Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy

Date: May 2017

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

1319: Research, Development, Test & Evaluation, Navy I BA 7: Operational

PE 0305231N / MQ-8 UAV

Systems 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 |
|-----------------------|----------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|---------------|
| Total Program Element | 411.245 | 52.770 | 26.518 | 62.656 | - | 62.656 | 19.952 | 26.533 | 28.775 | 22.213 | 88.512 | 739.174 |
| 2768: MQ-8 Fire Scout | 411.245 | 52.770 | 26.518 | 62.656 | - | 62.656 | 19.952 | 26.533 | 28.775 | 22.213 | 88.512 | 739.174 |

Program MDAP/MAIS Code:

Project MDAP/MAIS Code(s): 253

A. Mission Description and Budget Item Justification

Note: This budget prioritizes system wholeness to ensure program of record capabilities are fully integrated and support fleet requirements. System wholeness supports completion of MQ-8C operational test requirements, development of radar, weapons, and other payloads, and component redesign required to maintain system hardware.

The MQ-8 Unmanned Air System is a Joint Military Intelligence Program.

The MQ-8 Unmanned Air System is popularly known as "Fire Scout". The Department conducted a Title 10 Section 2433 (Nunn-McCurdy Breach) review on the MQ-8 program in 2014 due to a unit cost breach and certified a restructured program to Congress on 16 June 2014. The restructured program includes MQ-8B air vehicles procured under the original program of record (POR), MQ-8C air vehicles (Endurance Upgrade) procured under the Department of the Navy's Rapid Deployment Capability (RDC) procurement process, and additional MQ-8C air vehicles to be procured to complete the program Fleet requirements, and associated Mission Control Systems (MCS), Unmanned Aerial Vehicle Common Automatic Recovery Systems (UCARS) and support equipment. In addition to the air vehicles, Radar and Weapons capabilities were developed under the Navy's RDC authorities. All acquisition actions previously planned under the RDCs have transitioned into the restructured POR. Current FY16 analysis has determined that a total fleet requirement of 60 air vehicles (51 procurement and 9 RDT&EN / 30 MQ-8Bs and 30 MQ-8Cs) will satisfy current needs thus reducing the total number of MQ-8C production air vehicles to a quantity of 30, a decrement of 10 from previous budget submits.

The MQ-8B-based system achieved Milestone C (MS C) in May 2007. The Nunn-McCurdy certification process revoked the program's MS C approval. MS C for the restructured MQ-8 program is currently scheduled for FY 2017.

The MQ-8 System provides real-time and non-real-time Intelligence, Surveillance and Reconnaissance (ISR) data to tactical users without the use of manned aircraft or reliance on limited joint theater or national assets. The baseline MQ-8 can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation and battle damage assessment (including voice communications relay). Development efforts respond to emerging fleet requirements through integration and improvements to Common Operational Picture capabilities, avionics, payloads, range, endurance, and targeting.

The MQ-8 launches and recovers vertically, and can operate from suitably-equipped air capable ships, as well as confined area land bases. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the MCS, also referred to as a Ground Control Station (GCS), and through the use of the Tactical

PE 0305231N: MQ-8 UAV

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

1319: Research, Development, Test & Evaluation, Navy I BA 7: Operational Systems Development

PE 0305231N / MQ-8 UAV

Common Data Link (TCDL). The data from the MQ-8 is provided through standard DoD Command, Control, Communications, Computers and ISR (C4ISR) system architectures and protocols.

