Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
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 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
Total Program Element	1,153.725	83.082	106.255	120.861	-	120.861	134.664	124.196	123.592	125.890	Continuing	Continuing
0601: *Acft Handling & Service Equip*	27.557	1.675	2.606	2.631	-	2.631	2.706	2.769	2.827	2.726	Continuing	Continuing
0852: *Consolidated Auto Support System*	148.216	6.791	6.546	6.494	-	6.494	6.750	6.891	7.038	7.091	Continuing	Continuing
1041: *Acft Equip Repl/Maint Prog*	43.405	3.194	3.322	3.245	-	3.245	3.371	3.379	3.494	3.578	Continuing	Continuing
1355: *Propulsion and Power Component Improvement Program*	921.200	59.212	75.508	93.543	-	93.543	107.713	108.511	110.233	112.495	Continuing	Continuing
2269: *Expeditionary Airfield Improvements*	13.347	12.210	18.273	14.948	-	14.948	14.124	2.646	0.000	0.000	0.000	75.548

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 2017 Navy					Date: February 2016
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 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**
Previous President's Budget	85.037	117.759	126.325	-	126.325
Current President's Budget	83.082	106.255	120.861	-	120.861
Total Adjustments	-1.955	-11.504	-5.464	-	-5.464
• Congressional General Reductions	-	-0.004			
• Congressional Directed Reductions	-	-11.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.477	0.000			
• SBIR/STTR Transfer	-1.476	0.000			
• Program Adjustments	0.000	0.000	0.401	-	0.401
• Rate/Misc Adjustments	-0.002	0.000	-5.865	-	-5.865

Change Summary Explanation

The FY 2017 funding request was reduced by $2.565M to account for the availability of prior year execution balances.

Cost:

Project 2269: Costs updated to reflect DON17 RDT&E,N Under Execution Review which re-phases the FY17 into FY19. FY16-21 costs updated as a result of an Integrated Baseline Review (IBR) in September 2015 and in FY17-21 to support NWCF Rate adjustments.

Schedule:

Project 0601: Aircraft Spotting Dolly schedule delayed due to funding being re-directed to a higher priority program within Project 0852. Milestone B shift from 3rd quarter FY15 to 1st quarter FY16 and Milestone C shift from 3rd quarter FY17 to 1st quarter FY18.

Project 0852: eCASS milestone Full Rate Production Decision Review and contract award for Full Rate Production shift from 4th Quarter FY 2016 to 3rd Quarter FY 2016.

Project 2269: SLS contract award occurred on 23 Dec 2014, however protest delayed start of the SLS contract period of performance to 25 March 2015. Schedule was shifted due to the Sustainment Lighting System (SLS) contract award protest. Schedule updated to support DON17 RDT&E,N Under Execution Review which re-phases funding from FY17 to FY19.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy	Date: February 2016
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*

Technical: Not Applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0601: *Acft Handling & Service Equip*	27.557	1.675	2.606	2.631	-	2.631	2.706	2.769	2.827	2.726	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Aircraft Spotting Dolly (ASD)	0.541	1.091	0.300	0.000	0.300
Articles:	-	1	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 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
operations. The legacy ASD is close to thirty years old and experiencing parts obsolescence issues and general efficiency degradation. ***FY 2015 Accomplishments:*** Coordinated requirements definition; performed market research and analysis of alternatives. ***FY 2016 Plans:*** Perform source selection, award prototype contract, and begin prototype phase. ***FY 2017 Base Plans:*** Perform government testing of prototype. ***FY 2017 OCO Plans:*** N/A					
Title: Carrier/Amphibious Assault Ship Crash Crane (CV/AACC) ***Articles:*** ***Description:*** CV/AACC are required to remove damaged aircraft from the flight line. In 2004, a solicitation for a commerical off the shelf replacement for the existing shipboard crash crane was issued. Two bids were received, and after a complete evaluation with many rounds of discussions with the companies bidding, both proposals were found to be technically inadequate and the procurement effort was discontinued. As a result, the crash cranes have continued operation unchanged. Designed in the late 1980's, major systems are beginning to experience the obsolescence of spare parts and are in need of updating. R&D resources are needed to identify not only replacements, but new technologies, which can increase the reliability and maintainability of this flight ops critical piece of equipment. Systems updates would include the engine/generator and electrical updates to the motor drive/control system. An exploration of power sources other than diesel engines would be considered and a corrosion resistant boom. ***FY 2015 Accomplishments:*** Continued requirements definition, market research and analysis of alternatives. ***FY 2016 Plans:*** Prepare source selection documentation, prepare test plan documents and initiate source selection. ***FY 2017 Base Plans:*** Continue source selection documentation, continue test plan documents and continue source selection. ***FY 2017 OCO Plans:***	0.689 -	1.070 -	1.886 -	0.000 -	1.886 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A					
Title: Portable Electronic Maintenance Aid (PEMA)	0.445	0.445	0.445	0.000	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 2015 Accomplishments:*** Evaluated, tested and integrated evolving COTS solutions. Conducted 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 2016 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 2017 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 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.675	2.606	2.631	0.000	2.631

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• APN/0705: *Ground Support Equipment*	120.361	121.195	117.764	-	117.764	123.825	122.812	120.866	123.911	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• OPN/4268: *Aviation Support Equipment*	9.146	7.762	7.280	-	7.280	7.234	7.245	7.448	7.574	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 2017 Navy			Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Dev--ASD	C/FFP	TBD : TBD	0.000	0.000		0.441	Mar 2016	0.200	Jan 2017	-		0.200	0.000	0.641	0.641
Systems Engineering-ASD	WR	NAWCAD : LAKEHURST, NJ	0.000	0.322	Nov 2014	0.550	Nov 2015	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering-CV/AACC	WR	NAWCAD : LAKEHURST, NJ	0.059	0.572	Nov 2014	0.870	Nov 2015	1.886	Nov 2016	-		1.886	Continuing	Continuing	Continuing
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	17.517	0.000		0.000		0.000		-		0.000	0.000	17.517	-
		Subtotal	17.576	0.894		1.861		2.086		-		2.086	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	8.857	0.000		0.000		0.000		-		0.000	0.000	8.857	-
		Subtotal	8.857	0.000		0.000		0.000		-		0.000	0.000	8.857	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational T & E - PEMA	WR	NAWCAD : PAX RIVER, MD	0.624	0.168	Nov 2014	0.171	Nov 2015	0.170	Nov 2016	-		0.170	Continuing	Continuing	Continuing
Operational T & E - PEMA	WR	FRC SE : Jacksonville, FL	0.000	0.277	Nov 2014	0.274	Nov 2015	0.275	Nov 2016	-		0.275	0.000	0.826	-
C&G Test - ASD	WR	NAWCAD : PAX RIVER, MD	0.000	0.219	Nov 2014	0.100	Nov 2015	0.100	Nov 2016	-		0.100	Continuing	Continuing	Continuing
C&G Test - CV/AACC	WR	NAWCAD : PAX RIVER, MD	0.000	0.117	Nov 2014	0.200	Nov 2015	0.000		-		0.000	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 0601 / *Acft Handling & Service Equip*	

