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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy **Date:** May 2017

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605414N / (U) <i>Unmanned Carrier Aviation (UCA)</i>
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COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	89.000	222.208	-	222.208	484.950	612.793	515.313	554.604	Continuing	Continuing
3278: <i>MQ-25 Development</i>	0.000	0.000	89.000	222.208	-	222.208	484.950	612.793	515.313	554.604	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): P462

Note
 Elements of the MQ-25 program were previously funded under the Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System Program Element (PE) 0604404N, Project Unit (PU) 3278 and assigned to Budget Activity (BA) 05: System Development and Demonstrations (SDD). In January of 2016, PE 0605414N PU 3278 was established as the principal budget line for MQ-25.

The President's Budget FY17 PE 0605414N PU 3278 submission was initially regarded as Carrier Based Aerial Refueling System (CBARS)/UCLASS Development. To better align with the mission and capability funded under PE 0605414N, it is now referred to as Unmanned Carrier Aviation (UCA)/MQ-25.

A. Mission Description and Budget Item Justification

The MQ-25 program rapidly develops an unmanned capability to embark on CVN's as part of the Carrier Air Wing (CVW) to conduct aerial refueling as a primary mission and provide Intelligence, Surveillance, Reconnaissance (ISR) capability as a secondary mission. MQ-25 extends CVW mission effectiveness range, partially mitigates the current Carrier Strike Group (CSG) organic ISR shortfall and fills the future CVW-tanker gap, mitigating Strike Fighter shortfall and preserving F/A-18E/F Fatigue Life. As the first carrier-based, group 5 Unmanned Aircraft System (UAS), MQ-25 will pioneer the integration of manned and unmanned operations, demonstrate mature complex sea-based C4I UAS technologies, and pave the way for future multifaceted multi-mission UAS to pace emerging threats.

MQ-25 requirements are aligned with the Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) Initial Capabilities Document (ICD) and the Next Generation Air Dominance (NGAD) Family of Systems (FoS) ICD, which highlight the need for carrier-based refueling and persistent ISR capabilities. The Joint Requirements Oversight Council (JROC) endorsed the UCLASS ICD in April 2011 and formally approved it on 9 Jun 11 via Joint Requirements Oversight Council Memorandum (JROCM) 087-11. The NGAD FoS ICD was validated by the JROC on 18 August 2015 and formally approved by JROCM 087-15. The JROC's guidance delineated in the validated ICDs and subsequent JROCMs was to establish a requirement for a versatile platform that supports a myriad of organic Naval missions such as aerial refueling and ISR to support the CSG. MQ-25 is expected to provide an Initial Operational Capability to the fleet by the mid-2020s.

This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes some projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production decision.

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B. Program Change Summary (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.000	89.000	349.000	-	349.000
Current President's Budget	0.000	89.000	222.208	-	222.208
Total Adjustments	0.000	0.000	-126.792	-	-126.792
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-127.500	-	-127.500
• Rate/Misc Adjustments	0.000	0.000	0.708	-	0.708

Change Summary Explanation

Technical: Not applicable.

Schedule/Funding: Air Segment RFP release moved from 1QFY2017 to 3QFY2017 driving \$127.5M FY 2018 Program Reduction from PB17 to PB18 due to the deferral of the Air Segment EMD contract award from 2QFY2018 to 3QFY2018.

Air Segment System Integration incorrectly shown at PB17 as commencing 2QFY2018; updated to reflect 2QFY2019.

CVN Fleet CS Deliveries and Hull, Mechanical & Electrical (HME) installations updated to better align with ship availability schedules.