A deployed MQ-8 system includes air vehicle(s), payloads (i.e. electro-optical/infrared/laser designator-range finder, Automated Identification System, voice communications relay, Radar, Weapons, and other specialty payloads), MCS (with TCS and TCDL integrated for interoperability), a UCARS for automatic launch and recovery, and associated spares and support equipment. The schedules for MCS and UCARS components are based on host ship requirements, while schedules for air vehicle components, support equipment, and training equipment are based on operational deployment plans. A limited number of land-based mission control systems supplement the shipboard systems to support shore-based operations, such as pre-deployment or acceptance functional check flights. These land-based mission control stations will also support depot-level maintenance/post-maintenance activities. The MQ-8C provides additional mission endurance and payload-weight-power, increased reliability, and improved maintainability to the MQ-8 Fire Scout System. MQ-8 systems will support missions on Littoral Combat Ship (LCS) and/or suitably-equipped air capable ships. Quantities of air vehicles are derived from LCS and/or suitably-equipped air capable ship deployment requirements for Surface Warfare and Mine Countermeasures mission sets.

The MQ-8 Radar capability is the initial effort as part of the Surface Warfare (SUW) Increment of the MQ-8C. A maritime Radar has been competitively selected for integration into the MQ-8C Fire Scout System. This system will provide the MQ-8 operators and the supported Littoral Combat Ship (LCS) crew enhanced situational awareness of the Recognized Maritime Picture (RMP) by providing multiple operational modes to include surface search, track, Inverse Synthetic Aperture Radar (ISAR) maritime target classification, and Synthetic Aperture Radar (SAR) target classification capabilities. The maritime Radar will be fully integrated with the Mission Control Systems (MCS) and ship's combat systems providing data in standardized format for ease of dissemination to other users.

| B. Program Change Summary (\$ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---------|---------|--------------|-------------|---------------|
| Previous President's Budget | 52.770 | 26.518 | 10.902 | - | 10.902 |
| Current President's Budget | 52.770 | 26.518 | 62.656 | - | 62.656 |
| Total Adjustments | 0.000 | 0.000 | 51.754 | - | 51.754 |
| Congressional General Reductions | - | - | | | |
| Congressional Directed Reductions | - | - | | | |
| Congressional Rescissions | - | - | | | |
| Congressional Adds | - | - | | | |
| Congressional Directed Transfers | - | - | | | |
| Reprogrammings | _ | - | | | |
| SBIR/STTR Transfer | - | - | | | |
| Program Adjustments | 0.000 | 0.000 | 51.500 | - | 51.500 |
| Rate/Misc Adjustments | 0.000 | 0.000 | 0.254 | - | 0.254 |

PE 0305231N: MQ-8 UAV

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| Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy | | Date: May 2017 |
|--|-----------------------------------|----------------|
| Appropriation/Budget Activity | R-1 Program Element (Number/Name) | |
| 1319: Research, Development, Test & Evaluation, Navy I BA 7: Operational | PE 0305231N / MQ-8 UAV | |
| Systems Development | | |
| | | |

Change Summary Explanation

Technical: FYDP funding increase supports Radar development, MQ-8C and Radar test requirements, and MQ-8C Weapons development. Radar and weapons increases support requirements outlined in the MQ-8C Capabilities Production Document (CPD). Test increases support completion of test team transition from contractor to government, DT and OT events to meet IOC, and deployment dates. Future payload efforts will be considered when developing current efforts.

Schedule:

Updated Milestone C decision and other milestones to align to the restructured MQ-8 program.

Updated Radar capability contract awards, payloads efforts, and reviews to align to the restructured MQ-8 program.

Updated production and delivery schedules for the current production plan.

PE 0305231N: MQ-8 UAV

| | | | Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy | | | | | | | | | | |
|--|-----------|---------|---|-----------------|----------------|---|---------|---------|---------|---------|---------------------|---------------|--|
| Appropriation/Budget Activity 1319 / 7 | | | am Elemen 31N / MQ-8 | • | • | Project (Number/Name) 2768 / MQ-8 Fire Scout | | | | | | | |
| COST (\$ in Millions) | or ars | 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 | |
| 2768: MQ-8 Fire Scout 4 | 1.245 | 52.770 | 26.518 | 62.656 | - | 62.656 | 19.952 | 26.533 | 28.775 | 22.213 | 88.512 | 739.174 | |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | | |

Project MDAP/MAIS Code: 253

A. Mission Description and Budget Item Justification

The FY18 increase supports Radar development, MQ-8C and Radar test requirements, and MQ-8C Weapons development. Radar and weapons increases support requirements outlined in the MQ-8C Capabilities Production Document (CPD). Test increases support completion of test team transition from contractor to government, DT and OT events to meet IOC, and deployment dates.

