redesigned ceramic matrix composite shrouds and cutback diffuser. Conduct lithium battery development testing. ***FY 2016 Base Plans:*** Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Complete T700 accelerated simulated mission endurance testing to demonstrate newly redesigned ceramic matrix composite shrouds and cutback diffuser. Complete lithium battery qualification. Complete air turbine starter qualification. ***FY 2016 OCO Plans:*** N/A					
Title: H-1 (T400/T700)	0.917	1.080	0.700	-	0.700
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Complete qualification of T700-401 engine harness tester. Continue support of common T700 engine projects. ***FY 2015 Plans:*** Continue support of common T700 engine and air turbine starter projects. Complete qualification and safety testing of the AH-1W lithium battery. ***FY 2016 Base Plans:*** Continue support of common T700 engine and air turbine starter projects. Complete project to address obsolescence for non-volatile random access memory chip in T700-401C Digital Engine Control Unit. ***FY 2016 OCO Plans:*** N/A					
Title: AV-8B (F402)	8.417	5.640	7.125	-	7.125
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
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. ***FY 2015 Plans:*** Complete flight test evaluation of redesigned low pressure compressor stage one blade and damper. Complete evaluation and qualification of engine variable inlet control system hydromechanical unit permanent magnet alternator ceramic bearing. Complete tasking for application of low plasticity burnishing on low pressure compressor stage two and three blades. ***FY 2016 Base Plans:*** Complete tasking for application of low plasticity burnishing on low pressure compressor stage two and three blades. Redesign #4 bearing insulating blanket. Update engine performance deterioration study. Assess mission profile analysis for life management plan update. ***FY 2016 OCO Plans:*** N/A					
Title: H-53/H-46/H-3 (T58/T64)	2.488	4.940	4.250	-	4.250
Articles:	-	-	-	-	-
FY 2014 Accomplishments: 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. ***FY 2015 Plans:*** H-46/H-3 (T58) Continue to develop inspection and repair criteria for fielded components. H-53 (T64) Continue life management analysis and reliability centered maintenance efforts. Continue to develop inspection and repair criteria for fielded components. Continue cost of ownership reduction programs. Complete accessory gearbox free-wheel unit lubrication improvement. ***FY 2016 Base Plans:*** H-46/H-3 (T58) Continue to develop inspection and repair criteria for fielded components.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
H-53 (T64) Continue life management analysis and reliability centered maintenance efforts. Continue to develop inspection and repair criteria for fielded components. Continue cost of ownership reduction programs. Qualify and implement accessory gearbox free-wheel unit lubrication design improvement. Complete main rotor shaft low-cycle fatigue analysis. ***FY 2016 OCO Plans:*** N/A					
Title: F-18 C/D/E/F (F414/F404)	18.086	13.960	14.286	-	14.286
Articles:	-	-	-	-	-
FY 2014 Accomplishments: 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. ***FY 2015 Plans:*** Complete test cell performance management process to improve operability and reduce unscheduled engine removals. Complete Variable Exhaust Nozzle pump cover life improvement, pilot spraybar flow optimization to improve light off times, and afterburner spraybar heat shield durability improvements. Implement fuel nozzle life increase, alternate compressor blade rub coats to improve repairability, and blade tip sealing performance. ***FY 2016 Base Plans:*** Complete U.S. Navy F404 mission analysis and assess changes to part lives. Complete engine pressure ratio measurement accuracy improvement and develop an implementation strategy. Reduce non-recoverable in-flight shutdown by identifying key contributors and addressing the top five reasons. Reduce in-flight aborts by identifying key contributors and addressing the top five reasons. Monitor test cell performance reports from fleet and assess changes required. Finalize design for removing life limit main fuel manifold, complete outer bypass duct (OBD) delamination preliminary design, and complete and implement OBD improved anchor nut durability. Complete preliminary design and down-select candidate to improve N2 shroud durability, complete preliminary design, down-select candidate to eliminate VEN actuator wear/binding, and test and verify full-authority digital electronic control 4NH software changes to reduce stalls. Redesign VEN boost pump rear cover					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
to eliminate a life limit, improve fuel tube Rosan joint fittings to eliminate external fuel leaks, and identify oil system improvements to reduce unscheduled removals. ***FY 2016 OCO Plans:*** N/A					
Title: T-45 (F405)	5.900	3.700	2.750	-	2.750
Articles:	-	-	-	-	-
FY 2014 Accomplishments: 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. ***FY 2015 Plans:*** 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. ***FY 2016 Base Plans:*** 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 high pressure compressor seal redesign to improve performance retention, and reduce scrap rate at overhaul. Complete high and low pressure turbine seal redesign to improve safety and performance retention, and reduce scrap rate at overhaul. Initiate high pressure turbine redesign to reduce scrap rate at overhaul. Initiate comparison of flight profiles and engine duty cycles between T-45 operating sites to evaluate differences in engine rejection causes and parts usage. ***FY 2016 OCO Plans:*** N/A					
Title: V-22 Propulsion	2.037	0.850	1.750	-	1.750