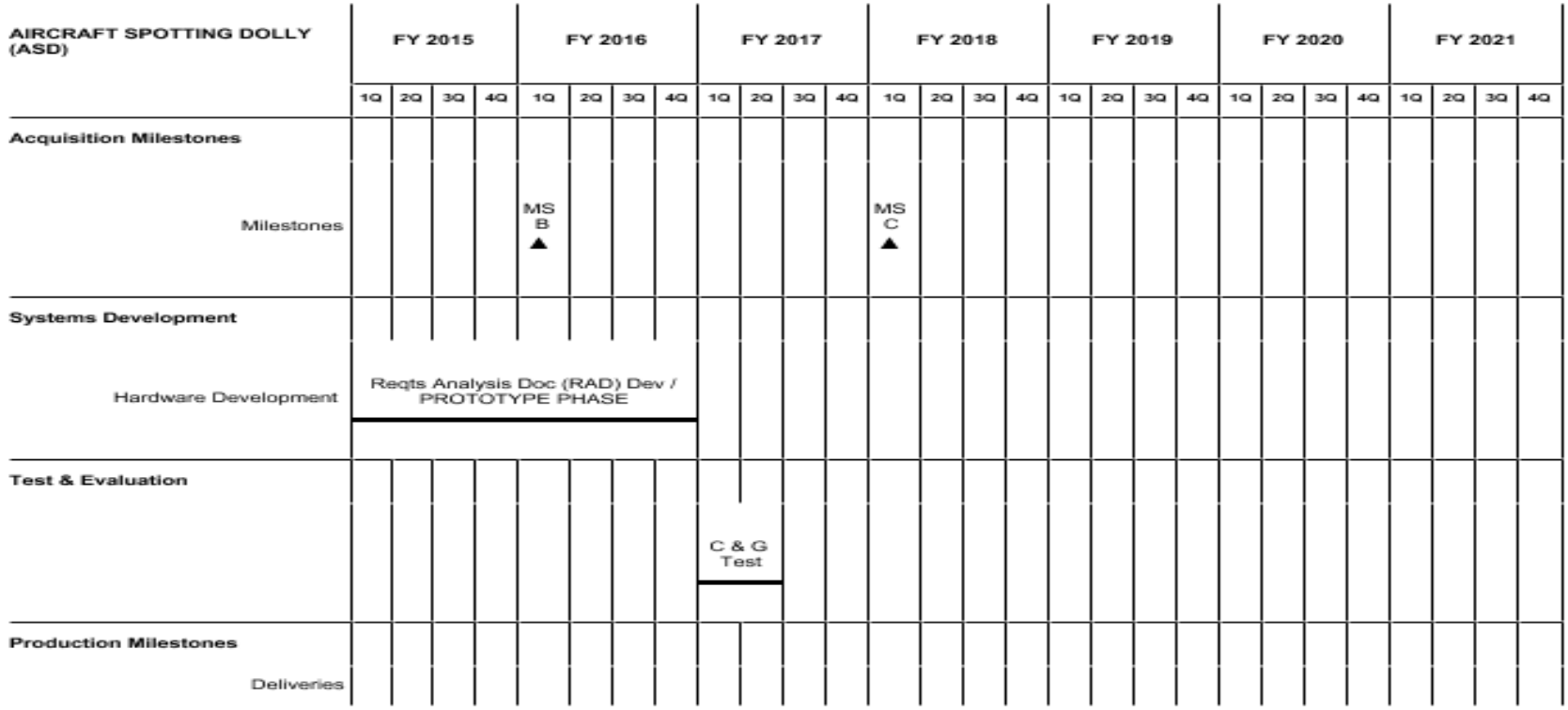
Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior year T&E cost no longer funded in the FYDP	Various	Various : Various	0.500	0.000		0.000		0.000		-		0.000	0.000	0.500	-
		Subtotal	1.124	0.781		0.745		0.545		-		0.545	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	27.557	1.675		2.606		2.631		-		2.631	-	-	-

Remarks

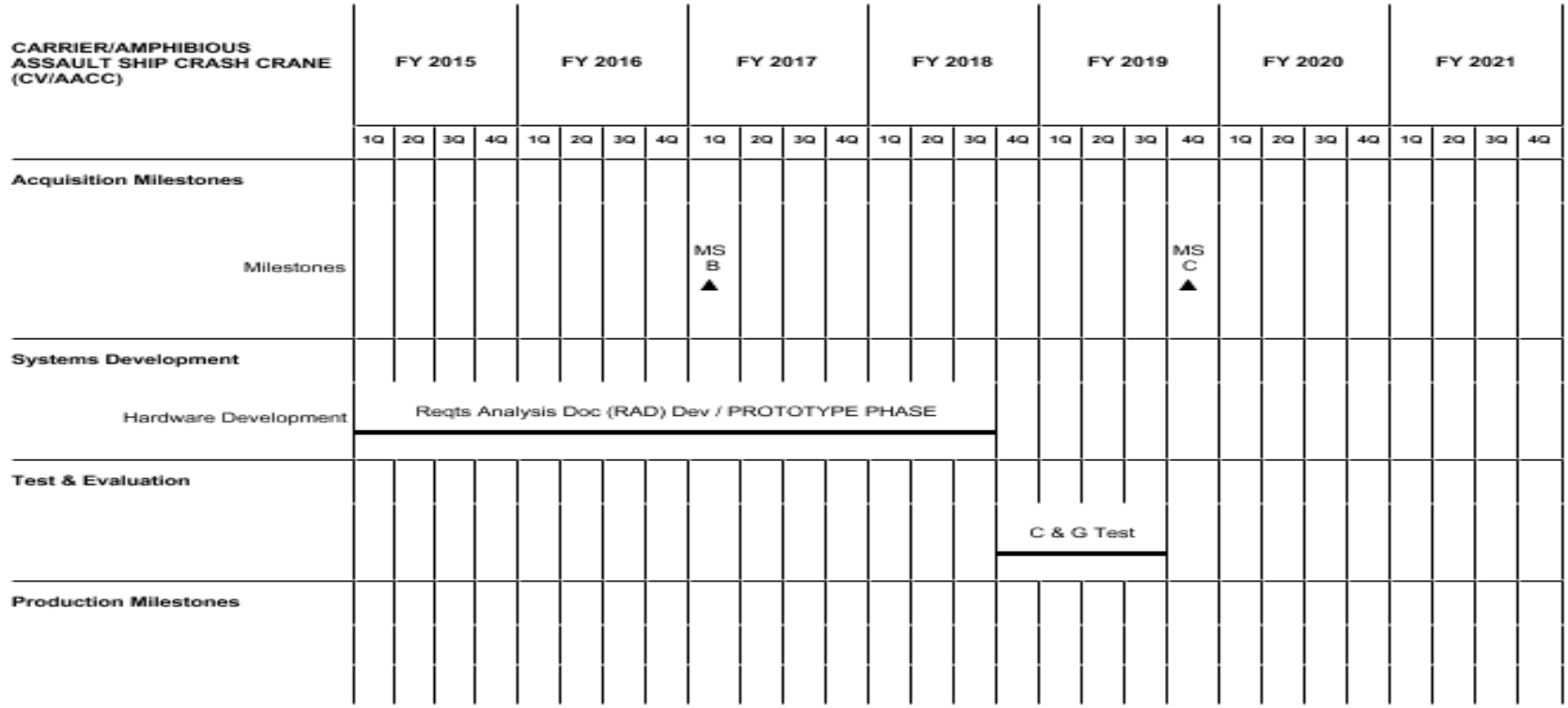
Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*



2017DON - 0205633N - 0601

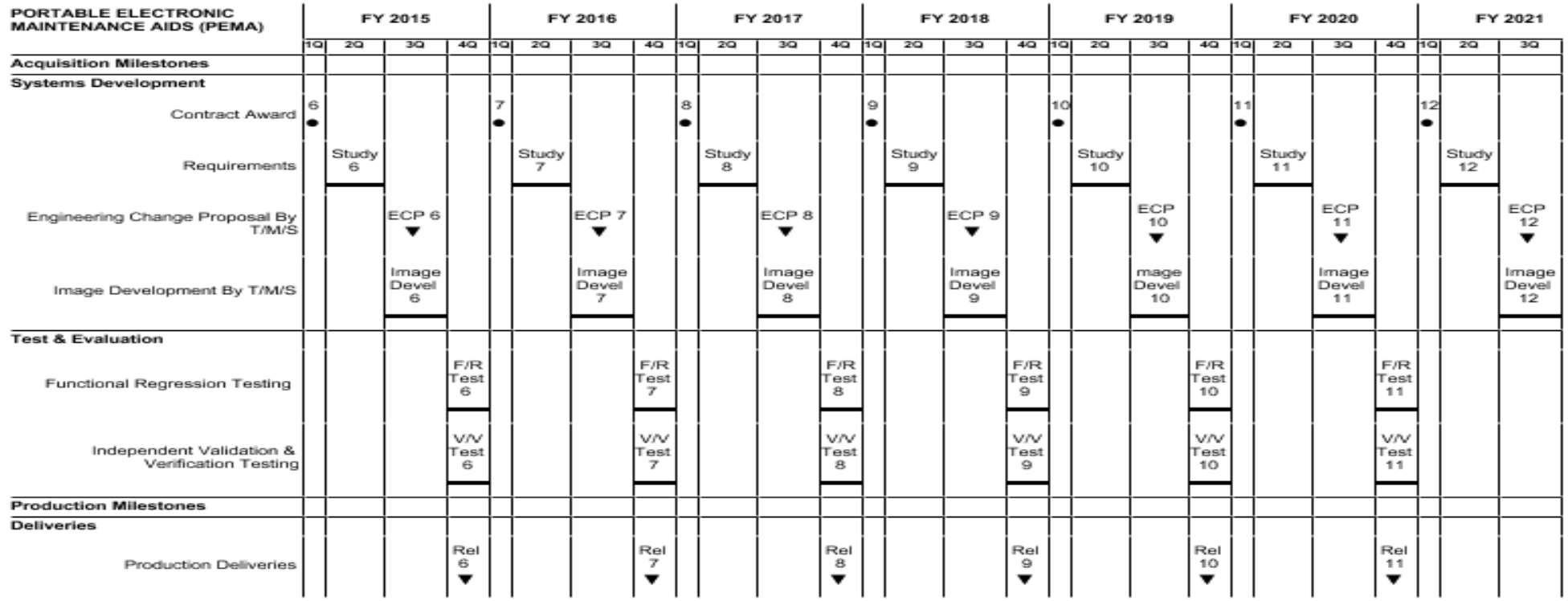
Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*



