Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603251N *I (U)AIRCRAFT SYSTEMS*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	31.838	10.072	12.651	11.643	-	11.643	1.735	0.771	0.886	1.676	Continuing	Continuing
2777: *Highly Integrated Photonics (HIP)*	17.724	-	10.000	9.920	-	9.920	-	-	-	-	-	37.644
3331: *C-2 System Development*	14.114	0.072	2.651	1.723	-	1.723	1.735	0.771	0.886	1.676	Continuing	Continuing
9999: *Congressional Adds*	0.000	10.000	-	-	-	-	-	-	-	-	-	10.000

A. Mission Description and Budget Item Justification

This program element supports the study, evaluation, optimization and enhancements of fielded aircraft systems not supported by a system specific Research, Development, Test and Evaluation, Navy program element. The supported efforts will provide a basis to recommend options for improved efficiency, minimization of life cycle cost, and other affordable options. As naval aircraft systems age, and analysis of the programmatic and /or reliability enhancements options allows the Department of the Navy to more effectively understand and manage system lifecycle costs and implications in future airborne platforms.

This program is funded under ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES because it includes all efforts necessary to evaluate integrated technologies, representative models or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	10.074	12.651	10.000	-	10.000
Current President's Budget	10.072	12.651	11.643	-	11.643
Total Adjustments	-0.002	-	1.643	-	1.643
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.002	-			
• Program Adjustments	-	-	4.160	-	4.160
• Rate/Misc Adjustments	-	-	-2.517	-	-2.517

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: 9999: *Congressional Adds*		
Congressional Add: *Highly Integrated Photonics (HIP) - Cong*	10.000	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603251N *I (U)AIRCRAFT SYSTEMS*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Congressional Add Subtotals for Project: 9999	10.000	-
Congressional Add Totals for all Projects	10.000	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not Applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603251N / *(U)AIRCRAFT SYSTEMS*	Project (Number/Name) 2777 / *Highly Integrated Photonics (HIP)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2777: *Highly Integrated Photonics (HIP)*	17.724	-	10.000	9.920	-	9.920	-	-	-	-	-	37.644
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

FY14 Congressional Add 2777C is applicable to the project schedule.

A. Mission Description and Budget Item Justification

This program element supports the requirements study, technology maturation, system design and demonstration of a general-purpose, future-proof avionics network that replaces copper with glass. As both analog and digital onboard information transport and processing requirements continue to grow, life cycle costs associated with maintaining and upgrading current stove-piped networks aboard naval aircraft systems becomes unsustainable. The size, weight, power, high data rate and scalability advantages of a single-mode fiber optic network have significant total ownership cost savings implications that will allow the Department of the Navy to more affordably and effectively meet mission requirements well into the future. The activities funded will provide a networking baseline or standard that can be incorporated into airborne platforms that maximize networking system capability while minimizing associated life cycle costs. While the development under this program does specifically address airborne platforms where size and weight of the cable plant is particularly important, ultimately the network technology developed will have broad applicability to shipboard and submarine platform network requirements as well.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Highly Integrated Photonics Naval Networking	-	10.000	9.920	-	9.920
Articles:	-	-	-	-	-
Description: The overarching objective of this activity is to develop and demonstrate a highly integrated Local Area Network for airborne platforms incorporating an optical fiber network that uses wavelength division multiplexing (WDM) to address demanding military network re-configurability, scalability, and technology refresh challenges. The telecommunication network application of WDM technology is fully mature for commercial environments with little constraint on size, weight, and power (SWAP). The program will leverage and enhance the telecommunication standards for optical fiber networks while addressing the SWAP restrictions and severe environmental requirements of military airborne platforms. The functionality of the technology developed cannot be obtained through Commercial-Off-The-Shelf components due to SWAP constraints and the military environment. Effort will involve understanding the properties of engineered optical fiber components and electronic semiconductors as they apply to highly integrated optical fiber networks. Ultimately these higher performance components and networks will address the needs for all classes of military platforms.					
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 2777 / *Highly Integrated Photonics (HIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2015 Plans:*** Continue development and demonstration of highly integrated local area network for naval platforms. Fabrication of hardware, integration, and start of testing in platform representative environments. Testing will include engineering unit testing, integration for risk reductions, and environmental testing of the link components. ***FY 2016 Base Plans:*** Continue development and testing of components for Technology Readiness Level Six assessment in aircraft System Integration Lab environments. Begin initial flight testing of links to establish readiness for transition to platform/systems applications at acceptable risks. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	10.000	9.920	-	9.920