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
FY 2014 Accomplishments: 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. ***FY 2015 Plans:*** Begin implementation of nacelle blower and machined impellers to mitigate safety issue and increase scheduled maintenance interval by 2x. Upgrade engine control hardware-in-the-loop (HWIL) simulation with updated engine control software and transition to "Software" full authority digital engine control to reduce future costs of maintaining the HWIL capability. Kick off auxiliary power unit redesign efforts per FY14 trade study. ***FY 2016 Base Plans:*** Implement nacelle blower and machined impellers design changes. Validate engine control hardware-in-the-loop (HWIL) simulation with updated engine control software and transition to "Software" full authority digital engine control to reduce future costs of maintaining the HWIL capability. Continue development of monitoring algorithms and addition of high frequency vibration monitoring to drive system gearboxes for trend monitoring. Continue prop rotor gearbox design improvements to reduce disengagement events. Improve engine air particle separator scavenge flow to decrease sand ingestion into the engine for additional engine reliability. ***FY 2016 OCO Plans:*** N/A					
Title: Adversary (J85) (F100)	0.585	1.200	1.160	-	1.160
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continue contribution to common Component Improvement Program (CIP) with the USAF 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. ***FY 2015 Plans:*** Continue contributing to the common CIP with the USAF and Foreign Military Sales group for the J85 engine. Investigate improvements on support equipment, revision of the life cycle fatigue life of rotating components,					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
definition of optimal maintenance and schedule requirements, and optimization of engine functional and trim procedures and software. ***FY 2016 Base Plans:*** Continue contributing to the J85 and F100 common CIP with the USAF and Foreign Military Sales group. Perform validation and life assessment of life cycle fatigue components, including hardware inspection data, mission mix analysis, advanced fracture mechanics, and stress models to provide a revised J85 life cycle fatigue life update. Investigate and approve a turbine nozzle activated diffusion healing repair procedure, and support equipment upgrades and other repair procedures. Approve F100 main fuel control seal durability improvement, first blade/second stage vane durability improvement, and combustion chamber stiffener improvement. Analyze CIP benefits, updated mission, and components life extension. ***FY 2016 OCO Plans:*** N/A					
Title: Joint Strike Fighter (F135 Engine)	-	5.000	32.477	-	32.477
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 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. Procure the short takeoff/vertical landing hardware to initiate LTF testing. ***FY 2016 Base Plans:*** Continue to work with Joint Program Office and 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 LTF engine testing on the conventional takeoff and landing/aircraft carriers system. Continue the procurement of the short takeoff/vertical landing hardware to initiate LTF testing. ***FY 2016 OCO Plans:*** N/A					
Title: P-8A (CFM56 Engine)	-	-	1.150	-	1.150

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Develop out-year program engine management planning and operational/readiness metric baselines. Develop engine operational usage mission spectrum for use in original equipment manufacturer (OEM) engine life-limited component updates. Perform maturation of engine management planning activities with inputs from age exploration tasks: field service bore-scoping of high-time engines, engine component part condition assessments on first engine depot inductions and continued review of operational usage data. Evaluate leading indicators, service-revealed deficiencies, and emergent issues from fleet operational usage on all subsystems (engine, auxiliary power unit, fuel, electrical, electrical wiring). Evaluate OEM partial cycle analysis for use with engine life limited parts. ***FY 2016 OCO Plans:*** N/A					
Title: Multi-Platform Product Support Teams	7.138	7.401	7.310	-	7.310
Articles:	-	-	-	-	-
FY 2014 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; 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. ***FY 2015 Plans:*** Continue projects to provide common support to multiple platforms in the areas of improved drive systems, secondary power, and mechanical systems; improve 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.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing. Study data system solutions for the Naval Power Avionics Thermal and Hydraulics Lab and install full control system solution. Provide support for growing modeling capability with large storage solutions for the research, development, test, and evaluation connected devices. ***FY 2016 Base Plans:*** Continue projects to provide common support to multiple platforms in the areas of improved drive systems, secondary power, and mechanical systems; improve 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. Study data system solutions for the Naval Power Avionics Thermal and Hydraulics Lab and install full control system solution. Provide support for growing modeling capability with large storage solutions for the research, development, test, and evaluation connected devices. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	59.037	60.251	87.008	-	87.008

