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

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603261N / <i>Tactical Airborne Reconnaissance</i>
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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	64.001	5.870	3.080	3.274	-	3.274	3.675	3.599	3.572	3.650	Continuing	Continuing
2467: <i>UAV Conops</i>	64.001	5.870	3.080	3.274	-	3.274	3.675	3.599	3.572	3.650	Continuing	Continuing

A. Mission Description and Budget Item Justification

Decrease in TACTICAL AIRBORNE RECONNAISSANCE by \$0.148M as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.

This program element funds efforts to develop Concept of Operations in support of the Navy's overall Unmanned Aircraft Systems (UAS) Strategy integrating UAS into the Chief of Naval Operations Navy Vision of Sea Power 21 (Sea Shield, Sea Strike, Sea Basing and FORCEnet). Also funds Navy's contribution supporting the Joint Technology Center/System Integration Laboratory providing experimentation for Unmanned Aerial Vehicle technology assessment, insertion, demonstration, transfer as well as simulation and exercise support.

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	5.270	3.087	3.652	-	3.652
Current President's Budget	5.870	3.080	3.274	-	3.274
Total Adjustments	0.600	-0.007	-0.378	-	-0.378
• Congressional General Reductions	-	-0.007			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.600	0.000			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	-0.378	-	-0.378

Change Summary Explanation

Technical: Not applicable to baseline program. FY15 funding was reprogrammed for CONOPS/requirements development for concept aircraft and a common ship based launch and recovery system for group I through group III UAVs.

Schedule: Not applicable.

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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 0603261N / <i>Tactical Airborne Reconnaissance</i>				Project (Number/Name) 2467 / <i>UAV Conops</i>			
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
2467: <i>UAV Conops</i>	64.001	5.870	3.080	3.274	-	3.274	3.675	3.599	3.572	3.650	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Naval Unmanned Aircraft Systems (UAS) Strategy employs a family of UAS to perform tactical, persistent and penetrating Intelligence, Surveillance, and Reconnaissance in support of Naval and Joint missions from forward bases/platforms and naval ships.

In support of the Navy's overall UAS strategy, this program develops Concept of Operations (CONOPS) that integrate UAS into the Chief of Naval Operations Navy Vision of Sea Power 21 (Sea Shield, Sea Strike, Sea Basing and FORCENet). By providing fleet input based on current operations with UAS in a simulated combat environment, this CONOPS development investment is the foundation of how the Carrier Strike Group and the Expeditionary Strike Group will operate a combined Manned and Unmanned Naval Air Force. This program establishes the common architecture, including Command & Control, for all unmanned systems to support and inform CONOPS development. This effort provides for a cross-program view of Naval Unmanned Systems and is the entry point for Office of the Secretary of the Defense (OSD) and other services for commonality and interoperability. Specifically:

- Provides studies and demonstrations in support of the Naval UAS Family of Systems (FoS) CONOPS development.
- Horizontally integrates across the Naval UAS FoS for the Naval Aviation Enterprise through interoperability and common system solutions.
- Develops the Naval UAS FoS Architecture to support integration into the Integrated Warfighter Capability Process.
- Provides Naval support for development of Standards across Department of Defense (DoD) UAS and North Atlantic Treaty Organization, emphasizing standardization and interoperability.
- Conducts CONOPS studies, demonstrations, and exercises for Vehicle Control, Targeting, and Weapons, Sensor and Payload Employment.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Studies and Demonstrations	1.253	1.523	1.666	0.000	1.666
Articles:	-	-	-	-	-
Description: Studies and demonstrations to develop CONOPS for manned-unmanned integration of UAS and aircraft systems. Build a UAS simulation environment for Modeling and Simulation of common UAS components in representative battlespace architectures.					
FY 2015 Accomplishments: Conducted a Trident Warrior 15 Fleet experiment to demonstrate Fleet Concept of Operations and Manned/Unmanned interoperability. Specifically the capabilities of existing Visual Information (VI) Programs of Record,					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
and emerging VI systems to meet current Navy Operational Tasking Orders and Joint Urgent Operational Needs for Tactical VI to the fleet.					
FY 2016 Plans: Continue to conduct studies, demonstrations, and testing to validate the Naval Interoperability profiles within the context of Integrated Warfare Capabilities.					
FY 2017 Base Plans: Continue development of the Unmanned Aircraft Systems (UAS) modeling and simulation of Fleet Concept of Operations scenarios. Demonstrate Manned/Unmanned Interoperability. Provide government engineering support, program office travel, and contract support services.					
FY 2017 OCO Plans: N/A					
Title: UAV CONOPS Requirements Development for Common Launch and Recovery					
Articles:					
Description: Develop UAV CONOPS, project plans, and requirements to support developing a common ship based group I through group III launch and recovery system.					
FY 2015 Accomplishments: Initiated development of a common launch and recovery system roadmap and associated requirements documentation in support of group I through group III UAV shipboard operations. Identified a common control architecture for the common launch and recovery system.					
FY 2016 Plans: N/A					
FY 2017 Base Plans: N/A					
FY 2017 OCO Plans: N/A					
Title: Architecture Support/Common Ground Station					
Articles:					
	0.600	0.000	0.000	0.000	0.000
	-	-	-	-	-
	1.824	0.000	0.000	0.000	0.000
	-	-	-	-	-