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Highly Integrated Photonics Naval Networking strategy began as a joint effort with Defense Advanced Research Projects Agency for development and demonstration of Analog and Digital Wavelength Division Multiplex Highly Integrated Photonics for aviation applications with the focus being a future technology refresh for the F-35 and, as an enterprise level technology, other applications. Funding extends the development and technology maturation to a technology/manufacturing readiness level compatible with transition to one, or more, Program(s) of Record.

E. Performance Metrics

Performance that adheres to the conventional Wavelength Division Multiplex optical network protocol standards, wavelengths and interface with Ethernet 10Gbit/s, MIL-STD-1553, and other protocols running concurrently on one or more single-mode fibers along with analog signals. Each critical component has a set of physical, environmental, and operational requirements driven by representative platform, systems, and operational metrics. Includes testing in a Systems/Software Integration Laboratory and in test aircraft.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603251N / *(U)AIRCRAFT SYSTEMS*	Project (Number/Name) 2777 / *Highly Integrated Photonics (HIP)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental and Architectural Studies	C/FFP	APIC Corp : Culver, CA	0.500	-		1.600	Dec 2014	0.400	Dec 2015	-		0.400	-	2.500	2.500
Primary Hardware Development	C/FFP	APIC Corp : Culver, CA	1.830	-		2.700	Dec 2014	2.200	Dec 2015	-		2.200	-	6.730	6.730
Component Foundry & Fabrication	C/FFP	APIC Corp : Culver, CA	11.753	-		3.300	Dec 2014	3.600	Dec 2015	-		3.600	-	18.653	18.653
Systems Engineering & Testing	C/FFP	APIC Corp : Culver, CA	2.386	-		0.980	Dec 2014	2.800	Dec 2015	-		2.800	-	6.166	6.166
Systems Engineering	WR	SPAWARSYSCEN : San Diego, CA	0.000	-		0.150	Nov 2014	-		-		-	-	0.150	-
Systems Engineering	WR	NRL : Washington, DC	0.000	-		0.250	Dec 2014	-		-		-	-	0.250	-
		Subtotal	16.469	-		8.980		9.000		-		9.000	-	34.449	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NAWCAD : Pax River, MD	0.855	-		0.750	Oct 2014	0.750	Oct 2015	-		0.750	-	2.355	Continuing
		Subtotal	0.855	-		0.750		0.750		-		0.750	-	2.355	-

Management Services ($ in Millions)