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 Propulsion and Power Component (P&P) 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. Over the past two years, this equated to more than 275 individual Engineering Project Descriptions (EPDs). P&P CIP will also address reliability and maintainability deficiencies equating to at least another 100 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 eight years.

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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 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng T56 Engine Program	WR	NAWCAD : Patuxent River, MD	28.917	3.000	Nov 2013	3.050	Oct 2014	3.500	Nov 2015	-		3.500	Continuing	Continuing	Continuing
Sys Eng T56 Engine Program	SS/CPFF	Rolls Royce : Indianapolis, IN	42.952	3.048	Jan 2014	5.500	Jan 2015	3.500	Jan 2016	-		3.500	-	55.000	55.000
Sys Eng T56 Engine Program	WR	FRC-E : Cherry Point, NC	0.914	0.484	Nov 2013	0.300	Oct 2014	0.200	Nov 2015	-		0.200	Continuing	Continuing	Continuing
Sys Eng T56 Engine Program	WR	FRC-SE : Jacksonville, FL	0.422	0.215	Nov 2013	0.200	Oct 2014	0.250	Nov 2015	-		0.250	Continuing	Continuing	Continuing
Sys Eng T56 Engine Program	WR	FRC-SW : North Island, CA	0.036	0.039	Nov 2013	-		0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing
Sys Eng Props Program	SS/CPFF	Hamilton Sundstrand : Windsor Locks, CT	19.170	2.935	Mar 2014	1.930	Jan 2015	2.750	Jan 2016	-		2.750	-	26.785	26.785
Sys Eng J52 Engine Program	WR	NAWCAD : Patuxent River, MD	12.759	0.870	Nov 2013	0.500	Oct 2014	0.300	Nov 2015	-		0.300	Continuing	Continuing	Continuing
Sys Eng J52 Engine Program	SS/CPFF	UTC Pratt & Whitney : East Hartford, CT	39.775	0.520	Feb 2014	0.910	Jan 2015	0.550	Jan 2016	-		0.550	-	41.755	41.755
Sys Eng J52 Engine Program	WR	FRC-E : Cherry Point, NC	0.035	0.050	Nov 2013	-		0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing
Sys Eng J52 Engine Program	WR	FRC-SE : Jacksonville, FL	0.150	0.125	Feb 2014	-		0.150	Nov 2015	-		0.150	Continuing	Continuing	Continuing
Sys Eng T700 Engine Program	WR	NAWCAD : Patuxent River, MD	12.221	1.430	Nov 2013	1.090	Oct 2014	1.500	Nov 2015	-		1.500	Continuing	Continuing	Continuing
Sys Eng T700 Engine Program	SS/CPFF	General Electric : Lynn, MA	27.445	0.083	Jan 2014	3.000	Jan 2015	1.250	Jan 2016	-		1.250	-	31.778	31.778
Sys Eng T700 Engine Program	WR	FRC-E : Cherry Point, NC	0.000	0.075	Feb 2014	-		-		-		-	Continuing	Continuing	Continuing
Sys Eng T700 Engine Program	SS/CPFF	Nat'l Ctr for Manuf Sciences : Ann Arbor, MI	0.000	0.475	Jun 2014	-		-		-		-	-	0.475	0.475
Sys Eng T700 Engine Program	SS/CPFF	Honeywell : Tempe, AZ	0.000	0.120	Jul 2014	-		-		-		-	-	0.120	0.120