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy										Date: May 2017		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605414N / (U) Unmanned Carrier Aviation (UCA)				Project (Number/Name) 3278 / MQ-25 Development			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3278: MQ-25 Development	0.000	0.000	89.000	222.208	-	222.208	484.950	612.793	515.313	554.604	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	2	2	-	-		
Project MDAP/MAIS Code: P462												

A. Mission Description and Budget Item Justification

The MQ-25 program rapidly develops an unmanned capability to embark on CVN's as part of the Carrier Air Wing (CVW) to conduct aerial refueling as a primary mission and provide Intelligence, Surveillance, Reconnaissance (ISR) capability as a secondary mission. MQ-25 extends CVW mission effectiveness range, partially mitigates the current Carrier Strike Group (CSG) organic ISR shortfall and fills the future CVW-tanker gap, mitigating Strike Fighter shortfall and preserving F/A-18E/F Fatigue Life. As the first carrier-based, group 5 Unmanned Aircraft System (UAS), MQ-25 will pioneer the integration of manned and unmanned operations, demonstrate mature complex sea-based C4I UAS technologies, and pave the way for future multifaceted multi-mission UAS to pace emerging threats.

MQ-25 requirements are aligned with the Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) Initial Capabilities Document (ICD) and the Next Generation Air Dominance (NGAD) Family of Systems (FoS) ICD, which highlight the need for carrier-based refueling and persistent ISR capabilities. The Joint Requirements Oversight Council (JROC) endorsed the UCLASS ICD in April 2011 and formally approved it on 9 Jun 11 via Joint Requirements Oversight Council Memorandum (JROCM) 087-11. The NGAD FoS ICD was validated by the JROC on 18 August 2015 and formally approved by JROCM 087-15. The JROC's guidance delineated in the validated ICDs and subsequent JROCMs was to establish a requirement for a versatile platform that supports a myriad of organic Naval missions such as aerial refueling and ISR to support the CSG. MQ-25 is expected to provide an Initial Operational Capability to the fleet by the mid-2020s.

MQ-25 will be designed to conduct aerial refueling and ISR missions. MQ-25 will have the ability to pass sensor data to other aircraft, naval vessels, and ground forces. Sensor data will be transmitted, in either raw or processed forms, at appropriate classification levels, to exploitation nodes afloat and ashore (e.g. Distributed Common Ground System - Navy). The MQ-25 system will be sustainable onboard an aircraft carrier, as well as ashore, and will be designed to minimize the logistics footprint of the current CVW.

MQ-25 will achieve these capabilities through the use of a carrier-suitable, semi-autonomous, Unmanned Air Segment; a Control System and Connectivity Segment; and a Carrier Segment. The Government will perform Lead Systems Integration (LSI), providing government-led system of systems integration for the MQ-25 Program. The LSI will coordinate across all segments and with external stakeholders to ensure program activities are synchronized. MQ-25 will interface with existing ship and land-based command and control systems, including ISR Tasking, Collection, Processing, Exploitation, and Dissemination systems.

The scope of the program includes, but is not limited to, system level requirements identification, allocation of requirements to segments and components, design, development, integration, fabrication, test, training, and support activities to provide the MQ-25 capabilities. To accomplish these capabilities MQ-25 will transition (as required) technologies from other programs and adapt them into the carrier environment. MQ-25 will deliver the necessary air vehicles, command, control, connectivity,

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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605414N / (U) Unmanned Carrier Aviation (UCA)	Project (Number/Name) 3278 / MQ-25 Development
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shipboard and land-based launch and recovery control systems, associated support systems, interfaces, and upgrades to other Navy systems (as required) to meet the required capabilities.