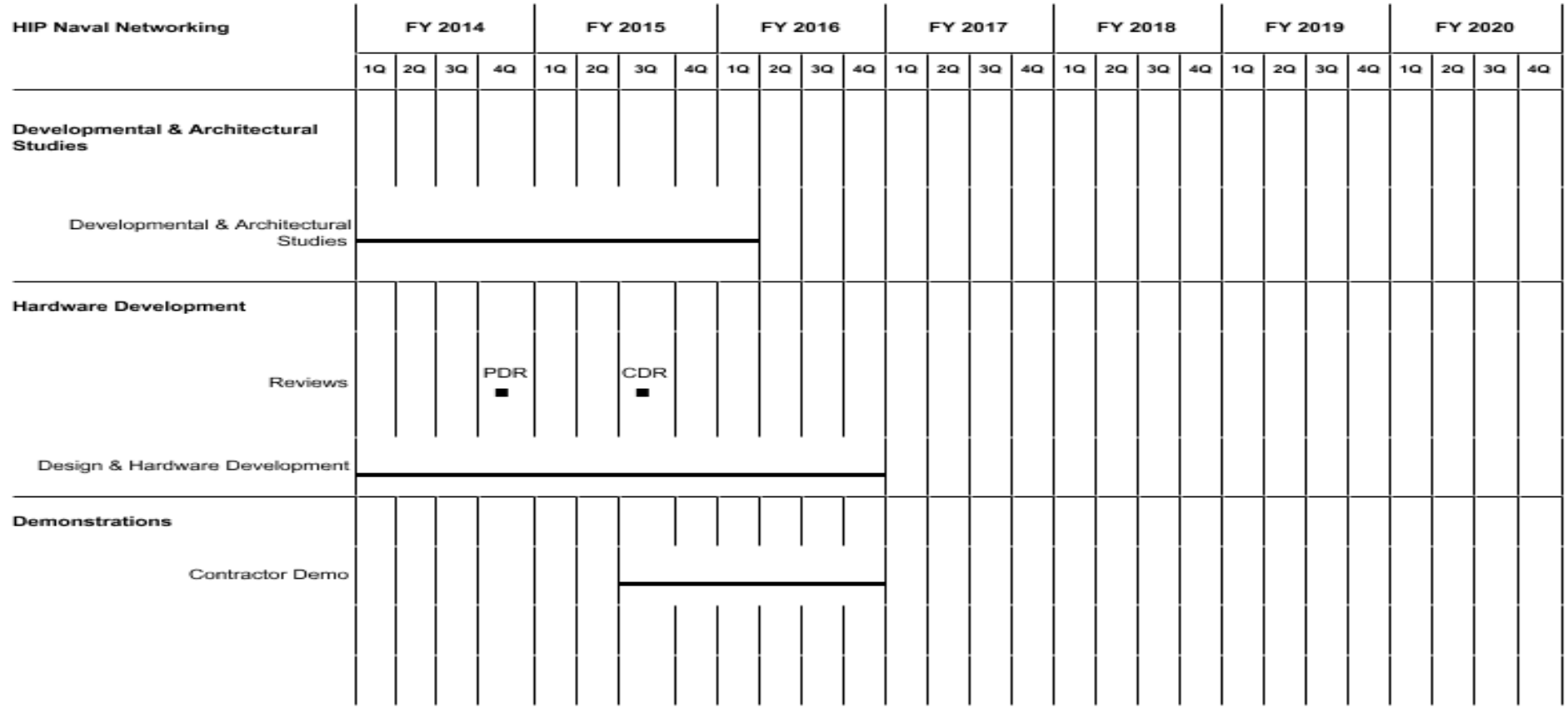
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	WR	NAWCAD : Pax River, MD	0.400	-		0.270	Oct 2014	0.170	Oct 2015	-		0.170	-	0.840	Continuing
		Subtotal	0.400	-		0.270		0.170		-		0.170	-	0.840	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603251N / *(U)AIRCRAFT SYSTEMS*	Project (Number/Name) 2777 / *Highly Integrated Photonics (HIP)*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	17.724	-		10.000		9.920		-		9.920	-	37.644	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 2777 / *Highly Integrated Photonics (HIP)*



2016PB - 0603251N - 2777

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 2777 / *Highly Integrated Photonics (HIP)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
HIP Naval Networking				
Developmental & Architectural Studies: Developmental & Architectural Studies:	1	2014	1	2016
Hardware Development: Reviews: Primary	4	2014	4	2014
Hardware Development: Reviews: CDR	3	2015	3	2015
Hardware Development: Design & Hardware Development:	1	2014	4	2016
Demonstrations: Contractor Demo:	3	2015	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603251N / *(U)AIRCRAFT SYSTEMS*				Project (Number/Name) 3331 / *C-2 System Development*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
3331: *C-2 System Development*	14.114	0.072	2.651	1.723	-	1.723	1.735	0.771	0.886	1.676	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The C-2A Greyhound is a high wing monoplane, twin engine turbo-prop aircraft capable of operating from both a shore base and all operational United States Navy aircraft carrier classes. The mission of the C-2A is to provide rapid response Carrier Onboard Delivery of fleet essential supplies, repair parts, and personnel to sustain at sea operations of deployed battle groups. In addition, the C-2A provides airdrop delivery and mobilization support for special operations forces from land bases and carriers, Search and Rescue, and Humanitarian Relief.