2017DON - 0205633N - 0601

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*



2017DON - 0205633N - 0601

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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**
AIRCRAFT SPOTTING DOLLY (ASD)				
Acquisition Milestones: Milestones: ASD-MILESTONE B	1	2016	1	2016
Acquisition Milestones: Milestones: ASD-MILESTONE C	1	2018	1	2018
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	2015	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 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: Contract Award: Contract Award 12	1	2021	1	2021
Systems Development: Requirements: Requirements Study Complete 6	2	2015	2	2015
Systems Development: Requirements: Requirements Study Complete 7	2	2016	2	2016
Systems Development: Requirements: Requirements Study Complete 8	2	2017	2	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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 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: Requirements: Requirements Study Complete 12	2	2021	2	2021
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: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 12	3	2021	3	2021
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
Systems Development: Image Development By T/M/S: Image Development By T/M/S 10	3	2019	3	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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 11	3	2020	3	2020
Systems Development: Image Development By T/M/S: Image Development By T/M/S 12	3	2021	3	2021
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: Functional Regression Testing: Functional/Regression Testing 12	4	2021	4	2021
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
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 12	4	2021	4	2021
Deliveries: Production Deliveries: Production Delivery, Release 6	4	2015	4	2015
Deliveries: Production Deliveries: Production Delivery, Release 7	4	2016	4	2016
Deliveries: Production Deliveries: Production Delivery, Release 8	4	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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 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
Deliveries: Production Deliveries: Production Delivery, Release 12	4	2021	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0852: *Consolidated Auto Support System*	148.216	6.791	6.546	6.494	-	6.494	6.750	6.891	7.038	7.091	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: eCASS Development	6.491	5.329	3.722	0.000	3.722
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 2015 Accomplishments: Continued test events.					
FY 2016 Plans: Continue test events.					
FY 2017 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Develop, integrate, prototype design changes to support Test Program Set (TPS) Migration for existing eCASS TPS candidates. Emphasis will be to develop and evaluate potential solutions to support development of future Engineering Change Proposals (ECPs). ***FY 2017 OCO Plans:*** N/A					
Title: Test Technology Development ***Articles:*** ***Description:*** Develops, integrates, and evolves enhanced test capabilities and technologies for insertion into the Consolidated Automated Support System (CASS) family of test systems. As weapon system electronics evolve, new test capabilities are required to support advanced systems. Existing test capabilities must be extended in range, accuracy, time and frequency domains in order to sustain the required test accuracy ratios for weapon systems support (the automatic test system must be four times as accurate as the asset being tested). ***FY 2015 Accomplishments:*** Continued to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. ***FY 2016 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 2017 Base Plans:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems with an increased focus on development and evaluation of potential solutions for the replacement of the CASS Electro-Optics console. ***FY 2017 OCO Plans:*** N/A	0.300 -	1.217 -	2.772 -	0.000 -	2.772 -
Accomplishments/Planned Programs Subtotals	6.791	6.546	6.494	0.000	6.494

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• APN/0705: *Consolidated Automated Support System*	80.908	103.016	84.021	-	84.021	89.911	91.685	91.852	94.170	Continuing	Continuing

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 2017 Navy			Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Dev eCASS	C/CPIF	Lockheed Martin : Orlando, FL	94.646	3.505	Oct 2014	3.400	Dec 2015	2.502	Dec 2016	-		2.502	0.000	104.053	104.053
Primary Hdw Dev Test Technology	C/CPFF	Various : Various	0.982	0.300	Jan 2015	1.166	Dec 2015	2.056	Dec 2016	-		2.056	4.504	9.008	9.008
Prior Year Prod Dev no longer funded in the FYDP	Various	Various : Various	28.397	0.000		0.000		0.000		-		0.000	0.000	28.397	-
		Subtotal	124.025	3.805		4.566		4.558		-		4.558	4.504	141.458	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
eCASS Support	WR	Various : Various	3.039	1.242	Oct 2014	0.812	Dec 2015	0.582	Dec 2016	-		0.582	Continuing	Continuing	Continuing
eCASS Support	WR	NAWC AD : Lakehurst, NJ	5.689	1.680	Oct 2014	1.029	Dec 2015	0.554	Dec 2016	-		0.554	Continuing	Continuing	Continuing
Test Technology Support	WR	NAWC AD : Lakehurst, NJ	0.000	0.000		0.000		0.660	Dec 2016	-		0.660	0.000	0.660	-
Prior Year Support no longer funded in the FDYP	Various	Various : Various	12.853	0.000		0.000		0.000		-		0.000	0.000	12.853	-
		Subtotal	21.581	2.922		1.841		1.796		-		1.796	-	-	-

Management Services ($ in Millions)

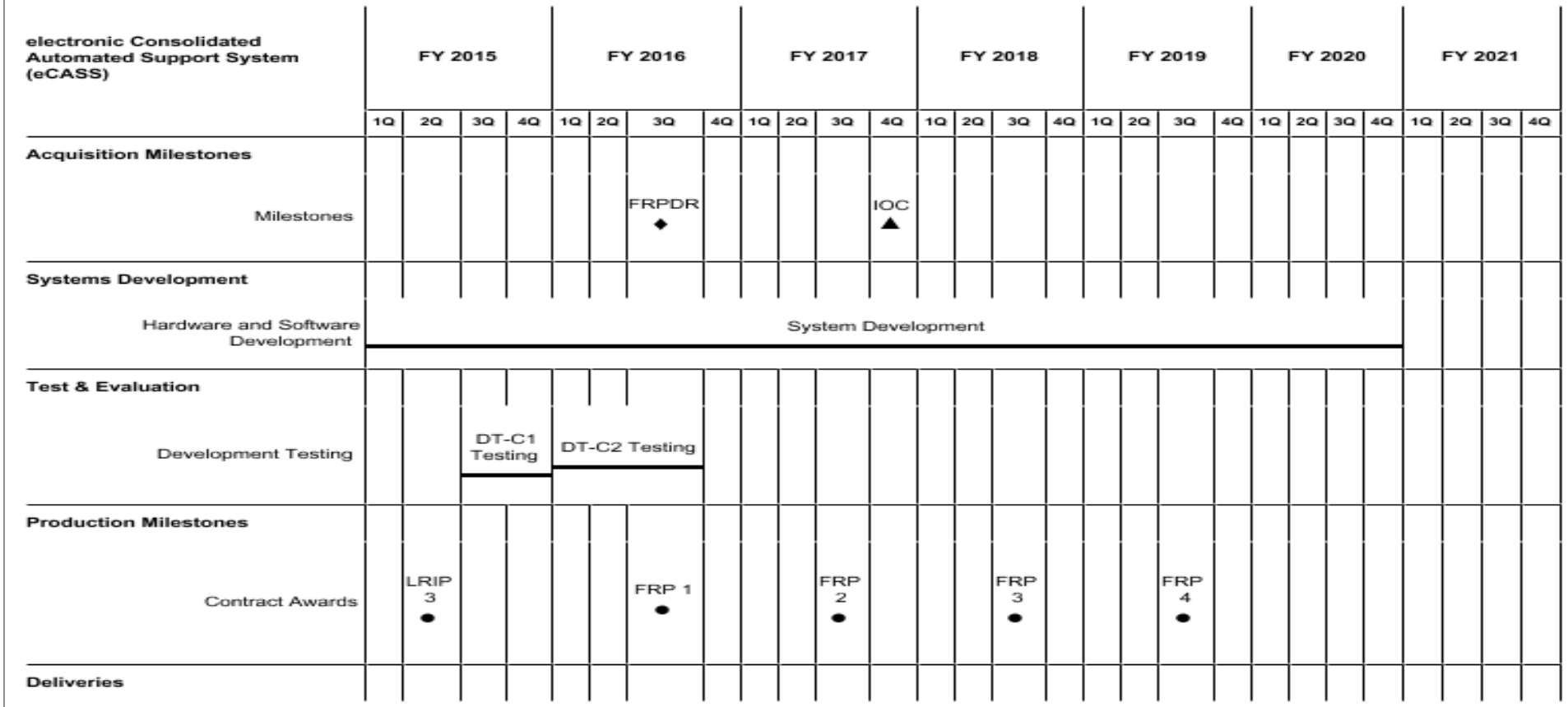
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
eCASS Travel	WR	Various : Various	0.741	0.064	Nov 2014	0.088	Nov 2015	0.084	Nov 2016	-		0.084	Continuing	Continuing	Continuing
Test Tech Travel	WR	Various : Various	0.200	0.000		0.051	Nov 2015	0.056	Nov 2016	-		0.056	Continuing	Continuing	Continuing
Prior Year Mgmt no longer funded in the FYDP	Various	Various : Various	1.669	0.000		0.000		0.000		-		0.000	0.000	1.669	-
		Subtotal	2.610	0.064		0.139		0.140		-		0.140	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	148.216	6.791		6.546		6.494		-		6.494	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0852 / *Consolidated Auto Support System*