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng T400 Engine Program	WR	NAWCAD : Patuxent River, MD	0.625	0.442	Nov 2013	0.400	Oct 2014	0.700	Nov 2015	-		0.700	Continuing	Continuing	Continuing
Sys Eng T400 Engine Program	SS/CPFF	UTC Pratt & Whitney : East Hartford, CT	5.210	-		0.680	Jan 2015	-		-		-	-	5.890	5.890
Sys Eng T400 Engine Program	SS/CPFF	Bell Helicopter Textron : Hurst, TX	0.000	0.577	Sep 2014	-		-		-		-	-	0.577	0.577
Sys Eng F402 Engine Program	WR	NAWCAD : Patuxent River, MD	13.988	1.924	Nov 2013	1.775	Oct 2014	1.750	Nov 2015	-		1.750	Continuing	Continuing	Continuing
Sys Eng F402 Engine Program	SS/CPFF	Rolls Royce : Bristol, England, UK	63.529	6.000	Feb 2014	3.700	Jan 2015	5.225	Jan 2016	-		5.225	-	78.454	78.454
Sys Eng F402 Engine Program	WR	FRC-E : Cherry Point, NC	0.227	0.250	Dec 2013	0.165	Oct 2014	0.150	Nov 2015	-		0.150	Continuing	Continuing	Continuing
Sys Eng F402 Engine Program	C/CPFF	UTC : Dayton, OH	0.020	0.180	Jul 2014	-		-		-		-	-	0.200	0.200
Sys Eng F402 Engine Program	WR	NAWCWD : China Lake, CA	0.000	0.083	May 2014	-		-		-		-	Continuing	Continuing	Continuing
Sys Eng T58/T64 Engine Program	WR	NAWCAD : Patuxent River, MD	30.079	1.000	Nov 2013	2.000	Oct 2014	1.750	Nov 2015	-		1.750	Continuing	Continuing	Continuing
Sys Eng T58/T64 Engine Program	SS/CPFF	General Electric : Lynn, MA	79.680	1.488	Jan 2014	2.940	Jan 2015	2.500	Jan 2016	-		2.500	-	86.608	86.608
Sys Eng F414/F404 Engine Program	WR	NAWCAD : Patuxent River, MD	24.904	6.771	Nov 2013	5.000	Oct 2014	5.500	Nov 2015	-		5.500	Continuing	Continuing	Continuing
Sys Eng F414/F404 Engine Program	SS/CPFF	General Electric : Lynn, MA	116.950	10.804	Dec 2013	8.560	Jan 2015	8.536	Jan 2016	-		8.536	-	144.850	144.850
Sys Eng F414/F404 Engine Program	WR	FRC-SE : Jacksonville, FL	0.026	0.107	Nov 2013	0.400	Oct 2014	0.250	Nov 2015	-		0.250	Continuing	Continuing	Continuing
Sys Eng F414/F404 Engine Program	SS/CPFF	Honeywell : Tempe, AZ	0.000	0.404	Jul 2014	-		-		-		-	-	0.404	0.404
Sys Eng F405 Engine Program	WR	NAWCAD : Patuxent River, MD	5.056	2.650	Nov 2013	0.700	Oct 2014	1.250	Nov 2015	-		1.250	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 1355 / *Propulsion and Power Component Improvement Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng F405 Engine Program	SS/CPFF	Rolls Royce : Bristol, England, UK	30.436	3.181	Sep 2014	3.000	Jan 2015	1.500	Jan 2016	-		1.500	-	38.117	38.117
Sys Eng V-22 Propulsion Program	WR	NAWCAD : Patuxent River, MD	0.135	-		-		0.750	Nov 2015	-		0.750	Continuing	Continuing	Continuing
Sys Eng V-22 Propulsion Program	SS/FFP	Bell- Boeing : Ft. Worth, TX	3.977	1.952	Feb 2014	0.850	Jan 2015	0.500	Jan 2016	-		0.500	-	7.279	7.279
Sys Eng V-22 Propulsion Program	SS/CPFF	Rolls Royce : Indianapolis, IN	0.000	0.080	Jul 2014	-		0.500	Jan 2016	-		0.500	-	0.580	0.580
Sys Eng V-22 Propulsion Program	WR	FRC-E : Cherry Point, NC	0.000	0.005	Jan 2014	-		-		-		-	Continuing	Continuing	Continuing
Sys Eng Adversary J85 Engine Program	WR	NAWCAD : Patuxent River, MD	0.952	0.304	Nov 2013	0.680	Oct 2014	0.660	Nov 2015	-		0.660	Continuing	Continuing	Continuing
Sys Eng Adversary J85 Engine Program	WR	FRC-SE : Jacksonville, FL	0.018	-		0.020	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Sys Eng Adversary J85 Engine Program	SS/CPFF	General Electric : Lynn, MA	0.991	0.281	Feb 2014	0.500	Jan 2015	0.500	Jan 2016	-		0.500	-	2.272	2.272
Sys Eng JSF Engine Program	WR	NAWCAD : Patuxent River, MD	0.000	-		5.000	Oct 2014	5.000	Nov 2015	-		5.000	Continuing	Continuing	Continuing
Sys Eng JSF Engine Program	SS/FFP	UTC Pratt & Whitney : East Hartford, CT	0.000	-		-		27.477	Jan 2016	-		27.477	-	27.477	27.477
Sys Eng P-8A Engine Program	WR	NAWCAD : Patuxent River, MD	0.000	-		-		1.150	Nov 2015	-		1.150	Continuing	Continuing	Continuing
Sys Eng Lab Fld Activity-1.0 or more	WR	NAWCAD : Patuxent River, MD	192.391	6.283	Nov 2013	6.595	Oct 2014	6.500	Nov 2015	-		6.500	Continuing	Continuing	Continuing
Sys Eng Other In-House Spt	Various	Various : Various	20.017	0.200	Nov 2013	0.200	Nov 2014	0.200	Nov 2015	-		0.200	Continuing	Continuing	Continuing
GFE*	Reqn	DES/DLA : Various	13.428	0.114	Jul 2014	0.200	Jan 2015	0.200	Jan 2016	-		0.200	Continuing	Continuing	Continuing
Prior Year Prod Dev costs no longer funded in the FYDP	Various	Various : Various	60.943	-		-		-		-		-	-	60.943	-
		Subtotal	848.378	58.549		59.845		86.598		-		86.598	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 1355 / *Propulsion and Power Component Improvement Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