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

	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
<p>Title: Air Segment Product Development</p> <p align="right">Articles:</p> <p>Description: Air Segment Product Development efforts include, but are not limited to, design, development, integration, fabrication, test and training to deliver a carrier-suitable, semi-autonomous, unmanned vehicle capable of aerial refueling (give) and persistent Intelligence, Surveillance, and Reconnaissance (ISR) operations. A prime contractor (selected following a limited source competition) will deliver the Air Segment products.</p> <p>FY 2016 Accomplishments: N/A</p> <p>FY 2017 Plans: Release final Request for Proposal for the MQ-25 Air System contract and begin source selection activities. Continue Air Segment system integration and interface development activities.</p> <p>FY 2018 Base Plans: Complete MQ-25 source selection activities, conduct acquisition Milestone, and award Air System contract. Begin Air System contract activities. Continue Air Segment system integration and interface development activities.</p> <p>FY 2018 OCO Plans: N/A</p>	0.000	12.578	89.314	0.000	89.314
<p align="right">Articles:</p> <p>Description: CS&C Segment Product Development is a Government-led effort which includes, but is not limited to, the hardware, software, and networks needed to establish interfaces and upgrades to existing ship and land-based command and control systems.</p> <p>FY 2016 Accomplishments:</p>	-	-	-	-	-
<p>Title: Control System & Connectivity (CS&C) Segment Product Development</p> <p align="right">Articles:</p> <p>Description: CS&C Segment Product Development is a Government-led effort which includes, but is not limited to, the hardware, software, and networks needed to establish interfaces and upgrades to existing ship and land-based command and control systems.</p> <p>FY 2016 Accomplishments:</p>	0.000	29.375	42.626	0.000	42.626
<p align="right">Articles:</p> <p>Description: CS&C Segment Product Development is a Government-led effort which includes, but is not limited to, the hardware, software, and networks needed to establish interfaces and upgrades to existing ship and land-based command and control systems.</p> <p>FY 2016 Accomplishments:</p>	-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
<p>FY 2017 Plans: Perform Control System & Connectivity hardware/software development and integration. Continue development and fabrication of Common Processing System/Common Display System based control stations, to include the test-transportable control station and test-ashore control station, in order to meet timelines required to support integration and flight test. Conduct control station requirements verification/validation activities in Government integration lab. Continue integration of Automated Digital Network System hardware/software components. Continue integration testing between control station with shipboard networks and data links.</p> <p>FY 2018 Base Plans: Perform Control System & Connectivity hardware/software development, integration and testing. Continue development and fabrication of Common Processing System/Common Display System-based control stations and hardware/software solutions required to enable data exchanges with shipboard and shore-based networks. Continue development and hardware hosting of open architecture mission systems software applications and integration with air vehicle command and control software. Continue integration among airborne, shipboard and terrestrial Automated Digital Network System hardware/software nodes. Continue integration and testing among control stations with shipboard and shore-based networks and data links. Conduct control station requirements verification/validation activities in Government integration lab facilities in order to meet program timelines required to support system-of-systems integration and flight test.</p> <p>FY 2018 OCO Plans: N/A</p>					
<p>Title: Carrier (CVN) Segment Product Development</p> <p align="right">Articles:</p> <p>Description: CVN Segment Product Development is a Government-led effort which includes, but is not limited to, upgrades to existing CVN infrastructure to support MQ-25 capabilities.</p> <p>FY 2016 Accomplishments: N/A</p> <p>FY 2017 Plans:</p>	0.000	18.149	31.139	0.000	31.139
	-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
Perform ship installation activities and upgrades to existing CVN infrastructure, especially critical CVN suitable technologies and mission essential equipment. Continue engineering efforts to develop and implement Ship Change Documents (SCDs), Ship Installation Drawings (SIDs), and Engineering Change Proposals (ECPs), and begin modifying CVNs for MQ-25 hardware and software. Continue CVN ship integration activities and development of Concepts of Employment (CONEMPs). Continue to design and development specific modifications to existing Program of Record shipboard systems (i.e. landing systems and Aircraft Launch and Recovery Systems) needed to support the MQ-25 capability to include required hardware for shipboard test and integration activities. Continue development of Navy Modernization Program (NMP) supporting shipboard Configuration Management and Logistics.					