2017DON - 0205633N - 0852

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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: Full Rate Production Decision Review	3	2016	3	2016
Acquisition Milestones: Milestones: Initial Operating Capability	4	2017	4	2017
Systems Development: Hardware and Software Development: eCASS System Development	1	2015	4	2020
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 3-APN	2	2015	2	2015
Production Milestones: Contract Awards: eCASS FRP 1-APN	3	2016	3	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 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
1041: *Acft Equip Repl/Maint Prog*	43.405	3.194	3.322	3.245	-	3.245	3.371	3.379	3.494	3.578	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Avionics and Wiring	0.235	0.550	0.564	0.000	0.564
Articles:	-	-	-	-	-
FY 2015 Accomplishments: 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 Plans: 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 2017 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Test and evaluate equipment for effectiveness of wiring diagnostics and prognostics. 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. ***FY 2017 OCO Plans:*** N/A					
Title: Air Vehicle	2.115	1.858	2.071	0.000	2.071
Articles:	-	-	-	-	-
FY 2015 Accomplishments: 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 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. 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 2017 Base 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 to test and qualify improved corrosion preventative compounds. Address subsystem related reliability/maintainability					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
issues impacting multiple aircraft platforms while continuing to investigate high value return on investment initiatives. Maintain efforts to qualify improved methods of structural component repair. ***FY 2017 OCO Plans:*** N/A					
Title: Systems Engineering Revitalization ***Articles:*** ***FY 2015 Accomplishments:*** First, continue improvements in the Systems Engineering (SE) Technical Review (SETR) process by adopting model-based SE techniques and begin socializing changes with functional engineering competencies, gaining support. Second, continue checklist implementation and maintenance. Improve user interfaces and possible cloud hosting, update checklist to ever changing policy direction, and explore implementation on Secret Internet Protocol Router Network (SIPRNET). Third, develop, improve, and maintain the NAVAIR SE web portal to assist in dissemination of SE policy, SE tools, and checklists. ***FY 2016 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 execute future upgrades. Third, update checklist questions to account for ever changing policy direction and streamline across the acquisition lifecycle to focus the review on its core elements. ***FY 2017 Base Plans:*** First, continue improvements in the SETR process by implementing model-centric SE policies, methods, and tools. Second, continue SETR checklist content improvements and improve SETR Manager tool to assist in dissemination of SE policy, SE tools, checklists, and associated training. Third, develop and improve an SE requirements tool and the integrated SE environment. ***FY 2017 OCO Plans:*** N/A	0.844 -	0.914 -	0.610 -	0.000 -	0.610 -
Accomplishments/Planned Programs Subtotals	3.194	3.322	3.245	0.000	3.245

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*

C. Other Program Funding Summary ($ in Millions)

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 2017 Navy			Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng - Avionics/Wiring	WR	NAWCAD : Patuxent River, MD	5.588	0.234	Dec 2014	0.411	Nov 2015	0.500	Oct 2016	-		0.500	Continuing	Continuing	Continuing
Sys Eng - Avionics/Wiring	C/FFP	Various : Various	0.555	0.000		0.050	Mar 2016	0.000		-		0.000	0.000	0.605	0.605
Sys Eng - Avionics/Wiring	WR	FRC-E : Cherry Point, NC	0.100	0.000		0.020	Feb 2016	0.010	Nov 2016	-		0.010	0.000	0.130	-
Sys Eng - Avionics/Wiring	WR	FRC-SE : Jacksonville, FL	0.000	0.000		0.010	Feb 2016	0.010	Nov 2016	-		0.010	0.000	0.020	-
Sys Eng - Avionics/Wiring	WR	FRC-SW : San Diego, CA	0.000	0.000		0.030	Feb 2016	0.010	Nov 2016	-		0.010	0.000	0.040	-
Sys Eng - Air Vehicle	WR	NAWCAD : Patuxent River, MD	8.461	1.230	Dec 2014	0.919	Nov 2015	1.093	Oct 2016	-		1.093	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC-SW : San Diego, CA	1.237	0.500	Oct 2014	0.200	Dec 2015	0.400	Nov 2016	-		0.400	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC-E : Cherry Point, NC	1.384	0.218	Nov 2014	0.300	Nov 2015	0.250	Nov 2016	-		0.250	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC-SE : Jacksonville, FL	0.853	0.163	Oct 2014	0.240	Nov 2015	0.200	Nov 2016	-		0.200	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	C/FFP	Various : Various	0.962	0.000		0.070	Feb 2016	0.000		-		0.000	0.000	1.032	1.032
Sys Eng - SE Revitalization	WR	NAWCAD : Patuxent River, MD	0.801	0.090	Nov 2014	0.003	Nov 2015	0.006	Oct 2016	-		0.006	Continuing	Continuing	Continuing
Sys Eng - SE Revitalization	C/FFP	Engility Corp. : Chantilly, VA	3.927	0.542	Dec 2014	0.584	Jan 2016	0.400	Jan 2017	-		0.400	0.000	5.453	5.453
Sys Eng - SE Revitalization	C/CPFF	Stevens Inst of Technology : Hoboken, NJ	0.546	0.212	Mar 2015	0.280	Jan 2016	0.166	Jan 2017	-		0.166	0.000	1.204	1.204
Prior Year Sys Eng NAE/ Prod Dev no longer funded in the FYDP	Various	Various : Various	2.713	0.000		0.000		0.000		-		0.000	0.000	2.713	-
		Subtotal	27.127	3.189		3.117		3.045		-		3.045	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 1041 / *Acft Equip Repl/Maint Prog*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Support cost no longer funded in the FYDP	Various	Various : Various	12.480	0.000		0.000		0.000		-		0.000	0.000	12.480	-
		Subtotal	12.480	0.000		0.000		0.000		-		0.000	0.000	12.480	-

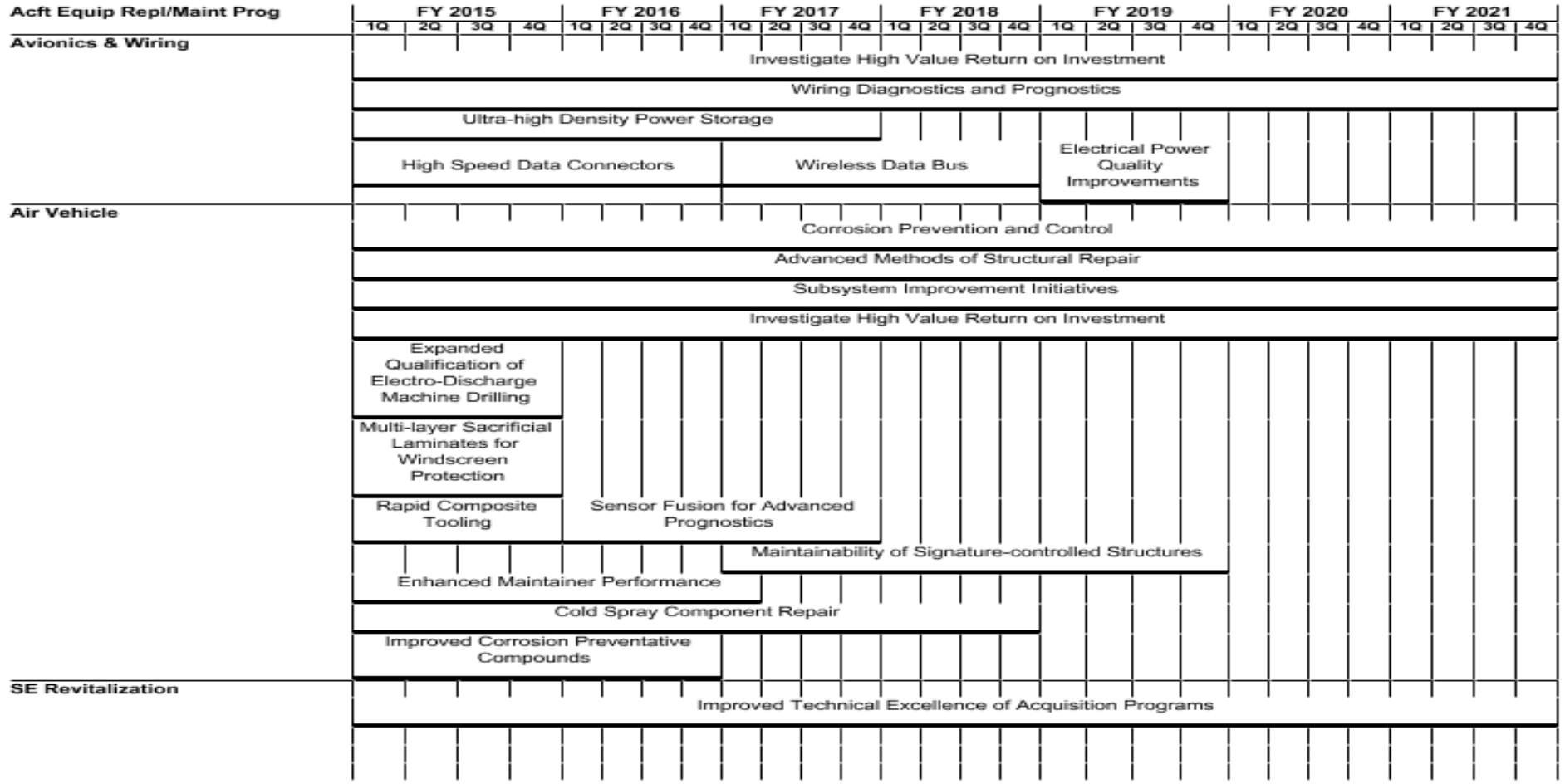
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD : Patuxent River, MD	1.827	0.005	Dec 2014	0.205	Nov 2015	0.200	Oct 2016	-		0.200	Continuing	Continuing	Continuing
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various : Various	1.971	0.000		0.000		0.000		-		0.000	0.000	1.971	-
		Subtotal	3.798	0.005		0.205		0.200		-		0.200	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	43.405	3.194		3.322		3.245		-		3.245	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*