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	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	Various : Various	7.933	0.067	Mar 2014	0.300	Oct 2014	0.300	Nov 2015	-		0.300	Continuing	Continuing	Continuing
Development Support	WR	FRC-SW : North Island, CA	0.218	0.185	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	8.151	0.252		0.300		0.300		-		0.300	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	Various	Various : Various	3.332	0.060	Mar 2014	0.050	Oct 2014	0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing
Development Test & Evaluation	WR	NSWC : Crane, IN	0.210	0.148	Nov 2013	-		-		-		-	-	0.358	-
		Subtotal	3.542	0.208		0.050		0.050		-		0.050	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	NAVAIR : Patuxent River, MD	0.645	0.028	Feb 2014	0.056	Oct 2014	0.060	Oct 2015	-		0.060	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*

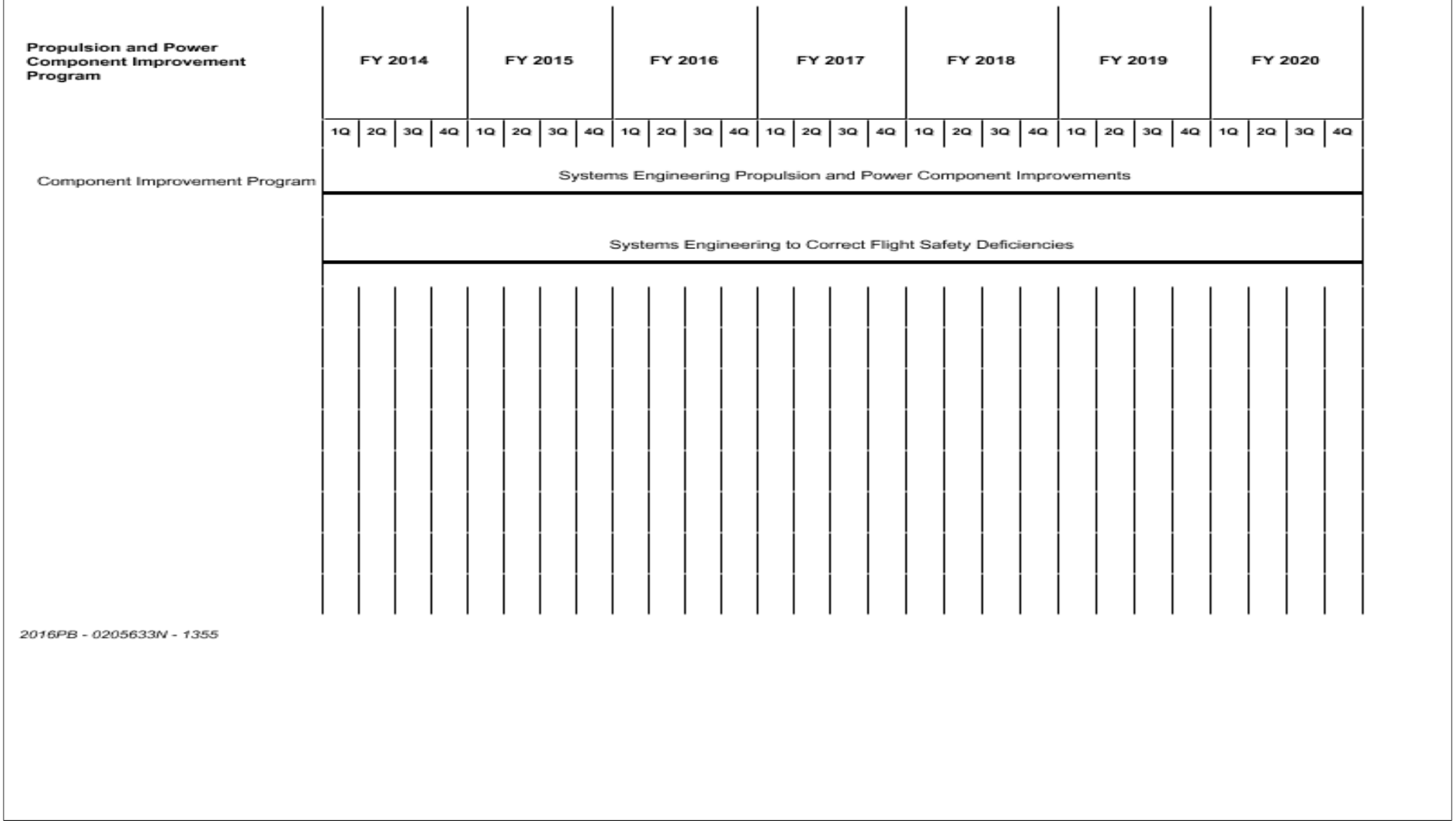
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various : Various	1.447	-		-		-		-		-	-	1.447	-
		Subtotal	2.092	0.028		0.056		0.060		-		0.060	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	862.163	59.037		60.251		87.008		-		87.008	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*



2016PB - 0205633N - 1355

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Propulsion and Power Component Improvement Program				
Component Improvement Program: Engine Improvements	1	2014	4	2020
Component Improvement Program: Power & Propulsion	1	2014	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 2269 / *Expeditionary Airfield Improvements*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2269: *Expeditionary Airfield Improvements*	8.179	5.168	12.384	18.273	-	18.273	18.075	14.980	-	-	-	77.059
