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 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 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	31.910	14.270	26.643	1.519	-	1.519	0.717	0.805	1.508	1.521	Continuing	Continuing
2777: *Highly Integrated Photonics (HIP)*	17.724	11.154	9.920	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	38.798
3331: *C-2 System Development*	14.186	3.116	1.723	1.519	-	1.519	0.717	0.805	1.508	1.521	Continuing	Continuing
9999: *Congressional Adds*	0.000	0.000	15.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	15.000

A. Mission Description and Budget Item Justification

Decrease in (U)AIRCRAFT SYSTEMS by $0.064M as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.

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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	12.651	11.643	1.735	-	1.735
Current President's Budget	14.270	26.643	1.519	-	1.519
Total Adjustments	1.619	15.000	-0.216	-	-0.216
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	15.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.000	0.000			
• SBIR/STTR Transfer	-0.381	0.000			
• Program Adjustments	0.000	0.000	-0.065	-	-0.065
• Rate/Misc Adjustments	0.000	0.000	-0.151	-	-0.151

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 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 2015	FY 2016
Project: 9999: *Congressional Adds*		
Congressional Add: *Highly Integrated Photonics (HIP) - Cong*	0.000	15.000
Congressional Add Subtotals for Project: 9999	0.000	15.000
Congressional Add Totals for all Projects	0.000	15.000

Change Summary Explanation

Technical: Not applicable.

Schedule: Not Applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 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
2777: *Highly Integrated Photonics (HIP)*	17.724	11.154	9.920	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	38.798
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Highly Integrated Photonics Naval Networking	11.154	9.920	0.000	0.000	0.000
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 2015 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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 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 2017 Base Plans:*** N/A ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	11.154	9.920	0.000	0.000	0.000

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 2017 Navy		Date: February 2016
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 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
Developmental & Architectural Studies	C/FFP	APIC Corp : Culver, CA	0.500	1.600	Dec 2014	0.000		0.000		-		0.000	0.000	2.100	2.100
Primary Hardware Development	C/FFP	APIC Corp : Culver, CA	1.830	3.767	Dec 2014	3.820	Dec 2015	0.000		-		0.000	0.000	9.417	9.417
Component Foundry & Fabrication	C/FFP	APIC Corp : Culver, CA	11.753	3.533	Dec 2014	0.000		0.000		-		0.000	0.000	15.286	15.286
Systems Engineering & Testing	C/FFP	APIC Corp : Culver, CA	2.386	1.434	Dec 2014	0.000		0.000		-		0.000	0.000	3.820	3.820
Systems Engineering & Testing	WR	SPAWARSYSCEN : San Diego, CA	0.000	0.150	Nov 2014	0.150	Dec 2015	0.000		-		0.000	0.000	0.300	-
Systems Engineering	WR	NRL : Washington, DC	0.000	0.250	Dec 2014	0.953	Dec 2015	0.000		-		0.000	0.000	1.203	-
Systems Engineering	C/CPFF	Pennsylvania State University : Freeport, PA	0.000	0.100	Sep 2015	0.247	Dec 2015	0.000		-		0.000	0.000	0.347	0.347
Developmental & Architectural Studies	C/CPFF	The Mitre Corp. : McLean, VA	0.000	0.000		1.487	Dec 2015	0.000		-		0.000	0.000	1.487	1.487
Primary Hardware Development, Systems Engineering & Testing	C/CPFF	MIT-LL : Lexington, MA	0.000	0.000		0.900	Apr 2016	0.000		-		0.000	0.000	0.900	0.900
Systems Engineering & Testing	WR	NUWC : Newport, RI	0.000	0.000		2.192	Feb 2016	0.000		-		0.000	0.000	2.192	-
		Subtotal	16.469	10.834		9.749		0.000		-		0.000	0.000	37.052	-

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
Government Engineering Support	WR	NAWCAD : Pax River, MD	0.855	0.167	Dec 2014	0.100	Nov 2015	0.000		-		0.000	0.000	1.122	-
		Subtotal	0.855	0.167		0.100		0.000		-		0.000	0.000	1.122	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603251N / *(U)AIRCRAFT SYSTEMS*	Project (Number/Name) 2777 / *Highly Integrated Photonics (HIP)*	