2017DON - 0205633N - 1041

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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 Avionics & Wiring Investment	1	2015	4	2021
Avionics & Wiring: Wiring Diagnostics and Prognostics	1	2015	4	2021
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	2015	4	2021
Air Vehicle: Advanced Methods of Structural Repair	1	2015	4	2021
Air Vehicle: Subsystem Improvement Initiatives	1	2015	4	2021
Air Vehicle: Investigate High Value Return on Air Vehicle Investment	1	2015	4	2021
Air Vehicle: Expanded Qualification of Electro-Discharge Machine Drilling	1	2015	4	2015
Air Vehicle: Multi-layer Sacrificial Laminates for Windscreen Protection	1	2015	4	2015
Air Vehicle: Rapid Composite Tooling	1	2015	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	2015	4	2016
SE Revitalization: Improved Technical Excellence of Acquisition Programs	1	2015	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
1355: *Propulsion and Power Component Improvement Program*	921.200	59.212	75.508	93.543	-	93.543	107.713	108.511	110.233	112.495	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: P3, E2, C2, C130 (T56)	7.221	7.500	9.423	0.000	9.423
Articles:	-	-	-	-	-
FY 2015 Accomplishments: 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.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Complete qualification of oil health monitoring system. Begin redesign of fuel nozzles to eliminate coking and prevent hot section component damage. ***FY 2016 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 2017 Base Plans:*** Complete engine qualification testing for planet gear bearing assembly, combustion liner, front turbine bearing cage and front turbine bearing support redesigns, and submit engineering changes for production planet gear bearing assembly and combustion liner redesigns. ***FY 2017 OCO Plans:*** N/A					
Title: E2/C2/C130/P3 (Props)	1.930	2.750	2.130	0.000	2.130
Articles:	-	-	-	-	-
FY 2015 Accomplishments: 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 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 2017 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Complete fleet incorporation of the NP2000 feather modification to eliminate a safety issue. Begin field service evaluation of NP2000 blade erosion protection film. Begin fleet introduction of the NP2000 modernized pump housing and the actuator valve module with new forward housing configuration. Begin 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. Continue design work and begin testing of C-130 54H60-111 modernized pump housing. ***FY 2017 OCO Plans:*** N/A					
Title: EA-6B (J52) ***Articles:*** ***FY 2015 Accomplishments:*** Implement and continue updating repair and inspection criteria for fielded components. Manage parts obsolescence issues. ***FY 2016 Plans:*** Implement and continue updating repair and inspection criteria for fielded components. Manage parts obsolescence issues. ***FY 2017 Base Plans:*** N/A ***FY 2017 OCO Plans:*** N/A	1.410 -	1.050 -	0.000 -	0.000 -	0.000 -
Title: SH-60B/F, HH-60H, MH-60R/S (T700) ***Articles:*** ***FY 2015 Accomplishments:*** 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 Plans:***	4.090 -	2.750 -	4.314 -	0.000 -	4.314 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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. Continue lithium battery qualification. Complete air turbine starter qualification. ***FY 2017 Base Plans:*** Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Conduct T700 accelerated simulated mission endurance testing to demonstrate newly redesigned ceramic matrix composite shrouds. Continue lithium battery qualification. Continue development of Black Gold environmental coating system. ***FY 2017 OCO Plans:*** N/A					
Title: H-1 (T400/T700)	1.080	0.700	1.000	0.000	1.000
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continue support of common T700 engine and air turbine starter projects. Complete qualification and safety testing of the AH-1W lithium battery. ***FY 2016 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 2017 Base Plans:*** Continue support of common T700 engine and air turbine starter projects. Conduct AH-1W starter improvement project. Complete main rotor gearbox oil filter relocation project. ***FY 2017 OCO Plans:*** N/A					
Title: AV-8B (F402)	5.640	7.125	6.163	0.000	6.163
Articles:	-	-	-	-	-
FY 2015 Accomplishments: 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					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
alternator ceramic bearing. Complete tasking for application of low plasticity burnishing on low pressure compressor stage two and three blades. ***FY 2016 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 2017 Base Plans:*** Continue engine performance monitoring program. Complete low pressure turbine vane platform cracking, exhaust duct manifold cracking, and combustion chamber inner subassembly cracking tasks. Update critical rotating part life predictions based upon updated mission profiles. ***FY 2017 OCO Plans:*** N/A					
Title: H-53/H-46/H-3 (T58/T64) ***Articles:*** ***FY 2015 Accomplishments:*** 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 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. Qualify and implement accessory gearbox free-wheel unit lubrication design improvement. Complete main rotor shaft low-cycle fatigue analysis. ***FY 2017 Base Plans:***	4.940 -	4.250 -	5.884 -	0.000 -	5.884 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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. Qualify and implement accessory gearbox free-wheel unit lubrication design improvement. Complete main rotor shaft low-cycle fatigue analysis. ***FY 2017 OCO Plans:*** N/A					
Title: F-18 C/D/E/F (F414/F404) ***Articles:*** ***FY 2015 Accomplishments:*** Complete test cell performance management process to improve operability and reduce unscheduled engine removals. Complete Variable Exhaust Nozzle (VEN) 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 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 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 2017 Base Plans:***	17.452 -	14.286 -	14.958 -	0.000 -	14.958 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Update stress analysis models to extend the lives of the combustion case, low-pressure turbine (LPT) disk, and stage 1 fan rotor. Complete preliminary design and start detail design to down-select the field repair for fan case rubber damage. Test and verify that the main fuel manifold is no longer life-limited. Complete high-pressure turbine blade preliminary design, and down-select a design to address service distress causes for removal. Complete LPT shrouds preliminary design, and down-select a design to allow for field replacement. Complete test and verification of Rosan joint fittings and release to the fleet. Complete preliminary design, and down-select the fuel actuator engineering test bench design. Conduct tests to characterize influences and interactions, and confirm causes for VEN binding. Test and verify that blade dovetail coatings meet service use requirements. Evaluate oil consumption limits, and down-select designs to oil system components that reduce in-flight aborts. Explore the use of surface treatments on static components to allow for extended service use. Reassess the engine build window to identify ownership costs reductions. ***FY 2017 OCO Plans:*** N/A					
Title: T-45 (F405) ***Articles:***	1.631 -	2.750 -	4.723 -	0.000 -	4.723 -
FY 2015 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 2016 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 2017 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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 endurance testing of low-pressure compressor blade improvements to mitigate blade root cracking in-service and reduce scrap rate at overhaul. Complete redesign of engine correct rotation system to reduce high failure rate and reduce cost of ownership. Complete high-pressure turbine and low-pressure turbine seal redesign to improve safety and performance retention, and reduce scrap rate at overhaul. Complete high-pressure compressor seal redesign to improve safety and performance retention, and reduce scrap rate at overhaul. Initiate root cause investigation of perceived installed engine vibrations to reduce high rejection rate and cost of ownership. Initiate study to identify engine future obsolescence areas. Complete effort to extend fatigue life of high-pressure turbine and low-pressure turbine discs using new material data to reduce cost of ownership. ***FY 2017 OCO Plans:*** N/A					
Title: V-22 Propulsion	0.850	1.750	3.392	0.000	3.392
Articles:	-	-	-	-	-
FY 2015 Accomplishments: 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 Plans:*** Implement nacelle blower and machined impellers design changes. Validate engine control 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. Produce and conduct verification testing for several potential design solutions that are intended to mitigate sand accumulation in the turbine. ***FY 2017 Base Plans:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Develop improvements for the K8/K9 relays to reduce K8/K9, regulator converter unit, and auxiliary power unit starter failures. Develop an improved power assurance check for the engines to ensure accurate assessment of engine health. ***FY 2017 OCO Plans:*** N/A					
Title: Adversary (J85) (F100)	1.200	1.160	1.434	0.000	1.434
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continue contributing to the common Component Improvement Program with the U.S. Air Force and Foreign Military Sales group for the J85 engine. Investigate improvements on support equipment, revision of the life cycle fatigue life of rotating components, definition of optimal maintenance and schedule requirements, and optimization of engine functional and trim procedures and software.					
FY 2016 Plans: Continue contributing to the J85 and F100 common Component Improvement Program (CIP) with the U.S. Air Force (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 2017 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 and stress models to provide a revised J85 life cycle fatigue life update. Implement an upgraded modification of the engine performance monitoring system for future mission analysis. Investigate and approve a stage 2 turbine nozzle design that mitigates cracking due to oxidation. Develop support equipment and engine repair procedures that will improve maintainability and extend the useful life of parts. Approve F100 main fuel control					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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 2017 OCO Plans:*** N/A					
Title: Joint Strike Fighter (F135 Engine) ***Articles:*** ***FY 2015 Accomplishments:*** 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 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 Plans:*** Continue to 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. Continue the procurement of the short takeoff/vertical landing hardware to initiate LTF testing. ***FY 2017 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 2017 OCO Plans:*** N/A	5.000 -	20.977 -	30.479 -	0.000 -	30.479 -
Title: P-8A (CFM56 Engine) ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:***	0.000 -	1.150 -	1.150 -	0.000 -	1.150 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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 2017 Base Plans:*** Mature out-year program engine management planning and updates to operational/readiness metric baselines informed by further age-exploration results from post-deployment bore-scope inspections, engine depot part condition assessment, and operational usage data. Continue age exploration via post-deployment bore-scope inspections, engine depot part condition assessment, and operational usage data. Evaluate impact of high altitude antisubmarine warfare introduced under P-8A Increment 2 engineering change proposals on engine mission usage. Mature subsystem planning based on evaluation leading indicators, age exploration, maintenance task improvements, service-revealed deficiencies, and emergent issues from fleet operational usage on all subsystems (engine, auxiliary power unit, fuel, electrical, electrical wiring). Evaluate incremental progress of original equipment manufacturer life limit extension analysis on engine life limited parts. ***FY 2017 OCO Plans:*** N/A					
Title: Multi-Platform Product Support Teams	6.768	7.310	8.493	0.000	8.493
Articles:	-	-	-	-	-
FY 2015 Accomplishments: 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					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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 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 2017 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 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	59.212	75.508	93.543	0.000	93.543