This project will fund required development, analysis, and testing of a Critical Brake Upgrade and other subsystems required to operate the C-2A to the end of its service life.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Critical Brake Upgrade	0.072	2.651	-	-	-
Articles:	-	-	-	-	-
Description: Provides funding for development, design, integration and test of an anti-skid brake system for the C-2A aircraft. This will correct a deficiency related to the operational ground controllability of the C-2A.					
FY 2014 Accomplishments: Funding is for on-going efforts to continue development, design, integration and test of anti-skid brake system for the C-2A aircraft.					
FY 2015 Plans: Funding is for on-going efforts to complete development, design, integration and test of anti-skid brake system for the C-2A aircraft.					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Title: Combat Readiness	-	-	1.723	-	1.723
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 3331 / *C-2 System Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: C-2 Combat Readiness establishes an enduring capacity to address obsolescence, safety, and readiness degrader issues for the C-2A(R) aircraft until the end of it's service life. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Funding is for development and design for C-2 combat readiness. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.072	2.651	1.723	-	1.723

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0556: *C-2A Series*	0.885	-	8.157	-	8.157	11.988	11.406	8.376	8.278	0.482	505.819

Remarks

D. Acquisition Strategy

The C-2 Operational Ground Controllability strategy will be exercised under an Engineering Change Proposal.

E. Performance Metrics

Validation is planned for first quarter FY15. Final Test Report is planned for fourth quarter FY15. Verification is planned for second quarter FY17.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603251N / *(U)AIRCRAFT SYSTEMS*	Project (Number/Name) 3331 / *C-2 System Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPFF	NGC : Bethpage, NY	9.718	-		1.014	Mar 2015	-		-		-	-	10.732	10.732
Prior year Prod Dev no longer funded in the FYDP	Various	Various : Various	0.022	-		-		-		-		-	-	0.022	-
		Subtotal	9.740	-		1.014		-		-		-	-	10.754	-

Remarks

Totals may not add due to rounding.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NAWCAD : Pax River, MD	3.456	-		0.303	Nov 2014	-		-		-	-	3.759	-
Government Engineering Support	WR	Various : Various	0.000	-		-		0.590	Nov 2015	-		0.590	Continuing	Continuing	Continuing
Government Engineering Support	WR	North Island : North Island, CA	0.804	0.070	Nov 2013	0.259	Nov 2014	-		-		-	-	1.133	-
Development Support	WR	North Island : North Island, CA	0.000	-		-		1.028	Nov 2015	-		1.028	Continuing	Continuing	Continuing
ILS Support	WR	North Island : North Island, CA	0.000	-		-		0.045	Nov 2015	-		0.045	Continuing	Continuing	Continuing
Prior year Support no longer funded in the FYDP	Various	Various : Various	0.100	-		-		-		-		-	-	0.100	-
		Subtotal	4.360	0.070		0.562		1.663		-		1.663	-	-	-

Remarks

Totals may not add due to rounding.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603251N / *(U)AIRCRAFT SYSTEMS*	Project (Number/Name) 3331 / *C-2 System Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWCAD : Pax River, MD	0.000	-	Nov 2013	1.065	Nov 2014	0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing
		Subtotal	0.000	-		1.065		0.050		-		0.050	-	-	-

Remarks

Totals may not add due to rounding.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	Various : Various	0.014	0.002	Oct 2013	0.010	Oct 2014	0.010	Nov 2015	-		0.010	Continuing	Continuing	Continuing
		Subtotal	0.014	0.002		0.010		0.010		-		0.010	-	-	-