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	WR	NAWCAD : Pax River, MD	0.400	0.149	Dec 2014	0.071	Nov 2015	0.000		-		0.000	0.000	0.620	-
Travel	Various	Various : Various	0.000	0.004	Feb 2015	0.000		0.000		-		0.000	0.000	0.004	-
		Subtotal	0.400	0.153		0.071		0.000		-		0.000	0.000	0.624	-

	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	17.724	11.154		9.920		0.000		-		0.000	0.000	38.798	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 2777 / *Highly Integrated Photonics (HIP)*

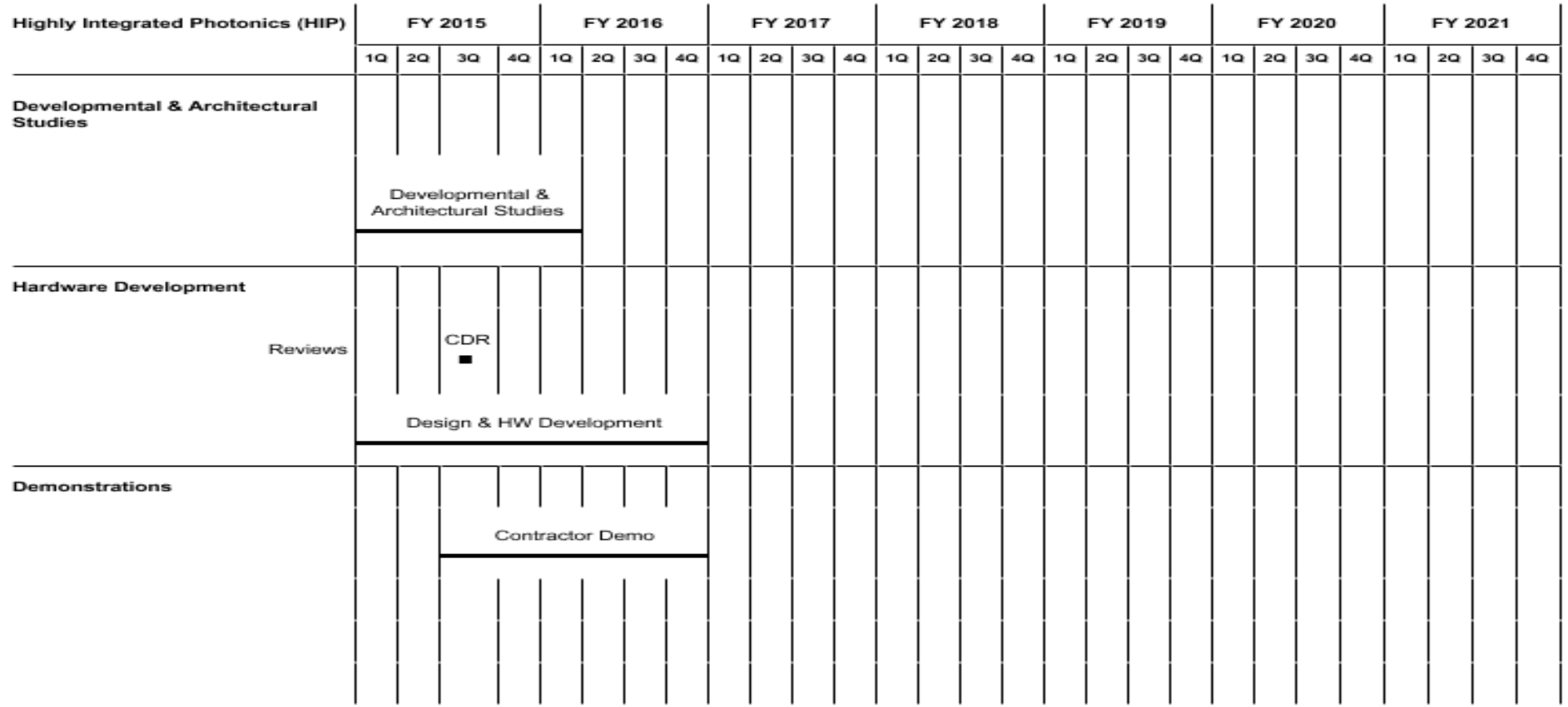

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 2777 / *Highly Integrated Photonics (HIP)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Highly Integrated Photonics (HIP)				
Developmental & Architectural Studies: Developmental & Architectural Studies	1	2015	1	2016
Hardware Development: Reviews: CDR	3	2015	3	2015
Hardware Development: Reviews: Design & Hardware Development	1	2015	4	2016
Demonstrations: Contractor Demo	3	2015	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy									Date: February 2016			
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 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**
3331: *C-2 System Development*	14.186	3.116	1.723	1.519	-	1.519	0.717	0.805	1.508	1.521	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Critical Brake Upgrade	3.116	0.000	0.000	0.000	0.000
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 2015 Accomplishments: 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 Plans: N/A					
FY 2017 Base Plans: N/A					
FY 2017 OCO Plans: N/A					
Title: Combat Readiness	0.000	1.723	1.519	0.000	1.519
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 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 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** Funding is for development and design for C-2 combat readiness. ***FY 2017 Base Plans:*** Funding provides for the continuation of C-2 combat readiness development and design. ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	3.116	1.723	1.519	0.000	1.519

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/0556: *C-2A Series*	0.000	7.157	19.066	-	19.066	22.694	19.655	17.952	7.890	6.075	557.621