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

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E. Performance Metrics

The 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.

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 2017 Navy		Date: February 2016
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng T56 Engine Program	WR	NAWCAD : Patuxent River, MD	31.917	3.050	Oct 2014	3.500	Nov 2015	4.500	Nov 2016	-		4.500	Continuing	Continuing	Continuing
Sys Eng T56 Engine Program	SS/CPFF	Rolls Royce : Indianapolis, IN	46.000	3.671	Jan 2015	3.500	Jan 2016	4.113	Jan 2017	-		4.113	0.000	57.284	57.284
Sys Eng T56 Engine Program	WR	FRC-E : Cherry Point, NC	1.398	0.300	Oct 2014	0.200	Nov 2015	0.750	Nov 2016	-		0.750	Continuing	Continuing	Continuing
Sys Eng T56 Engine Program	WR	FRC-SE : Jacksonville, FL	0.637	0.200	Oct 2014	0.250	Nov 2015	0.010	Nov 2016	-		0.010	Continuing	Continuing	Continuing
Sys Eng T56 Engine Program	WR	FRC-SW : North Island, CA	0.075	0.000		0.050	Nov 2015	0.050	Nov 2016	-		0.050	Continuing	Continuing	Continuing
Sys Eng Props Program	SS/CPFF	Hamilton Sundstrand : Windsor Locks, CT	22.105	1.930	Jan 2015	2.750	Jan 2016	2.130	Jan 2017	-		2.130	0.000	28.915	28.915
Sys Eng J52 Engine Program	WR	NAWCAD : Patuxent River, MD	13.629	0.500	Oct 2014	0.300	Nov 2015	0.000		-		0.000	Continuing	Continuing	Continuing
Sys Eng J52 Engine Program	SS/CPFF	UTC Pratt & Whitney : East Hartford, CT	40.295	0.910	Jan 2015	0.550	Jan 2016	0.000		-		0.000	0.000	41.755	41.755
Sys Eng J52 Engine Program	WR	FRC-E : Cherry Point, NC	0.085	0.000		0.050	Nov 2015	0.000		-		0.000	Continuing	Continuing	Continuing
Sys Eng J52 Engine Program	WR	FRC-SE : Jacksonville, FL	0.275	0.000		0.150	Nov 2015	0.000		-		0.000	Continuing	Continuing	Continuing
Sys Eng T700 Engine Program	WR	NAWCAD : Patuxent River, MD	13.651	1.090	Oct 2014	1.500	Nov 2015	1.500	Nov 2016	-		1.500	Continuing	Continuing	Continuing
Sys Eng T700 Engine Program	SS/CPFF	General Electric : Lynn, MA	27.528	3.000	Jan 2015	1.250	Jan 2016	2.814	Jan 2017	-		2.814	0.000	34.592	34.592
Sys Eng T400 Engine Program	WR	NAWCAD : Patuxent River, MD	1.067	0.400	Oct 2014	0.700	Nov 2015	1.000	Nov 2016	-		1.000	Continuing	Continuing	Continuing
Sys Eng T400 Engine Program	SS/CPFF	UTC Pratt & Whitney : East Hartford, CT	5.210	0.680	Jan 2015	0.000		0.000		-		0.000	0.000	5.890	5.890
Sys Eng F402 Engine Program	WR	NAWCAD : Patuxent River, MD	15.912	1.775	Oct 2014	1.750	Nov 2015	1.677	Nov 2016	-		1.677	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng F402 Engine Program	SS/CPFF	Rolls Royce : Bristol, England, UK	69.529	3.700	Jan 2015	5.225	Jan 2016	4.436	Jan 2017	-		4.436	0.000	82.890	82.890
Sys Eng F402 Engine Program	WR	FRC-E : Cherry Point, NC	0.477	0.165	Oct 2014	0.150	Nov 2015	0.050	Nov 2016	-		0.050	Continuing	Continuing	Continuing
Sys Eng T58/T64 Engine Program	WR	NAWCAD : Patuxent River, MD	31.079	2.000	Oct 2014	1.750	Nov 2015	2.150	Nov 2016	-		2.150	Continuing	Continuing	Continuing
Sys Eng T58/T64 Engine Program	SS/CPFF	General Electric : Lynn, MA	81.168	2.940	Jan 2015	2.500	Jan 2016	3.734	Jan 2017	-		3.734	0.000	90.342	90.342
Sys Eng F414/F404 Engine Program	WR	NAWCAD : Patuxent River, MD	31.675	5.000	Oct 2014	5.500	Nov 2015	5.500	Nov 2016	-		5.500	Continuing	Continuing	Continuing
Sys Eng F414/F404 Engine Program	SS/CPFF	General Electric : Lynn, MA	127.754	12.052	Jan 2015	8.536	Jan 2016	9.208	Jan 2017	-		9.208	0.000	157.550	157.550
Sys Eng F414/F404 Engine Program	WR	FRC-SE : Jacksonville, FL	0.133	0.400	Oct 2014	0.250	Nov 2015	0.250	Nov 2016	-		0.250	Continuing	Continuing	Continuing
Sys Eng F405 Engine Program	WR	NAWCAD : Patuxent River, MD	7.706	1.631	Oct 2014	1.250	Nov 2015	3.208	Nov 2016	-		3.208	Continuing	Continuing	Continuing
Sys Eng F405 Engine Program	SS/CPFF	Rolls Royce : Bristol, England, UK	33.617	0.000		1.500	Jan 2016	1.515	Jan 2017	-		1.515	0.000	36.632	36.632
Sys Eng V-22 Propulsion Program	WR	NAWCAD : Patuxent River, MD	0.135	0.000		0.750	Nov 2015	0.892	Nov 2016	-		0.892	Continuing	Continuing	Continuing
Sys Eng V-22 Propulsion Program	SS/FFP	Bell- Boeing : Ft. Worth, TX	5.929	0.850	Jan 2015	0.500	Jan 2016	2.000	Jan 2017	-		2.000	0.000	9.279	9.279
Sys Eng V-22 Propulsion Program	SS/CPFF	Rolls Royce : Indianapolis, IN	0.080	0.000		0.500	Jan 2016	0.500	Jan 2017	-		0.500	0.000	1.080	1.080
Sys Eng Adversary J85 Engine Program	WR	NAWCAD : Patuxent River, MD	1.256	0.680	Oct 2014	0.660	Nov 2015	1.034	Nov 2016	-		1.034	Continuing	Continuing	Continuing
Sys Eng Adversary J85 Engine Program	WR	FRC-SE : Jacksonville, FL	0.018	0.020	Oct 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Sys Eng Adversary J85 Engine Program	SS/CPFF	General Electric : Lynn, MA	1.272	0.500	Jan 2015	0.500	Jan 2016	0.400	Jan 2017	-		0.400	0.000	2.672	2.672
Sys Eng JSF Engine Program	WR	NAWCAD : Patuxent River, MD	0.000	5.000	Oct 2014	5.000	Nov 2015	1.000	Nov 2016	-		1.000	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng JSF Engine Program	SS/FFP	UTC Pratt & Whitney : East Hartford, CT	0.000	0.000		15.977	Jan 2016	29.479	Jan 2017	-		29.479	0.000	45.456	45.456
Sys Eng P-8A Engine Program	WR	NAWCAD : Patuxent River, MD	0.000	0.000		1.150	Nov 2015	1.150	Nov 2016	-		1.150	Continuing	Continuing	Continuing
Sys Eng Lab Fld Activity-1.0 or more	WR	NAWCAD : Patuxent River, MD	198.674	5.838	Oct 2014	6.500	Nov 2015	7.695	Nov 2016	-		7.695	Continuing	Continuing	Continuing
Sys Eng Other In-House Spt	Various	Various : Various	20.217	0.200	Nov 2014	0.200	Nov 2015	0.200	Nov 2016	-		0.200	Continuing	Continuing	Continuing
GFE*	Reqn	DES/DLA : Various	13.542	0.200	Jan 2015	0.200	Jan 2016	0.200	Nov 2016	-		0.200	Continuing	Continuing	Continuing
Prior Year Prod Dev costs no longer funded in the FYDP	Various	Various : Various	62.882	0.000		0.000		0.000		-		0.000	0.000	62.882	-
		Subtotal	906.927	58.682		75.098		93.145		-		93.145	-	-	-