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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 to develop Unmanned Systems Naval Interoperability Profiles in support of Integrated Warfare Capability Packages. Support OSD Joint Service and NATO coalition interoperability efforts. Provide government engineering support, program office travel, and contract support services. FY 2017 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	5.870	3.080	3.274	0.000	3.274

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The program office will leverage existing Government facilities (e.g., Joint Technology Center/System Integration Laboratory and Naval Unmanned Aircraft Systems (UAS) Program of Record assets as available) to develop and demonstrate Naval UAS Concept of Operations. Government engineering support will be used for Standards Development, Architectural Analysis, Modeling and Simulation efforts and testing.

E. Performance Metrics

UAS operations and interoperability for systems delivered to the warfighter are continually improved upon increasing the level of integration, standardization and effective employment in maritime battle space dominance.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 4				PE 0603261N / Tactical Airborne Reconnaissance				2467 / UAV Conops							
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Ship Integration	C/CPFF	L-3 Titan : Marlton, NJ	9.696	1.336	Dec 2014	0.000		0.000		-		0.000	0.000	11.032	11.032
Systems Engineering	WR	NAWCAD : Pax River, MD	3.486	0.243	Dec 2014	0.000		0.000		-		0.000	0.000	3.729	-
Requirements Development	WR	NAWCD : Pax River, MD	0.000	0.600	Oct 2015	0.000		0.000		-		0.000	0.000	0.600	-
Prior year Prod Dev no longer funded in the FYDP	Various	Various : Various	3.350	0.000		0.000		0.000		-		0.000	0.000	3.350	-
Subtotal			16.532	2.179		0.000		0.000		-		0.000	0.000	18.711	-
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	Various : Various	14.085	0.212	Jan 2015	0.000		0.000		-		0.000	0.000	14.297	14.297
Software Development	MIPR	TACOM : Warren, MI	1.745	0.330	Jul 2015	0.000		0.000		-		0.000	0.000	2.075	2.075
Software Development	MIPR	ARMDEC : Redstone Arsenal, AL	0.000	0.562	Jul 2015	0.000		0.000		-		0.000	0.000	0.562	0.562
Software Development	WR	NAWCWD : China Lake, CA	0.000	0.520	Feb 2015	0.000		0.000		-		0.000	0.000	0.520	-
Studies & Demonstrations	WR	NAWCAD : Pax River, MD	4.220	0.234	Dec 2014	0.234	Dec 2015	0.175	Dec 2016	-		0.175	Continuing	Continuing	Continuing
Standards Development	C/CPFF	Engility : Lexington Park, MD	0.000	0.000		1.235	Jan 2016	1.239	Jan 2017	-		1.239	0.000	2.474	2.474
Prior year Support no longer funded in the FYDP	Various	Various : Various	12.361	0.000		0.000		0.000		-		0.000	0.000	12.361	12.361
Subtotal			32.411	1.858		1.469		1.414		-		1.414	-	-	-

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

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Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior year Test & Eval no longer funded in the FYDP	Various	Various : Various	2.627	0.000		0.000		0.000		-		0.000	0.000	2.627	-
Subtotal			2.627	0.000		0.000		0.000		-		0.000	0.000	2.627	-

Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	Various	Various : Various	4.043	0.135	Dec 2014	0.322	Jan 2016	0.119	Jan 2017	-		0.119	0.000	4.619	4.619
Government Engineering Support	WR	NAWCAD : Pax River, MD	6.792	1.693	Dec 2014	1.284	Dec 2015	1.739	Dec 2016	-		1.739	Continuing	Continuing	Continuing
Travel	WR	NAVAIR HQ : Pax River, MD	0.546	0.005	Nov 2014	0.005	Nov 2015	0.002	Oct 2016	-		0.002	Continuing	Continuing	Continuing
Prior year Mgmt Services no longer funded in the FYDP	Various	Various : Various	1.050	0.000		0.000		0.000		-		0.000	0.000	1.050	-
Subtotal			12.431	1.833		1.611		1.860		-		1.860	-	-	-

Remarks
Travel contract type is TO.

	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		64.001	5.870	3.080	3.274	3.274	-	-	-

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

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UAV CONOPS	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Unmanned Aircraft System (UAS) Targeting																												
Weapons and Payload Employment																												
Task and Manning Assessment																												
Standards Based Interoperability																												
Naval Interoperability and Standardization																												

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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
UAV CONOPS				
Naval Interoperability and Standardization: Naval UASs interoperability on Joint Service and International Standardization	1	2015	4	2021

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