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Expeditionary Airfields (EAF) program was a FY2012 New Start, with funding released to the project in May 2012. The EAF program designs, develops and tests a Sustainment Lighting System (SLS) to replace the obsolete legacy EAF lighting system. This system will provide EAF Marine Aircraft 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 Aircraft 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. Milestone B moved from third quarter of fiscal year 2014 to first quarter of 2015 due to contract negotiation delays.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Expeditionary Airfields Improvements	5.168	12.384	18.273	-	18.273
Articles:	-	-	-	-	-
Description: The EAF program designs, develops, tests and fields a Sustainment Lighting System (SLS) to replace the obsolete legacy EAF lighting system. This system will provide EAF Marine Aircraft 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 Aircraft Wing Support Squadron can support all USMC aircraft allowing the Combatant Commanders the flexibility to deploy Aircraft Combat Elements to meet anticipated threats.					
FY 2014 Accomplishments: Evaluate offer proposals for the SLS leading to contract award. Conduct efforts working towards Milestone B (MS B) with Milestone Decision Approval.					
FY 2015 Plans: Achieve MS B with Milestone Decision Approval. Begin the design, development and integration of the SLS program leading to a System Requirement Review (SRR) and Preliminary Design Review (PDR). Additional funding provided for the EAF Center of Excellence.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 2269 / *Expeditionary Airfield Improvements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue the design, development, and integration of the SLS program leading to Critical Design Review (CDR), Test Readiness Review (TRR), and Developmental Testing (DT). ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	5.168	12.384	18.273	-	18.273