Remarks

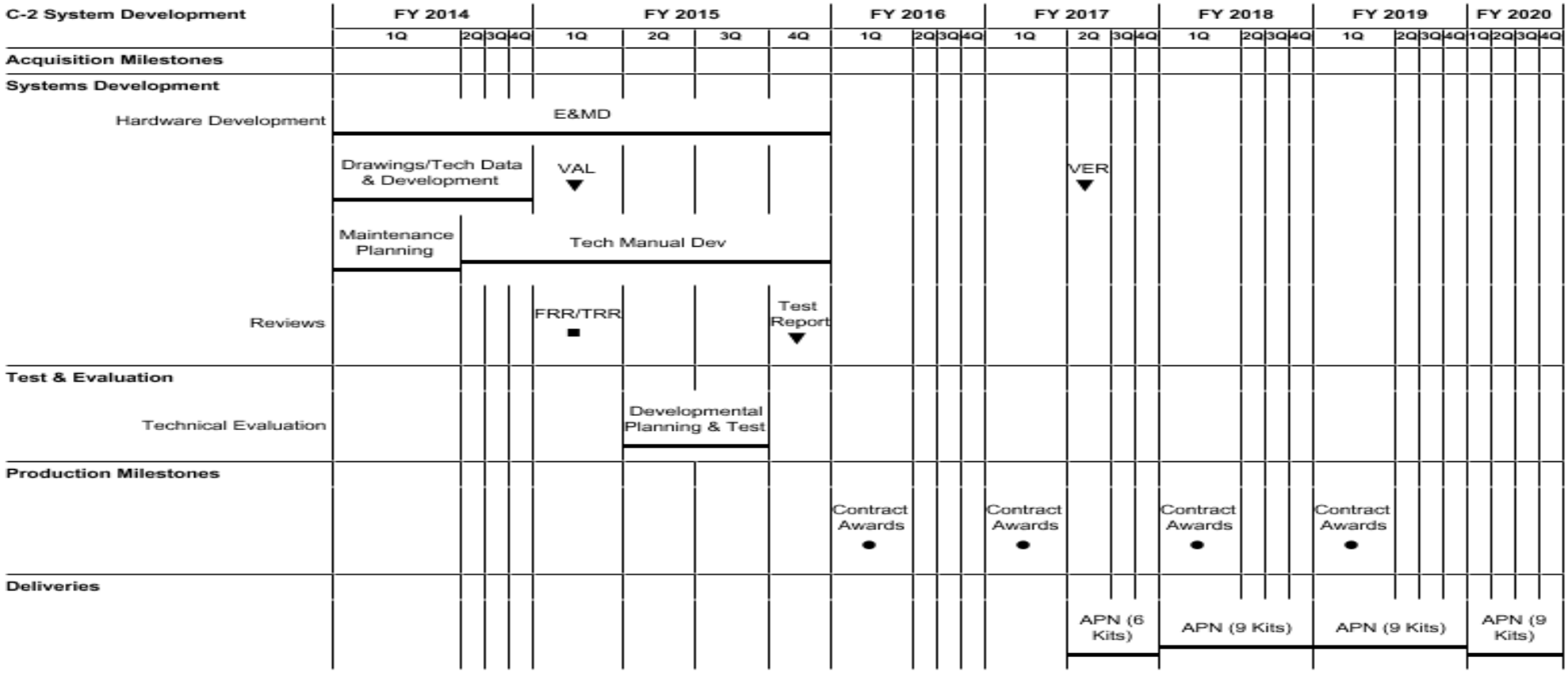
Totals may not add due to rounding.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	14.114	0.072		2.651		1.723		-		1.723	-	-	-