Remarks

D. Acquisition Strategy

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

E. Performance Metrics

Test and evaluation started 3Q FY15 with 1Q FY16 completion. Final Test Report is planned for 2Q FY16.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 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 Development	SS/CPFF	NGC : Bethpage, NY	9.718	0.652	Mar 2015	0.000		0.000		-		0.000	0.000	10.370	10.370
Prior year Prod Dev no longer funded in the FYDP	Various	Various : Various	0.022	0.000		0.000		0.000		-		0.000	0.000	0.022	-
		Subtotal	9.740	0.652		0.000		0.000		-		0.000	0.000	10.392	-

Remarks

Totals may not add 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
Government Engineering Support	WR	NAWCAD : Pax River, MD	3.456	0.393	Nov 2014	0.000		0.000		-		0.000	0.000	3.849	-
Government Engineering Support	WR	Various : Various	0.000	0.000		1.178	Jan 2016	0.326	Nov 2016	-		0.326	Continuing	Continuing	Continuing
Government Engineering Support	WR	North Island : North Island, CA	0.874	0.263	Nov 2014	0.000		0.000		-		0.000	0.000	1.137	-
Development Support	WR	North Island : North Island, CA	0.000	0.000		0.440	Jan 2016	0.546	Nov 2016	-		0.546	Continuing	Continuing	Continuing
ILS Support	WR	North Island : North Island, CA	0.000	0.000		0.045	Jan 2016	0.045	Nov 2016	-		0.045	Continuing	Continuing	Continuing
Prior year Support no longer funded in the FYDP	Various	Various : Various	0.100	0.000		0.000		0.000		-		0.000	0.000	0.100	-
		Subtotal	4.430	0.656		1.663		0.917		-		0.917	-	-	-

Remarks

Totals may not add due to rounding.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 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
Developmental Test & Evaluation	WR	NAWCAD : Pax River, MD	0.000	1.808	Nov 2014	0.050	Jan 2016	0.592	Nov 2016	-		0.592	Continuing	Continuing	Continuing
		Subtotal	0.000	1.808		0.050		0.592		-		0.592	-	-	-

Remarks

Totals may not add due to rounding.

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	Various : Various	0.016	0.000	Oct 2014	0.010	Jan 2016	0.010	Nov 2016	-		0.010	Continuing	Continuing	Continuing
		Subtotal	0.016	0.000		0.010		0.010		-		0.010	-	-	-