The MQ-8 Unmanned Air System is popularly known as "Fire Scout". The Department conducted a Title 10 Section 2433 (Nunn-McCurdy Breach) review on the MQ-8 program in 2014 due to a unit cost breach and certified a restructured program to Congress on 16 June 2014. The restructured program includes MQ-8B air vehicles procured under the original program of record (POR), MQ-8C air vehicles (Endurance Upgrade) procured under the Department of the Navy's Rapid Deployment Capability (RDC) procurement process, and additional MQ-8C air vehicles to be procured to complete the program Fleet requirements, and associated Mission Control Systems (MCS), Unmanned Aerial Vehicle Common Automatic Recovery Systems (UCARS) and support equipment. In addition to the air vehicles, Radar and Weapons capabilities were developed under the Navy's RDC authorities. All acquisition actions previously planned under the RDCs have transitioned into the restructured POR. Current FY16 analysis has determined that a total fleet requirement of 60 air vehicles (51 procurement and 9 RDT&EN / 30 MQ-8Bs and 30 MQ-8Cs) will satisfy current needs thus reducing the total number of MQ-8C production air vehicles to a quantity of 30, a decrement of 10 from previous budget submits.

The MQ-8B-based system achieved Milestone C (MS C) in May 2007. The Nunn-McCurdy certification process revoked the program's MS C approval. MS C for the restructured MQ-8 program is currently scheduled for FY 2017.

The MQ-8 System provides real-time and non-real-time Intelligence, Surveillance and Reconnaissance (ISR) data to tactical users without the use of manned aircraft or reliance on limited joint theater or national assets. The baseline MQ-8 can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation and battle damage assessment (including voice communications relay). Development efforts respond to emerging fleet requirements through integration and improvements to Common Operational Picture capabilities, avionics, payloads, range, endurance, and targeting.

The MQ-8 launches and recovers vertically, and can operate from suitably-equipped air capable ships, as well as confined area land bases. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the MCS, also referred to as a Ground Control Station (GCS), and through the use of the Tactical Common Data Link (TCDL). The data from the MQ-8 is provided through standard DoD Command, Control, Communications, Computers and ISR (C4ISR) system architectures and protocols.

A deployed MQ-8 system includes air vehicle(s), payloads (i.e. electro-optical/infrared/laser designator-range finder, Automated Identification System, voice communications relay, Radar, Weapons, and other specialty payloads), MCS (with TCS and TCDL integrated for interoperability), a UCARS for automatic launch and

PE 0305231N: MQ-8 UAV

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy | | | Date: May 2017 |
|---|-----------------------------------|------------|----------------|
| Appropriation/Budget Activity | R-1 Program Element (Number/Name) | Project (N | umber/Name) |
| 1319 / 7 | PE 0305231N / MQ-8 UAV | 2768 I MQ | -8 Fire Scout |

recovery, and associated spares and support equipment. The schedules for MCS and UCARS components are based on host ship requirements, while schedules for air vehicle components, support equipment, and training equipment are based on operational deployment plans. A limited number of land-based mission control systems supplement the shipboard systems to support shore-based operations, such as pre-deployment or acceptance functional check flights. These land-based mission control stations will also support depot-level maintenance/post-maintenance activities. The MQ-8C provides additional mission endurance and payload-weight-power, increased reliability, and improved maintainability to the MQ-8 Fire Scout System.

MQ-8 systems will support missions on Littoral Combat Ship (LCS) and/or suitably-equipped air capable ships. Quantities of air vehicles are derived from LCS and/or suitably-equipped air capable ship deployment requirements for Surface Warfare and Mine Countermeasures mission sets. FYDP funds support the completion of MQ-8C and Radar development, and studies on Weapons and future payloads. Future payload efforts will be considered when developing current efforts.