Remarks

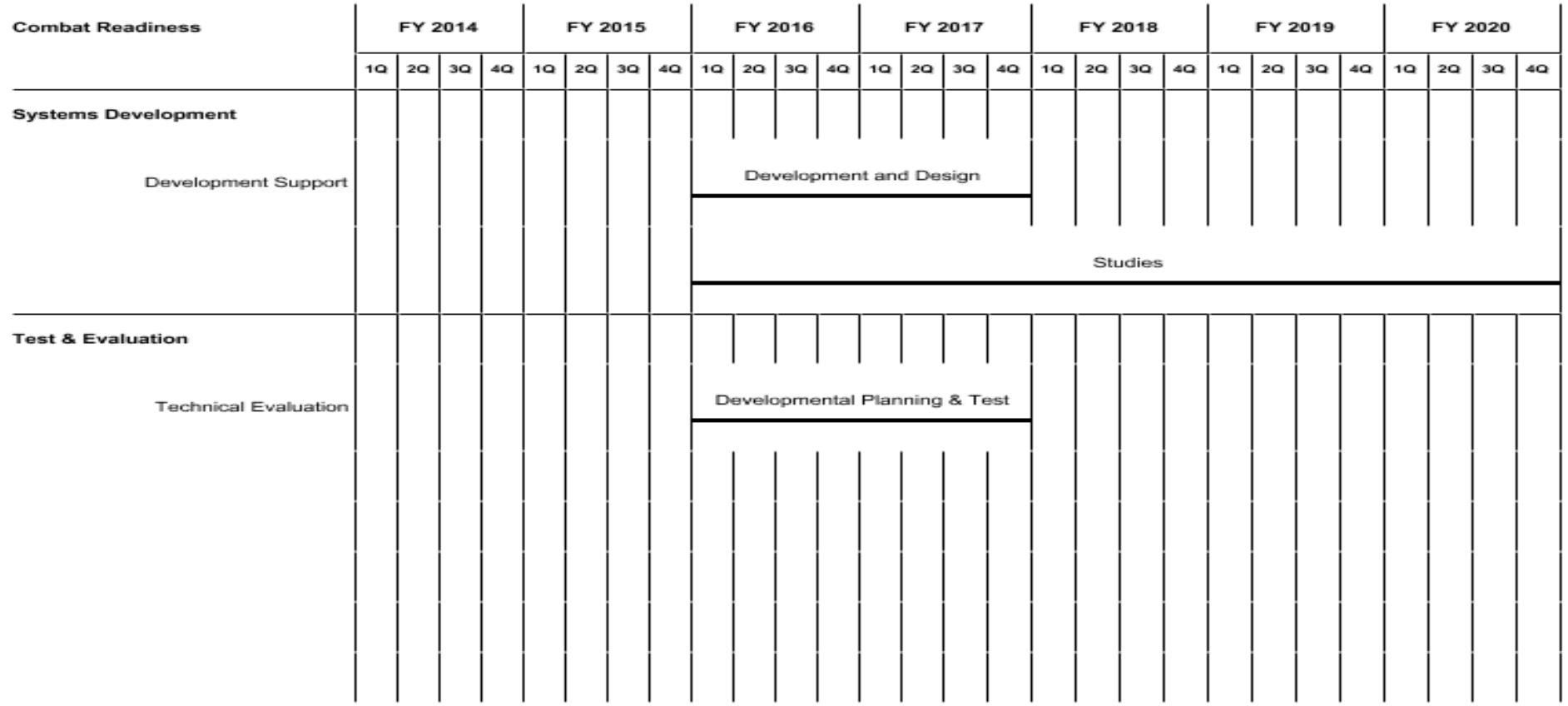
Totals may not add due to rounding.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 3331 / *C-2 System Development*



2016PB - 0603251N - 3331

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 3331 / *C-2 System Development*