Remarks

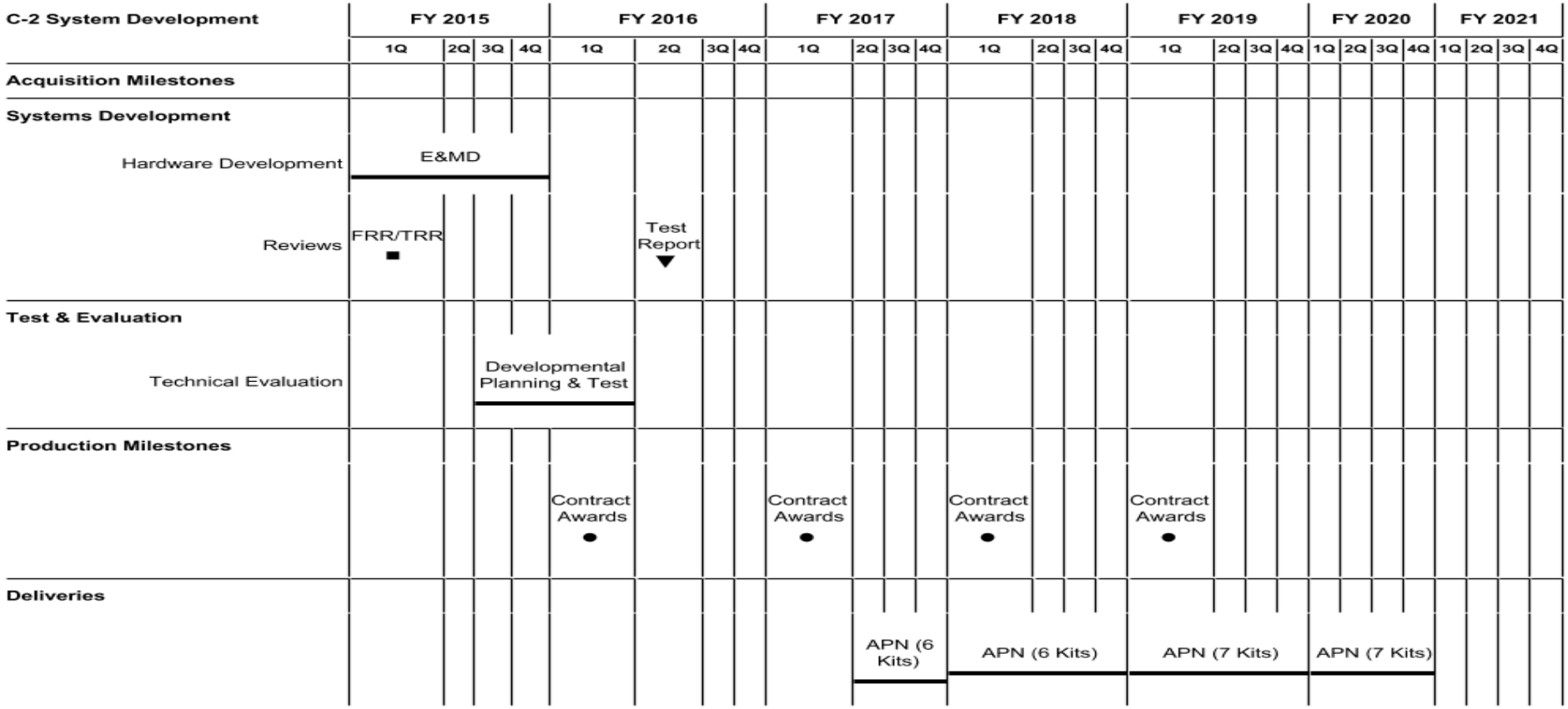
Totals may not add due to rounding.

	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	14.186	3.116		1.723		1.519		-		1.519	-	-	-