The MQ-8 Radar capability is the initial effort as part of the Surface Warfare (SUW) Increment of the MQ-8C. A maritime Radar will be competitively selected for integration into the MQ-8C Fire Scout System. This system will provide the MQ-8 operators and the supported LCS crew enhanced situational awareness of the Recognized Maritime Picture (RMP) by providing surface search, track, Inverse Synthetic Aperture Radar (ISAR) maritime target classification, and Synthetic Aperture Radar (SAR) target classification capabilities. The maritime Radar will be fully integrated with the MCS and ship's combat systems providing data in standardized format for ease of dissemination to other users.

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | F1 2010 | F1 2010 | F1 2010 |
|---|---------|---------|---------|---------|---------|
| | FY 2016 | FY 2017 | Base | oco | Total |
| Title: Hardware and System Development | 43.832 | 11.275 | 31.375 | 0.000 | 31.375 |
| Articles: | - | - | - | - | - |
| FY 2016 Accomplishments: | | | | | |
| Continued MQ-8C hardware, software modifications, and other payload integration. Continued MQ-8 integration and testing on Littoral Combat Ship (LCS). Continued MQ-8C Endurance Upgrade and Radar development Continued MQ-8B FOT&E. | | | | | |
| FY 2017 Plans: Continue MQ-8C hardware, software modifications, and other payload integration. Continue MQ-8 integration and testing on LCS. Continue integration of the selected Radar with the MQ-8C Air Vehicle and Mission Control Systems (MCS). Complete qualification of the selected Radar for the MQ-8C operational environment. Continue System Integration Lab testing of the software build for the maritime Radar integration. Continue MQ-8B FOT&E. | | | | | |
| FY 2018 Base Plans: Continue MQ-8C hardware, software modifications, other payload integration, cyber vulnerability closure and safety capability improvements such a backup landing system and collision avoidance systems. Continue MQ-8 integration and testing on LCS. Continue integration of the selected Radar with the MQ-8C Air Vehicle and | | | | | |

PE 0305231N: MQ-8 UAV

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

| OHOLA | SSIFIED | | | | | | | |
|--|--|------------|------------|------------------------------------|----------------|------------------|--|--|
| Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy | | | | Date: May | 2017 | | | |
| | rogram Element (Number/N 805231N / MQ-8 UAV | Name) | | t (Number/Name) MQ-8 Fire Scout | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each | <u>)</u> | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | | |
| MCS. Complete qualification of the selected Radar for the MQ-8C operational environment of the software build for the maritime Radar integration. Continuous continuo | | | | | | | | |
| FY 2018 OCO Plans: N/A | | | | | | | | |
| Title: Development/Operational Testing | Articles: | 3.793 - | 7.436 - | 19.616 - | 0.000 | 19.616 - | | |
| FY 2016 Accomplishments: Continued Dynamic Interface testing of MQ-8C on both classes of Mission Control Sy MQ-8C Endurance Upgrade developmental testing. Continued IOT&E testing of MQ-other payload integration and testing. Continued MQ-8B FOT&E. | | | | | | | | |
| FY 2017 Plans: Continue Dynamic Interface testing of MQ-8C on both classes of Littoral Combat Ship developmental testing of hardware and software modifications and planning for other Continue Operational Test and Evaluation testing of MQ-8C on LCS. Start Developmental Test and Evaluation testing of MQ-8B FOT&E. | payload integration. | | | | | | | |
| FY 2018 Base Plans: Complete Dynamic Interface testing of MQ-8C on both classes of Littoral Combat Shi developmental testing of hardware and software modifications and planning for the ot Complete Operational Test and Evaluation testing of MQ-8C on LCS. Continue developmental testing on the MQ-8C Air Vehicle. Complete transition of the test team from Continue MQ-8 FOT&E. | her payload integration. opmental Testing of the | | | | | | | |
| FY 2018 OCO Plans: N/A | | | | | | | | |
| Title: Engineering and Technical Services | Articles: | 5.145 - | 7.807 | 11.665 - | 0.000 | 11.665 | | |
| FY 2016 Accomplishments: Continued engineering, program technical management, and logistics support. Continued execution to transition the MQ-8C, Radar, and Weapons capabilities. Continued | | | | | | | | |