2016PB - 0603251N - 3331

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 3331 / *C-2 System Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
C-2 System Development				
Systems Development: Hardware Development: Engineering & Manufacturing Development	1	2014	4	2015
Systems Development: Hardware Development: Validation	1	2015	1	2015
Systems Development: Hardware Development: Verification Install	2	2017	2	2017
Systems Development: Hardware Development: Drawings/Technical Data Development	1	2014	4	2014
Systems Development: Hardware Development: Maintenance Planning	1	2014	1	2014
Systems Development: Hardware Development: Technical Manual Development	2	2014	4	2015
Systems Development: Reviews: Funtional Readiness Review/Test Readiness Review	1	2015	1	2015
Systems Development: Reviews: Test Report	4	2015	4	2015
Test & Evaluation: Technical Evaluation: Developmental Planning & Test	2	2015	3	2015
Production Milestones: Contract Awards FY16	1	2016	1	2016
Production Milestones: Contract Awards FY17	1	2017	1	2017
Production Milestones: Contract Awards FY18	1	2018	1	2018
Production Milestones: Contract Awards FY19	1	2019	1	2019
Deliveries: Production Deliveries - APN (6 Kits) FY17	2	2017	4	2017
Deliveries: Production Deliveries - APN (9 Kits) FY18	1	2018	4	2018
Deliveries: Production Deliveries - APN (9 Kits) FY19	1	2019	4	2019
Deliveries: Production Deliveries - APN (9 Kits) FY20	1	2020	4	2020
Combat Readiness				
Systems Development: Development Support: Development Support	1	2016	4	2017
Systems Development: Development Support: Studies	1	2016	4	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 3331 / *C-2 System Development*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test & Evaluation: Technical Evaluation: Developmental Planning & Test	1	2016	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603251N / *(U)AIRCRAFT SYSTEMS*				Project (Number/Name) 9999 / *Congressional Adds*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
9999: *Congressional Adds*	-	10.000	-	-	-	-	-	-	-	-	-	10.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Congressional Add supports the requirements study, technology maturation, system design and demonstration of a general-purpose, future-proof avionics network that replaces copper with glass. As both analog and digital onboard information transport and processing requirements continue to grow, life cycle costs associated with maintaining and upgrading current stove-piped networks aboard naval aircraft systems becomes unsustainable. The size, weight, power, high data rate and scalability advantages of a single-mode fiber optic network have significant total ownership cost savings implications that will allow the Department of the Navy to more affordably and effectively meet mission requirements well into the future. The activities funded will provide a networking baseline or standard that can be incorporated into airborne platforms that maximize networking system capability while minimizing associated life cycle costs. While the development under this program does specifically address airborne platforms where size and weight of the cable plant is particularly important, ultimately the network technology developed will have broad applicability to shipboard and submarine platform network requirements as well.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015
Congressional Add: Highly Integrated Photonics (HIP) - Cong	10.000	-
FY 2014 Accomplishments: Develop and demonstrate highly integrated local area network for naval platforms.		
FY 2015 Plans: N/A		
Congressional Adds Subtotals	10.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not Required for Congressional Adds

E. Performance Metrics

Not Required for Congressional Adds.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603251N / *(U)AIRCRAFT SYSTEMS*	Project (Number/Name) 9999 / *Congressional Adds*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental and Architectural Studies	C/FFP	APIC Corp : Culver, CA	0.000	1.600	Mar 2014	-		-		-		-	-	1.600	1.600
Primary Hardware Development	C/FFP	APIC Corp : Culver, CA	0.000	2.700	Mar 2014	-		-		-		-	-	2.700	2.700
Component Foundry	C/FFP	APIC Corp : Culver, CA	0.000	3.626	Mar 2014	-		-		-		-	-	3.626	3.625
Systems Engineering	C/FFP	APIC Corp : Culver, CA	0.000	1.380	Mar 2014	-		-		-		-	-	1.380	1.380
		Subtotal	0.000	9.306		-		-		-		-	-	9.306	9.305

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NAWCAD : Pax River, MD	0.000	0.514	Apr 2014	-		-		-		-	-	0.514	-
		Subtotal	0.000	0.514		-		-		-		-	-	0.514	-