FY 2018 Base Plans: Begin developing software to support communication system integration with the MQ-25. Perform ship installations and upgrades to existing CVN infrastructure, especially critical CVN suitable technologies and mission essential equipment. Continue engineering efforts to develop and implement Ship Change Documents (SCDs), Ship Installation Drawings (SIDs), and Engineering Change Proposals (ECPs), and begin modifying CVNs for MQ-25 hardware and software during inflexible pier-side maintenance availability periods. Continue CVN ship integration activities and development/refinement of Concepts of Employment (CONEMPs) in accordance with NAVSEA, SPAWAR, PEO (CARRIERS), CNAF, and OPNAV processes. Continue to design and develop specific modifications to existing Program of Record (PoR) shipboard systems (i.e. Landing Systems, Information Distribution Systems and Aircraft Launch and Recovery Systems) needed to support the MQ-25 capability to include required hardware and software for shipboard test and integration activities. Continue development of Navy Modernization Program (NMP) supporting shipboard Configuration Management and Logistics.					
FY 2018 OCO Plans: N/A					
Title: Lead Systems Integration (LSI) Product Development					
Articles:					
Description: Lead Systems Integration (LSI) tasks are a Government-led effort including, but not limited to, advanced development, architecture development, interface definition, integration, system level test and evaluation, science and technology investments, roadmap refinement, and coordination of all MQ-25 capabilities across system segments and stakeholders.					
	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
	0.000	14.498	32.991	0.000	32.991
	-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
<p>FY 2016 Accomplishments: N/A</p> <p>FY 2017 Plans: Perform MQ-25 concept refinement and Air System contract source selection activities. Continue Air Segment, Control System & Connectivity Segment, and Carrier Segment development, design, integration, interface and architecture refinement and modification activities. Continue fabrication and operation of system integration laboratories and test facilities in support of government-led development and test program activities, including implementation of open system architectures.</p> <p>FY 2018 Base Plans: Complete MQ-25 concept refinement and Air System contract source selection activities. Continue Air Segment, Control System & Connectivity Segment, and Carrier Segment development, design, integration, interface and architecture refinement and modification activities. Continue fabrication and operation of system integration laboratories and test facilities in support of government-led development and test program activities, including implementation of open system architectures.</p> <p>FY 2018 OCO Plans: N/A</p>					
<p>Title: Management</p> <p align="right">Articles:</p> <p>Description: Efforts include program, engineering, test, and logistics management.</p> <p>FY 2016 Accomplishments: N/A</p> <p>FY 2017 Plans: Perform oversight, coordination, and management of MQ-25 acquisition, system interface and integration activities. Oversee contract activities, including source selection for the Air System contract. Conduct logistics management tasks. Maintain security and program office environments.</p> <p>FY 2018 Base Plans:</p>	0.000 -	6.250 -	6.495 -	0.000 -	6.495 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Perform oversight, coordination, and management of MQ-25 acquisition, system interface and integration activities. Oversee contract activities, including source selection for the Air System contract. Conduct logistics management tasks. Maintain security and program office environments. FY 2018 OCO Plans: N/A					
Title: Test and Evaluation FY 2016 Accomplishments: N/A FY 2017 Plans: Support development and implementation of test facility, range, and lab test requirements. Support engineering events and program management activities. Support Test and Evaluation Master Plan development. Conduct developmental test for Control System & Connectivity and Carrier segments. Support Air Segment Request for Proposal/source selection activities. FY 2018 Base Plans: Continue to support development and implementation of test facilities, range, and lab test requirements. Support updates to the Test and Evaluation Master Plan (TEMP) development, support engineering events, and program management activities. Support developmental test for Control System & Connectivity and Carrier segments. Support Air Segment source selection activities. Support the accelerated stand-up of the Government Systems test & Integration Lab (STIL) in support of the FY2018 EMD contract award. FY 2018 OCO Plans: N/A	0.000	5.606	14.092	0.000	14.092
Articles:	-	-	-	-	-
Title: Support Description: Efforts include studies, analyses, and training development support. FY 2016 Accomplishments: N/A FY 2017 Plans:	0.000	2.544	5.551	0.000	5.551
Articles:	-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continue logistics supportability studies and analyses, modeling and simulation, support of Manned Flight Simulation efforts, development of training tools for the Fleet, and development of manpower and training assessments. FY 2018 Base Plans: Continue logistics supportability studies and analyses, modeling and simulation, and support of Manned Flight Simulation efforts. Increase development efforts of training tools for the Fleet, and development of manpower and training assessments, to support EMD contract award and timeline. FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	89.000	222.208	0.000	222.208