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/4208: *Expeditionary Airfields.*	4.676	-	-	-	-	-	-	-	-	-	288.569
• OPN/4213: *ASE-Expeditionary Airfields*	-	7.423	8.425	-	8.425	8.223	8.349	8.534	8.714	Continuing	Continuing

Remarks

D. Acquisition Strategy

Expeditionary Airfields (EAF): Cost Plus Incentive Fee contract for the system design, development, integration and testing of the Sustainment Lighting System awarded in December 2014.

E. Performance Metrics

Milestone Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 2269 / *Expeditionary Airfield Improvements*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWCAD : Lakehurst, NJ	5.199	2.116	Nov 2013	5.694	Nov 2014	0.874	Nov 2015	-		0.874	1.945	15.828	-
Primary Hardware Development	WR	NAWCAD : Patuxent River, MD	1.700	-		-		-		-		-	-	1.700	-
Primary Hardware/ Software Development	C/CPIF	Tactical Lighting Systems, Inc : Addison, Illinois	0.000	2.500	Dec 2014	3.321	Apr 2015	13.618	Dec 2015	-		13.618	20.530	39.969	39.969
Primary Hardware/ Software Development	C/IDIQ	Specialty Systems, Inc : Toms River, NJ	0.000	-		2.500	Apr 2015	-		-		-	-	2.500	2.500
		Subtotal	6.899	4.616		11.515		14.492		-		14.492	22.475	59.997	-

Remarks

$5M added in FY15 for the "Center of Excellence" for EAF, which includes an airfield to be used by USA/USAF and USMC for exercises (including joint) and potentially expeditionary airfield installation/removal drills. Funding was added to the EAF budget in FY16 by $4.0M, FY17 by $5.5M and FY18 by $14.9M to properly price the Sustainment Lighting System effort.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics	WR	NAWCAD : Lakehurst, NJ	0.459	0.179	Nov 2013	0.226	Nov 2014	1.657	Nov 2015	-		1.657	2.968	5.489	-
Technical/Engr support	WR	NAWCAD : Lakehurst, NJ	0.050	-		-		-		-		-	-	0.050	-
		Subtotal	0.509	0.179		0.226		1.657		-		1.657	2.968	5.539	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NAWCAD : Lakehurst, NJ	0.440	0.199	Nov 2013	0.269	Nov 2014	1.751	Nov 2015	-		1.751	5.384	8.043	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 2269 / *Expeditionary Airfield Improvements*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Opeval Test Support	WR	COMOPTEVFOR : Norfolk, VA	0.012	0.057	Nov 2013	0.058	Nov 2014	0.057	Nov 2015	-		0.057	1.597	1.781	-
		Subtotal	0.452	0.256		0.327		1.808		-		1.808	6.981	9.824	-