PE 0305231N: MQ-8 UAV

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy | | | Date: May 2017 |
|---|-----------------------------------|------------|----------------|
| Appropriation/Budget Activity | R-1 Program Element (Number/Name) | Project (N | umber/Name) |
| 1319 / 7 | PE 0305231N / MQ-8 UAV | 2768 I MQ | -8 Fire Scout |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|--|---------|---------|-----------------|----------------|------------------|
| payloads, Littoral Combat Ship (LCS) capabilities payloads, and system studies and design. Continued MQ-8B FOT&E. | | | | | |
| FY 2017 Plans: Continue engineering, program technical management, logistics support of the MQ-8C. Continue acquisition planning and execution to transition the Radar, and Weapons capabilities. Continue Radar, Weapons, other payloads, LCS integration, and system studies and design. Continue MQ-8B FOT&E. | | | | | |
| FY 2018 Base Plans: Continue engineering, program technical management, logistics support of the MQ-8C. Continue acquisition planning and execution to transition the Radar, and Weapons capabilities. Continue Radar, Weapons, other payloads, LCS integration, and system studies and design. Continue MQ-8 FOT&E. | | | | | |
| FY 2018 OCO Plans: N/A | | | | | |
| Accomplishments/Planned Programs Subtotals | 52.770 | 26.518 | 62.656 | 0.000 | 62.656 |

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

| | | - | FY 2018 | FY 2018 | FY 2018 | | | | | Cost To | |
|--|---------|---------|-------------|----------------|--------------|---------|---------|---------|---------|-----------------|-------------------|
| <u>Line Item</u> | FY 2016 | FY 2017 | Base | OCO | <u>Total</u> | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Complete | Total Cost |
| APN, 044300: MQ-8 UAV | 158.680 | 72.435 | 49.472 | - | 49.472 | 67.463 | 30.260 | 24.174 | 46.863 | 56.055 | 1,305.923 |
| • APN, 060510: MQ-8 UAV Spares | 0.000 | 1.506 | 3.499 | - | 3.499 | 3.781 | 2.418 | 0.803 | 0.726 | 0.000 | 124.670 |
| APN, 058800: MQ-8 Series | 16.304 | 19.003 | 32.361 | - | 32.361 | 19.081 | 18.020 | 29.916 | 30.927 | 73.230 | 247.509 |

Remarks

D. Acquisition Strategy

The Navy's acquisition strategy capitalizes on prior Rapid Deployment Capability efforts, while leveraging existing program investments. The acquisition strategy maintains commonality of MQ-8B and MQ-8C systems, payloads, avionics, software, and ancillary equipment where possible. The acquisition strategy supports the revised Capability Production Document. Initial Operational Capability (IOC) of an MQ-8B-based system was achieved in 2QFY14 while IOC of an MQ-8C-based system onboard Littoral Combat Ship (LCS) is anticipated in 4QFY18. The maritime Radar has been competitively selected. The integration effort will require sole source contracts to the current prime Original Equipment Manufacturers (OEMs) for the Tactical Control System and the MQ-8 Fire Scout air vehicle.

E. Performance Metrics

Successfully provide an MQ-8C air vehicle that supports operational deployments. Successfully provide a Radar capability for operational deployments. Successfully achieve Littoral Combat Ship integration.