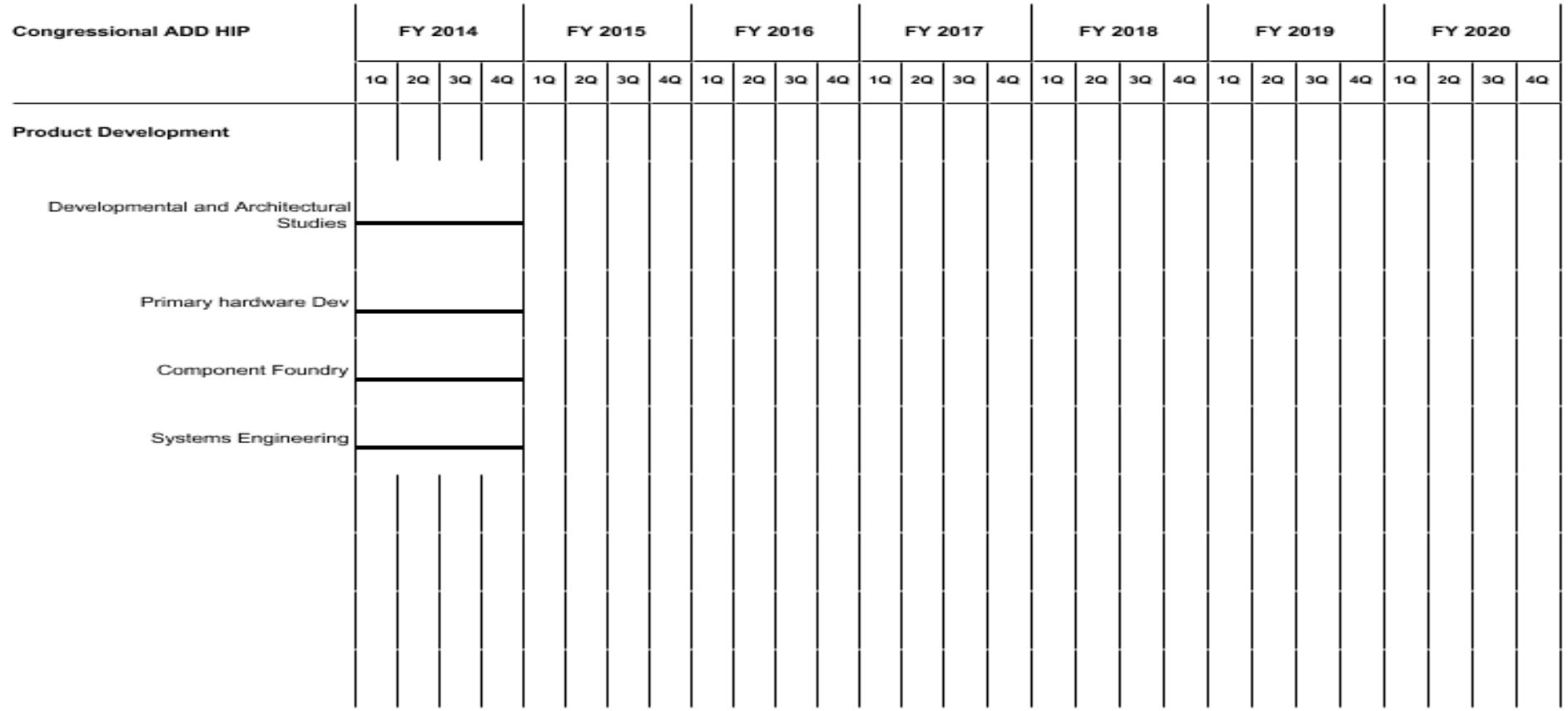
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	WR	NAWCAD : Pax River, MD	0.000	0.180	Apr 2014	-		-		-		-	-	0.180	-
		Subtotal	0.000	0.180		-		-		-		-	-	0.180	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	10.000		-		-		-		-	-	10.000	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 9999 / *Congressional Adds*



2016PB - 0603251N - 9999

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Congressional ADD HIP				
Product Development: Developmental and Architectural Studies: Schedule Detail	1	2014	4	2014
Product Development: Primary hardware Dev: Schedule Detail	1	2014	4	2014
Product Development: Component Foundry: Schedule Detail	1	2014	4	2014
Product Development: Systems Engineering: Schedule Detail	1	2014	4	2014