Remarks

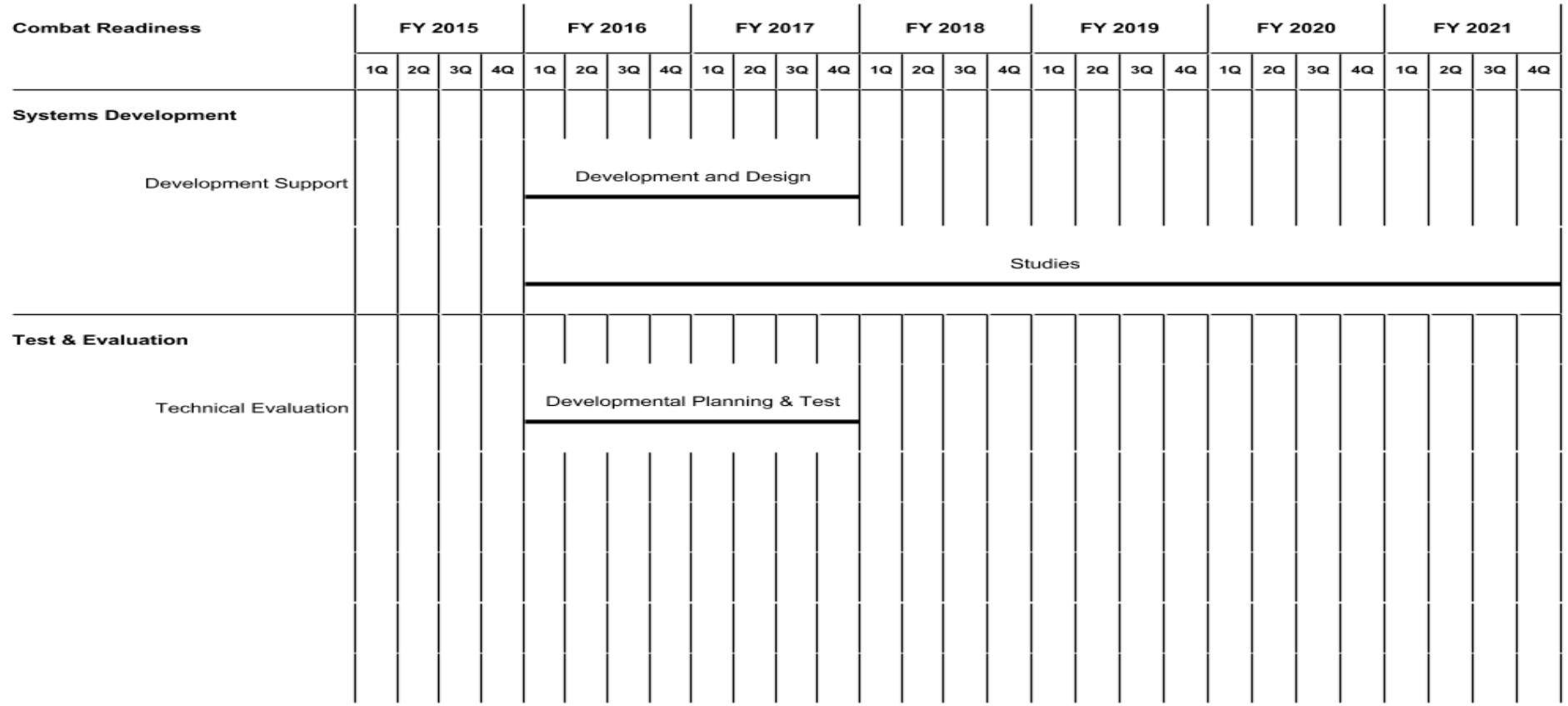
Totals may not add due to rounding.

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 3331 / *C-2 System Development*



2017PB - 0603251N - 3331

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 3331 / *C-2 System Development*



2017PB - 0603251N - 3331

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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	2015	4	2015
Systems Development: Reviews: Funtional Readiness Review/Test Readiness Review	1	2015	1	2015
Systems Development: Reviews: Test Report	2	2016	2	2016
Test & Evaluation: Technical Evaluation: Developmental Planning & Test	3	2015	1	2016
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 (6 Kits) FY18	1	2018	4	2018
Deliveries: Production Deliveries - APN (7 Kits) FY19	1	2019	4	2019
Deliveries: Production Deliveries - APN (7 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	2021
Test & Evaluation: Technical Evaluation: Developmental Planning & Test	1	2016	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
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 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**
9999: *Congressional Adds*	0.000	0.000	15.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	15.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

N/A

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016
Congressional Add: Highly Integrated Photonics (HIP) - Cong	0.000	15.000
FY 2015 Accomplishments: N/A		
FY 2016 Plans: Develop and test integrated photonic components for modernizing DOD aircraft (and other platform) avionics, sensors, and electronic warfare systems.		
Congressional Adds Subtotals	0.000	15.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 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
Photonic Component Development	C/FFP	TBD : TBD	0.000	0.000		10.000	May 2016	0.000		-		0.000	0.000	10.000	10.000
		Subtotal	0.000	0.000		10.000		0.000		-		0.000	0.000	10.000	10.000