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018 Base</u>	<u>FY 2018 OCO</u>	<u>FY 2018 Total</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 1205/0816376N: <i>UCLASS T&E Facility</i>	0.000	40.576	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	40.576
• 1319/0604404N/3278: <i>UCLASS Development</i>	114.376	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	539.182
• 1319/0604404N/C277: <i>Competitive Air Vehicle</i>	250.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	250.000
• 1319/0604404N/ <i>C278: Government and Industry Source Selection</i>	50.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	50.000

Remarks

D. Acquisition Strategy

The Government will perform Lead Systems Integration (LSI) across all MQ-25 segments, including Air Segment, Control System & Connectivity (CS&C) Segment, and Carrier (CVN) Segment and external enterprise stakeholders. The MQ-25 Program will leverage existing Navy information dissemination and Department infrastructures, as the government-led system of systems integration is accomplished across all segments and external enterprise stakeholders. The Government will manage the system level architecture and interfaces, and foster efficient data exchanges and integration. Specifically, the CS&C and CVN segments will be organically managed by the Government LSI and will modify existing systems via the affected system's Engineering Change Proposal and configuration management processes. These

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integration tasks include successful demonstration of integration with the CVN landing system, integration of control system, and integration with the Tasking, Collecting, Processing, Exploitation, Dissemination interfaces to include successful transmission of mission system data. The Government will develop and award contracts as required to support program activities, including a contract for the Air System. The Government's acquisition strategy was approved on 7 Jun 13. Acquisition and contracting strategies comply with current statutes, regulations, and instructions.

E. Performance Metrics

Meet Navy operational requirements as defined in requirements documents.

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy												Date: May 2017			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 5				PE 0605414N / (U) Unmanned Carrier Aviation (UCA)				3278 / MQ-25 Development							
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Air Segment - Primary Hardware Development	C/FPIS	TBD : TBD	0.000	0.000		0.000		80.483	Jun 2018	-		80.483	Continuing	Continuing	Continuing
Air Segment - Systems Engineering	WR	NAWCAD : Patuxent River, MD	0.000	0.000		10.724	Nov 2016	8.264	Nov 2017	-		8.264	Continuing	Continuing	Continuing
Air Segment - Systems Engineering	WR	NAWCWD : China Lake, CA	0.000	0.000		0.315	Nov 2016	0.324	Nov 2017	-		0.324	0.000	0.639	-
Air Segment - Systems Engineering	Various	Various : Various	0.000	0.000		1.539	Mar 2017	0.243	Mar 2018	-		0.243	0.000	1.782	-
CS&C Segment	WR	NAWCAD : Patuxent River, MD	0.000	0.000		7.228	Nov 2016	7.409	Nov 2017	-		7.409	Continuing	Continuing	Continuing
CS&C Segment	Various	Various : Various	0.000	0.000		2.997	Dec 2016	2.994	Dec 2017	-		2.994	Continuing	Continuing	Continuing
CS&C Segment	Various	NSMA : Arlington, VA	0.000	0.000		1.349	Dec 2016	1.347	Dec 2017	-		1.347	Continuing	Continuing	Continuing
CS&C Segment	WR	SPAWAR : San Diego, CA	0.000	0.000		4.845	Dec 2016	4.969	Dec 2017	-		4.969	Continuing	Continuing	Continuing
CS&C Segment (Comms, Intel, Network)	Various	Various : Various	0.000	0.000		6.076	Dec 2016	6.070	Dec 2017	-		6.070	Continuing	Continuing	Continuing
CS&C Segment (CPS/ CDS)	Various	Various : Various	0.000	0.000		6.880	Nov 2016	19.837	Nov 2017	-		19.837	Continuing	Continuing	Continuing
Carrier Segment (Ship Integration)	Various	Various : Various	0.000	0.000		0.569	Dec 2016	0.580	Dec 2017	-		0.580	Continuing	Continuing	Continuing
Carrier Segment (Ship Integration)	WR	NAWCAD : Patuxent River, MD	0.000	0.000		14.555	Dec 2016	27.568	Dec 2017	-		27.568	Continuing	Continuing	Continuing
Carrier Segment (Ship Integration)	WR	NAWCAD : Lakehurst, NJ	0.000	0.000		1.130	Dec 2016	1.178	Dec 2017	-		1.178	Continuing	Continuing	Continuing
Carrier Segment	WR	SPAWAR : San Diego, CA	0.000	0.000		1.895	Dec 2016	1.813	Dec 2017	-		1.813	Continuing	Continuing	Continuing
LSI - Advanced Development (Primary Hardware Development)	Various	NSMA : Arlington, VA	0.000	0.000		0.179	Dec 2016	0.183	Dec 2017	-		0.183	0.000	0.362	-