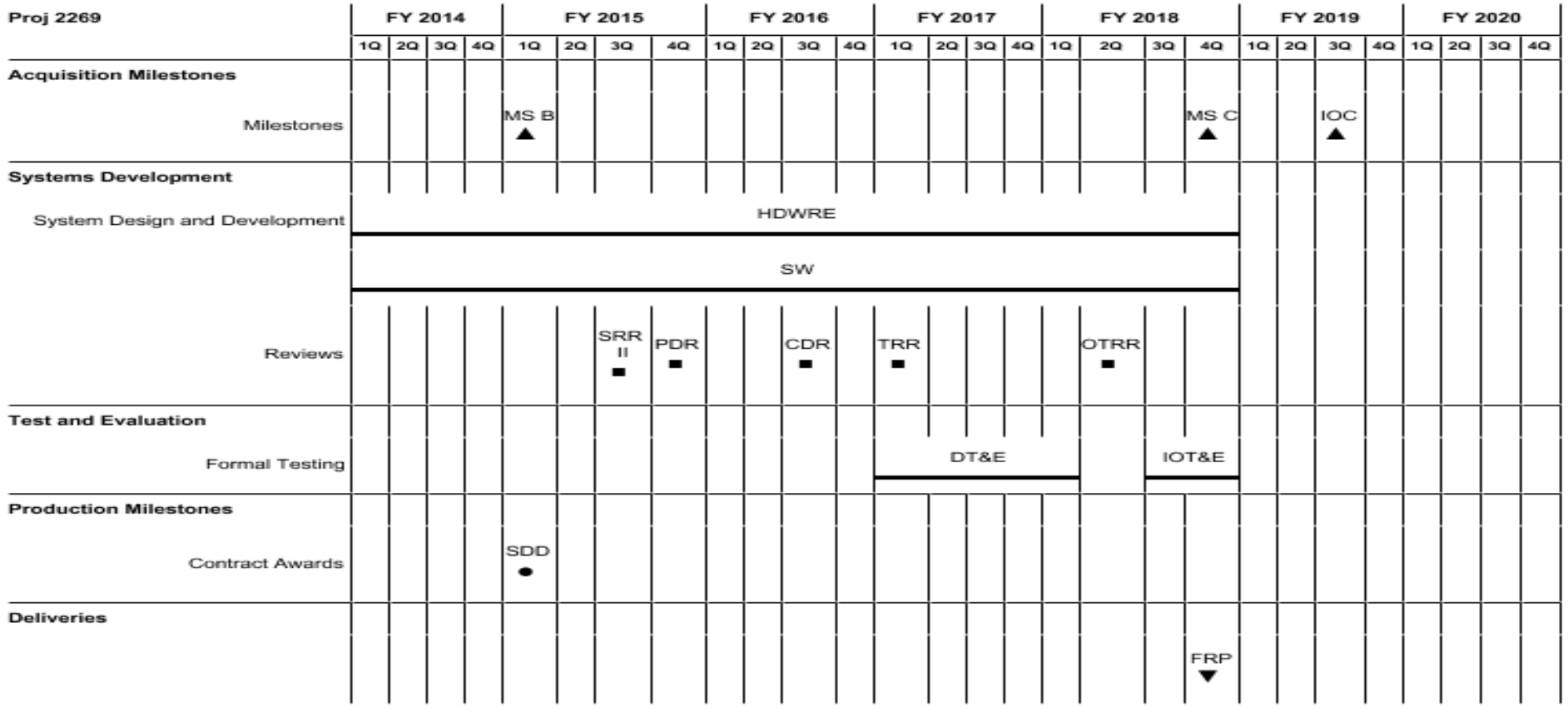
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Services	SS/FFP	Various : Various	0.319	0.117	Dec 2013	0.316	Dec 2014	0.316	Dec 2015	-		0.316	0.631	1.699	1.699
		Subtotal	0.319	0.117		0.316		0.316		-		0.316	0.631	1.699	1.699

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8.179	5.168		12.384		18.273		-		18.273	33.055	77.059	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 2269 / *Expeditionary Airfield Improvements*



2016PB - 0205633N - 2269

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 2269 / *Expeditionary Airfield Improvements*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2269				
Acquisition Milestones: Milestones: Milestone B	1	2015	1	2015
Acquisition Milestones: Milestones: Milestone C	4	2018	4	2018
Acquisition Milestones: Milestones: IOC	3	2019	3	2019
Systems Development: System Design and Development: Hardware Development	1	2014	4	2018
Systems Development: System Design and Development: Software Development	1	2014	4	2018
Systems Development: Reviews: Systems Requirements review	3	2015	3	2015
Systems Development: Reviews: Preliminary Design Review	4	2015	4	2015
Systems Development: Reviews: Critical Design Review	3	2016	3	2016
Systems Development: Reviews: Test Readiness Review	1	2017	1	2017
Systems Development: Reviews: Operational Test Readiness Review	2	2018	2	2018
Test and Evaluation: Formal Testing: Tech Eval/Dev T&E	1	2017	1	2018
Test and Evaluation: Formal Testing: Operational Evaluation Initial Test and Evaluation	3	2018	4	2018
Production Milestones: Contract Awards: Contract Award	1	2015	1	2015
Deliveries: Delivery: Lot 1	4	2018	4	2018