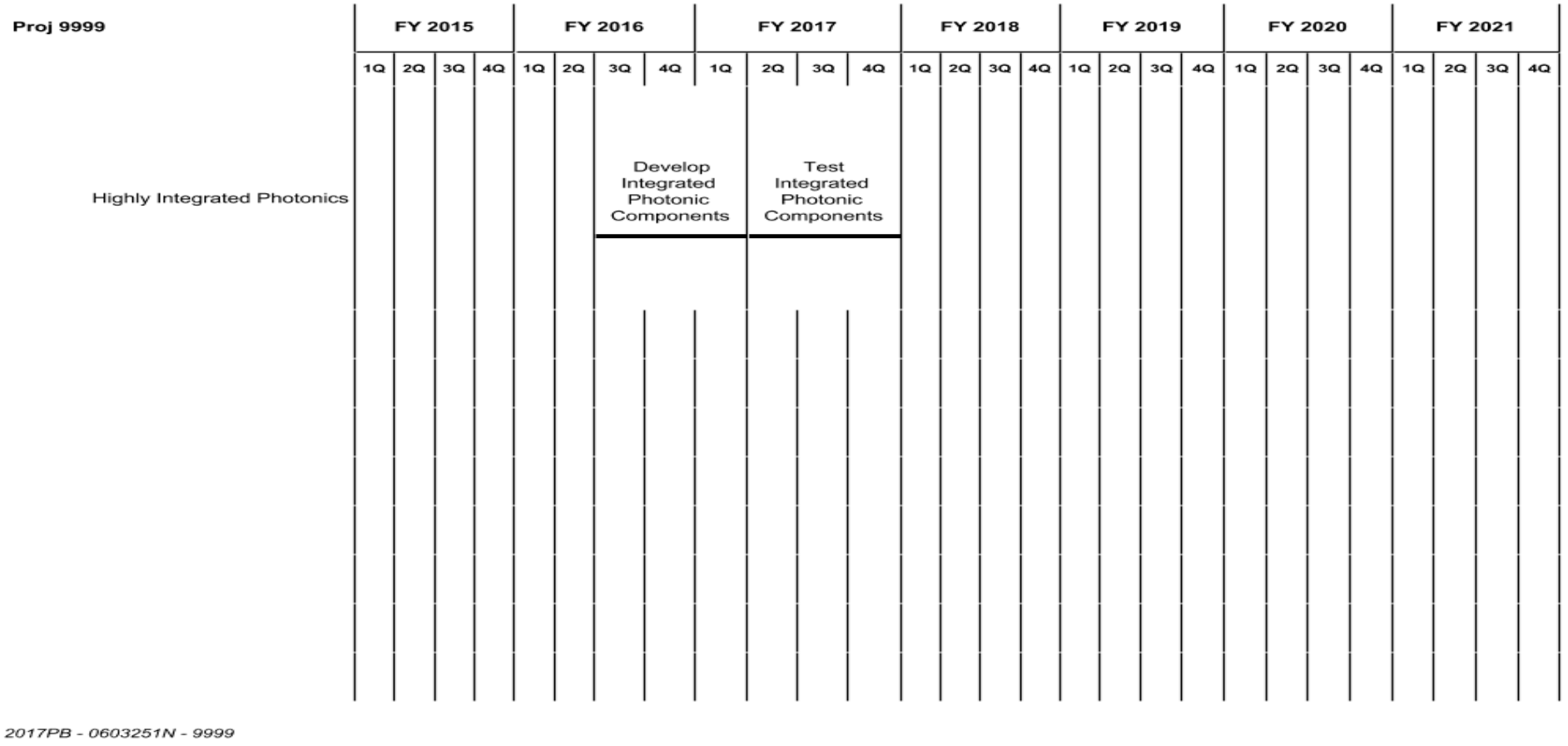
Test and Evaluation ($ in Millions)

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
Photonic Component Test	C/FFP	TBD : TBD	0.000	0.000		5.000	Dec 2016	0.000		-		0.000	0.000	5.000	5.000
		Subtotal	0.000	0.000		5.000		0.000		-		0.000	0.000	5.000	5.000

	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	0.000	0.000		15.000		0.000		-		0.000	0.000	15.000	15.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603251N / *(U)AIRCRAFT SYSTEMS*	**Project (Number/Name)** 9999 / *Congressional Adds*



2017PB - 0603251N - 9999

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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**
Proj 9999				
Highly Integrated Photonics: Develop Integrated Photonic Components	3	2016	1	2017
Highly Integrated Photonics: Test Integrated Photonic Components	2	2017	4	2017

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