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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	Various : Various	8.000	0.000		0.300	Nov 2015	0.300	Nov 2016	-		0.300	Continuing	Continuing	Continuing
Development Support	WR	FRC-SW : North Island, CA	0.403	0.210	Dec 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Development Support	WR	FRC-E : Cherry Point, NC	0.000	0.105	Jun 2015	0.000		0.000		-		0.000	0.000	0.105	-
		Subtotal	8.403	0.315		0.300		0.300		-		0.300	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	Various	Various : Various	3.392	0.000		0.050	Nov 2015	0.050	Nov 2016	-		0.050	Continuing	Continuing	Continuing
Development Test & Evaluation	WR	NSWC : Crane, IN	0.358	0.190	Nov 2014	0.000		0.000		-		0.000	0.000	0.548	-
		Subtotal	3.750	0.190		0.050		0.050		-		0.050	-	-	-

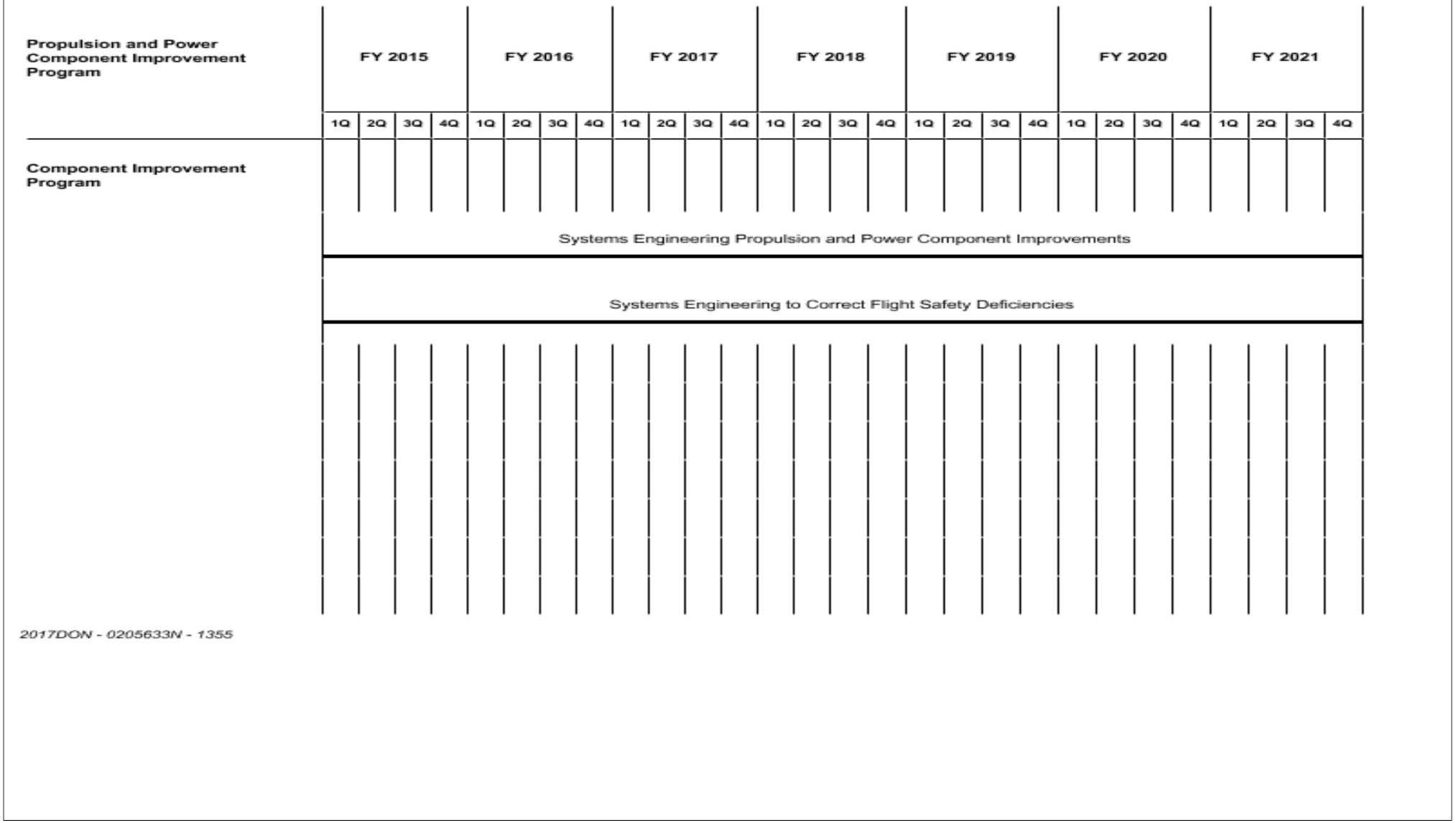
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	NAVAIR : Patuxent River, MD	0.673	0.025	Oct 2014	0.060	Oct 2015	0.048	Oct 2016	-		0.048	Continuing	Continuing	Continuing
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various : Various	1.447	0.000		0.000		0.000		-		0.000	0.000	1.447	-
		Subtotal	2.120	0.025		0.060		0.048		-		0.048	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	921.200	59.212		75.508		93.543		-		93.543	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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*



2017DON - 0205633N - 1355

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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	2015	4	2021
Component Improvement Program: Power & Propulsion	1	2015	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2269: *Expeditionary Airfield Improvements*	13.347	12.210	18.273	14.948	-	14.948	14.124	2.646	0.000	0.000	0.000	75.548
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Expeditionary Airfields Improvements	12.210	18.273	14.948	0.000	14.948
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 2015 Accomplishments:
Successfully achieved Milestone B decision approval. Awarded the Sustainment Lighting System (SLS) contract. Began the design, development and integration of the SLS program leading into the System Requirement Review (SRR). Additional funding provided for the EAF Center of Excellence.