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Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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			
LSI - Advanced Development (Primary Hardware Development)	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.093	Dec 2016	0.189	Dec 2017	-		0.189	Continuing	Continuing	Continuing
LSI - Advanced Development (Primary Hardware Development)	WR	NAWCWD : China Lake, CA	0.000	0.000		0.146	Nov 2016	0.000		-		0.000	Continuing	Continuing	Continuing
LSI - Systems Engineering	Various	Various : Various	0.000	0.000		1.997	Dec 2016	2.046	Dec 2017	-		2.046	Continuing	Continuing	Continuing
LSI - Systems Engineering	WR	NAWCAD : Patuxent River, MD	0.000	0.000		10.205	Dec 2016	28.038	Dec 2017	-		28.038	Continuing	Continuing	Continuing
LSI - Systems Engineering	Various	SPAWAR : San Diego, CA	0.000	0.000		1.878	Nov 2016	2.535	Nov 2017	-		2.535	0.000	4.413	-
Subtotal			0.000	0.000		74.600		196.070		-		196.070	-	-	-

Remarks
 Control System and Connectivity (CS&C)
 Navy Systems Management Activity (NSMA)
 Common Display System (CDS)
 Common Processing System (CPS)
 Lead Systems Integration (LSI)

Air Segment (AS) Primary Hardware Development increase from FY17 to FY18 supports award of AS contract in FY18.
 CS&C CPS/CDS funding increase from FY17 to FY18 supports fabrication of Ship Control Test Stations. Timing is dictated by ship availability schedules.
 Carrier Segment funding increase from FY17 to FY18 supports increased SCD Development/Installation Plan/Verification activities. The ramp up supports the ship installs and test activities.
 LSI funding increase from FY17 to FY18 supports Capability Verification efforts. Capability Verification will be conducted during the entire fiscal year in FY18; FY17 Capability Verification efforts will cover less than half the FY.

Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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			
Manpower Studies & Analyses	Various	Various : Various	0.000	0.000		0.106	Jan 2017	0.113	Nov 2017	-		0.113	Continuing	Continuing	Continuing
Training Development	Various	Various : Various	0.000	0.000		2.438	Dec 2016	5.438	Dec 2017	-		5.438	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy **Date:** May 2017

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605414N / (U) Unmanned Carrier Aviation (UCA)	Project (Number/Name) 3278 / MQ-25 Development
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Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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			
Subtotal			0.000	0.000		2.544		5.551		-		5.551	-	-	-

Remarks
Support increases from FY17 to FY18 to acquire hardware for Mission Systems Trainer (MST) development in support of the Integrated Test Team (ITT) aircrew training timeline.

Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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			
Test and Evaluation	WR	NAWCAD : Patuxent River, MD	0.000	0.000		5.595	Dec 2016	14.079	Dec 2017	-		14.079	Continuing	Continuing	Continuing
Test and Evaluation	Various	Various : Various	0.000	0.000		0.011	Jan 2017	0.013	Jan 2018	-		0.013	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		5.606		14.092		-		14.092	-	-	-

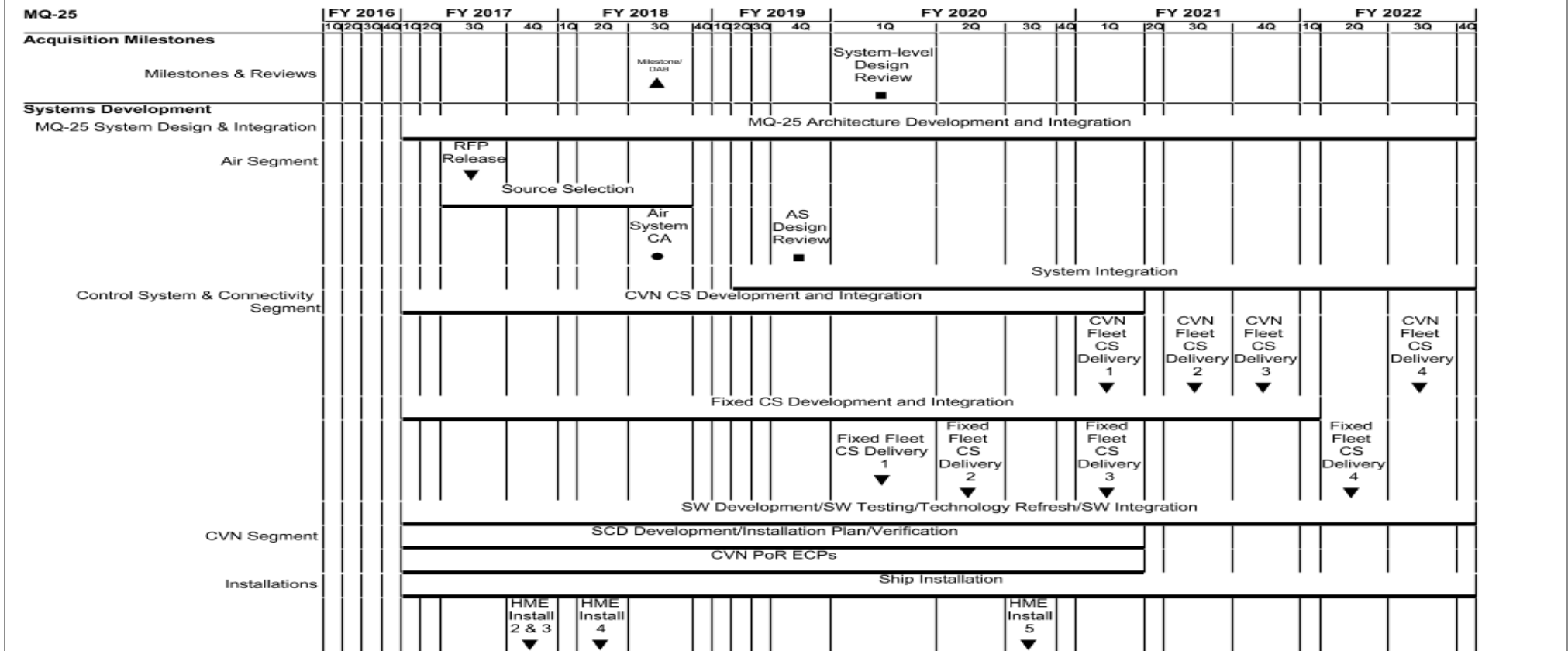
Remarks
Test and Evaluation increases from FY17 to FY18 in order to acquire hardware for the stand-up of the government System Test & Integration Lab (STIL) to support Engineering and Manufacturing Design (EMD) contract award in 3QFY18.

Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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			
Management	Various	Various : Various	0.000	0.000		1.735	Dec 2016	1.769	Dec 2017	-		1.769	Continuing	Continuing	Continuing
Management	WR	NAWCAD : Patuxent River, MD	0.000	0.000		4.388	Nov 2016	4.596	Nov 2017	-		4.596	Continuing	Continuing	Continuing
Management	Various	NAVAIR : Patuxent River, MD	0.000	0.000		0.127	Oct 2016	0.130	Oct 2017	-		0.130	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		6.250		6.495		-		6.495	-	-	-

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Exhibit R-4, RDT&E Schedule Profile: FY 2018 Navy **Date: May 2017**

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605414N / (U) Unmanned Carrier Aviation (UCA)	Project (Number/Name) 3278 / MQ-25 Development
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*2018PB - 0605414N - 3278 CS delivery and HM&E schedules are predicated on ship availability. CVN Fleet CS Deliveries and HM&E installations updated to better align with ship availability schedules.
Air Segment System Integration incorrectly shown at PB17 as commencing 2QFY2018; updated to reflect 2QFY2019.*

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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605414N / (U) Unmanned Carrier Aviation (UCA)	Project (Number/Name) 3278 / MQ-25 Development

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MQ-25				
Acquisition Milestones: Milestones & Reviews: Milestone/Defense Acquisition Board (DAB)	3	2018	3	2018
Acquisition Milestones: Milestones & Reviews: System-level Design Review	1	2020	1	2020
Systems Development: MQ-25 System Design & Integration: MQ-25 Architecture Development and Integration	1	2017	4	2022
Systems Development: Air Segment: RFP Release for Air System Contract Award	3	2017	3	2017
Systems Development: Air Segment: Source Selection Activities	3	2017	3	2018
Systems Development: Air Segment: Air System Contract Award	3	2018	3	2018
Systems Development: Air Segment: Air System Design Review	4	2019	4	2019
Systems Development: Air Segment: System Integration	2	2019	4	2022
Systems Development: Control System & Connectivity Segment: Carrier Vessel Nuclear (CVN) Control Station (CS) Development and Integration	1	2017	1	2021
Systems Development: Control System & Connectivity Segment: CVN Fleet CS Delivery 1	1	2021	1	2021
Systems Development: Control System & Connectivity Segment: CVN Fleet CS Delivery 2	3	2021	3	2021
Systems Development: Control System & Connectivity Segment: CVN Fleet CS Delivery 3	4	2021	4	2021
Systems Development: Control System & Connectivity Segment: CVN Fleet CS Delivery 4	3	2022	3	2022
Systems Development: Control System & Connectivity Segment: Fixed CS Development and Integration	1	2017	1	2022

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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy **Date:** May 2017

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605414N / (U) Unmanned Carrier Aviation (UCA)	Project (Number/Name) 3278 / MQ-25 Development
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Systems Development: Control System & Connectivity Segment: Fixed Fleet CS Delivery 1	1	2020	1	2020
Systems Development: Control System & Connectivity Segment: Fixed Fleet CS Delivery 2	2	2020	2	2020
Systems Development: Control System & Connectivity Segment: Fixed Fleet CS Delivery 3	1	2021	1	2021
Systems Development: Control System & Connectivity Segment: Fixed Fleet CS Delivery 4	2	2022	2	2022
Systems Development: Control System & Connectivity Segment: Software (SW) Development/SW Testing/Technology Refresh/SW Integration	1	2017	4	2022
Systems Development: CVN Segment: Ship Change Document (SCD) Development/ Installation Plan/Verification	1	2017	1	2021
Systems Development: CVN Segment: CVN Program of Record (PoR) Engineering Change Proposals (ECP)	1	2017	1	2021
Systems Development: Installations: Ship Installation	1	2017	4	2022
Systems Development: Installations: Hull, Mechanical & Electrical (HME) Install 2 & 3	4	2017	4	2017
Systems Development: Installations: HME Install 4	2	2018	2	2018
Systems Development: Installations: HME Install 5	3	2020	3	2020