FY 2016 Plans:
Continue the design, development, and integration of the SLS program leading to Preliminary Design Review (PDR) and Critical Design Review (CDR).

FY 2017 Base Plans:
Conduct Integration Readiness Review (IRR), Developmental (DT) testing and Test Readiness Review (TRR).

FY 2017 OCO Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A					
Accomplishments/Planned Programs Subtotals	12.210	18.273	14.948	0.000	14.948

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• OPN/4213: *ASE-Expeditionary Airfields*	7.423	8.425	7.984	-	7.984	8.233	8.409	8.575	8.798	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 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWCAD : Lakehurst, NJ	7.315	3.774	Nov 2014	6.975	Nov 2015	6.151	Nov 2016	-		6.151	4.348	28.563	-
Primary Hardware/ Software Development	C/CPIF	Tactical Lighting Systems, Inc : Addison, Illinois	2.500	3.993	Apr 2015	8.793	Jan 2016	6.600	Jan 2017	-		6.600	7.400	29.286	37.620
Prior year Prod Dev no longer funded in the FYDP	Various	Various : Various	1.700	0.000		0.000		0.000		-		0.000	0.000	1.700	-
		Subtotal	11.515	7.767		15.768		12.751		-		12.751	11.748	59.549	-

Remarks

Costs were updated to reflect actuals and current planning. $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 previously budgeted in Product Development to support the Congressional Add funding has been realigned to new Cost Categories in Support in FY15 to provide the required resources for the Expeditionary Airfield Center of Excellence.

Primary Hardware Development and Systems Engineering have been updated to support costs required post protest of the Tactical Lighting Systems Contract.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics	WR	NAWCAD : Lakehurst, NJ	0.638	0.237	Nov 2014	1.083	Nov 2015	0.657	Nov 2016	-		0.657	0.886	3.501	-
Government Engineering Support	MIPR	US Army Engineer Research and Development Center : Vicksburg, MS	0.000	0.960	Jan 2016	0.000		0.000		-		0.000	0.000	0.960	-
Government Engineering Support	MIPR	Tyndall AFB : Panama City, Florida	0.000	0.850	May 2016	0.000		0.000		-		0.000	0.000	0.850	-
Engineering Support	C/CPFF	NAVSEA : Washington Navy Yard, DC	0.000	1.777	Apr 2016	0.000		0.000		-		0.000	0.000	1.777	2.130

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 2269 / *Expeditionary Airfield Improvements*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Support no longer funded in the FYDP	Various	Various : Various	0.050	0.000		0.000		0.000		-		0.000	0.000	0.050	-
		Subtotal	0.688	3.824		1.083		0.657		-		0.657	0.886	7.138	-

Remarks

Costs were updated to reflect actuals and current planning. Funding previously budgeted in Product Development to support the Congressional Add funding has been realigned to new Support Cost Categories in FY15 to provide the required resources for the Expeditionary Airfield Center of Excellence.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NAWCAD : Lakehurst, NJ	0.639	0.303	Nov 2014	1.055	Nov 2015	1.122	Nov 2016	-		1.122	2.916	6.035	-
Opeval Test Support	WR	COMOPTEVFOR : Norfolk, VA	0.069	0.000		0.057	Nov 2015	0.113	Nov 2016	-		0.113	0.922	1.161	-
		Subtotal	0.708	0.303		1.112		1.235		-		1.235	3.838	7.196	-

Remarks

Costs were updated to reflect actuals and current planning.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Services	C/CPFF	Various : Various	0.436	0.316	Dec 2014	0.310	Dec 2015	0.305	Dec 2016	-		0.305	0.298	1.665	1.664
		Subtotal	0.436	0.316		0.310		0.305		-		0.305	0.298	1.665	1.664

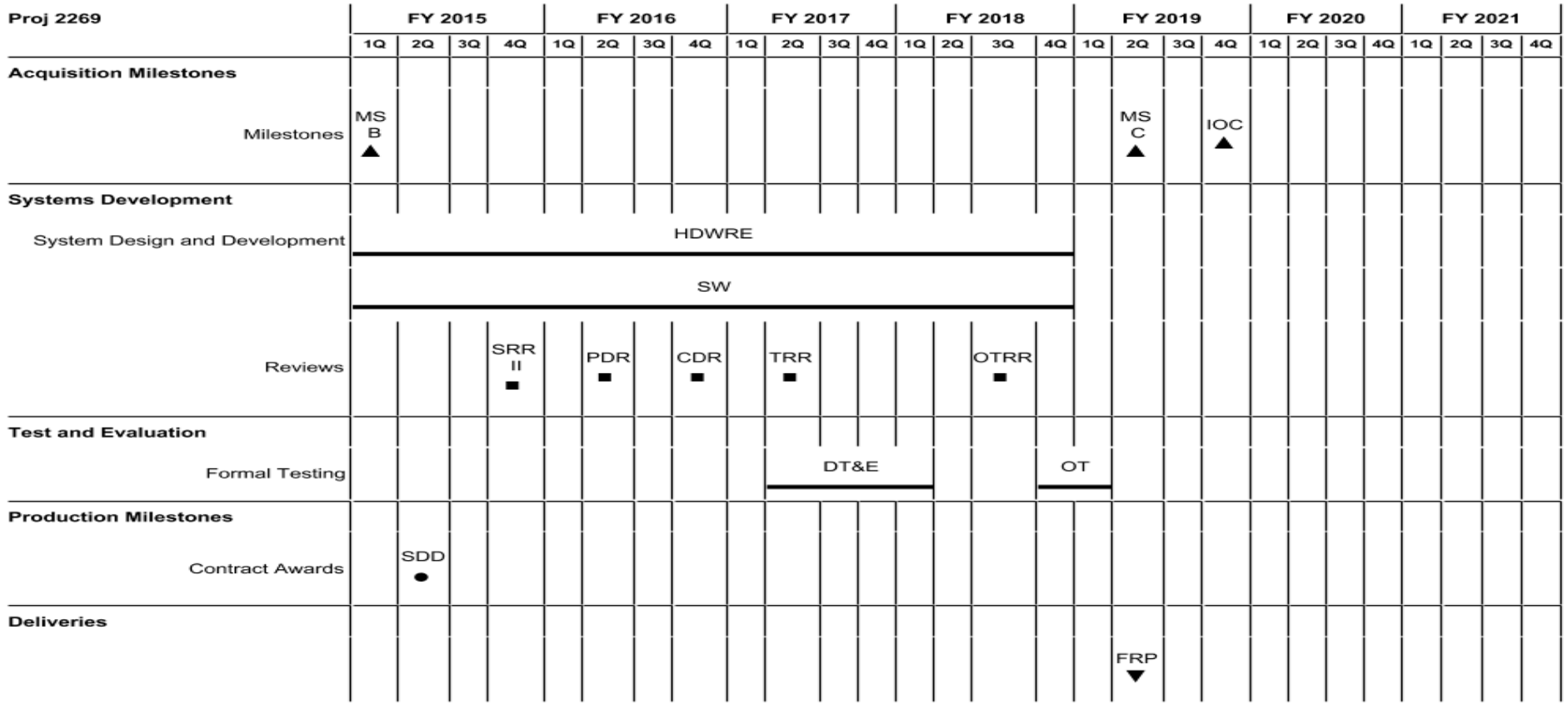
	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	13.347	12.210		18.273		14.948		-		14.948	16.770	75.548	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 2269 / *Expeditionary Airfield Improvements*	

	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 2269 / *Expeditionary Airfield Improvements*



2017PB - 0205633N - 2269

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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	2	2019	2	2019
Acquisition Milestones: Milestones: IOC	4	2019	4	2019
Systems Development: System Design and Development: Hardware Development	1	2015	4	2018
Systems Development: System Design and Development: Software Development	1	2015	4	2018
Systems Development: Reviews: Systems Requirements review	4	2015	4	2015
Systems Development: Reviews: Preliminary Design Review	2	2016	2	2016
Systems Development: Reviews: Critical Design Review	4	2016	4	2016
Systems Development: Reviews: Test Readiness Review	2	2017	2	2017
Systems Development: Reviews: Operational Test Readiness Review	3	2018	3	2018
Test and Evaluation: Formal Testing: Tech Eval/Dev T&E	2	2017	1	2018
Test and Evaluation: Formal Testing: Operational Testing	4	2018	1	2019
Production Milestones: Contract Awards: Contract Award	2	2015	2	2015
Deliveries: Delivery: Lot 1	2	2019	2	2019