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| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy | | | Date: May 2017 |
|--|-----------------------------------|-----------|----------------|
| ļ · · · · | R-1 Program Element (Number/Name) | , , | umber/Name) |
| 1319 / 7 | PE 0305231N / MQ-8 UAV | 2768 I MQ | -8 Fire Scout |

| Product Developme | 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 |
| Primary Hardware Development (MQ-8) | C/CPIF | Northrop Grumman Corp : San Diego, CA | 305.395 | 32.730 | Nov 2015 | 9.317 | Nov 2016 | 28.838 | Nov 2017 | - | | 28.838 | 75.821 | 452.101 | 452.101 |
| Primary Hardware Development (MQ-8) | C/CPIF | Raytheon Corp : Falls Church, VA | 18.986 | 5.265 | Nov 2015 | 1.958 | Nov 2016 | 2.537 | Nov 2017 | - | | 2.537 | 11.368 | 40.114 | 40.114 |
| Primary Hardware Development(RADAR OEM) | C/CPIF | Leonardo MW : Edinburgh, United Kingdom | 4.984 | 5.837 | Nov 2015 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 10.821 | 10.821 |
| | | Subtotal | 329.365 | 43.832 | | 11.275 | | 31.375 | | - | | 31.375 | 87.189 | 503.036 | 503.036 |

| Support (\$ in Millior | ns) | | | FY 2 | 2016 | FY 2 | 2017 | FY 2 Ba | 2018 ise | | 2018 CO | 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 |
| Integrated Logistics Support | Various | Various : Various | 3.051 | 0.000 | | 0.000 | | 1.819 | Nov 2017 | - | | 1.819 | 5.374 | 10.244 | - |
| | | Subtotal | 3.051 | 0.000 | | 0.000 | | 1.819 | | - | | 1.819 | 5.374 | 10.244 | - |

| Test and Evaluation | (\$ in Milli | ons) | | FY 2 | 2016 | FY 2 | 2017 | FY 2 Ba | 2018 ise | FY 2 | | 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 |
| Developmental Test & Evaluation | WR | NAWCAD : PAXRV, MD | 10.235 | 0.000 | Feb 2016 | 2.386 | Nov 2016 | 12.569 | Nov 2017 | - | | 12.569 | 27.017 | 52.207 | - |
| Operational Test & Evaluation/QRA | WR | NAWCWD : CHINALK, CA | 5.983 | 3.793 | Feb 2016 | 5.050 | Mar 2017 | 7.047 | Nov 2017 | - | | 7.047 | 20.819 | 42.692 | - |
| Prior Years T&E no longer funded in the FYDP | Various | Various : Various | 0.378 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.378 | - |
| | | Subtotal | 16.596 | 3.793 | | 7.436 | | 19.616 | | - | | 19.616 | 47.836 | 95.277 | - |

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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 *I* 7

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2768 I MQ-8 Fire Scout

| Management Service | s (\$ in M | illions) | | FY 2 | 2016 | FY 2 | 2017 | FY 2 Ba | | FY 2 | 2018 CO | 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 |
| Government Engineering Support | WR | NAWCAD : PAXRV, MD | 44.872 | 3.665 | Nov 2015 | 4.695 | Nov 2016 | 7.116 | Nov 2017 | - | | 7.116 | 28.515 | 88.863 | - |
| Program Management Support | Various | Various : Various | 13.612 | 1.360 | Nov 2015 | 2.787 | Nov 2016 | 2.405 | Nov 2017 | - | | 2.405 | 12.636 | 32.800 | - |
| Travel | WR | NAVAIR : PAXRV, MD | 1.292 | 0.120 | Nov 2015 | 0.325 | Nov 2016 | 0.325 | Nov 2017 | - | | 0.325 | 2.804 | 4.866 | - |
| Prior years Mgmt Svcs no longer funded in the FYDP | Various | Various : Various | 2.457 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 2.457 | - |
| | | Subtotal | 62.233 | 5.145 | | 7.807 | | 9.846 | | - | | 9.846 | 43.955 | 128.986 | - |

Remarks

Travel contract type is TO.

| | Prior Years | FY 2 | 2016 | FY 2 | 017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------|----------------|--------|------|--------|-----|-----------------|----------------|------------------|---------------------|---------------|--------------------------------|
| Project Cost Totals | 411.245 | 52.770 | | 26.518 | | 62.656 | - | 62.656 | 184.354 | 737.543 | - |

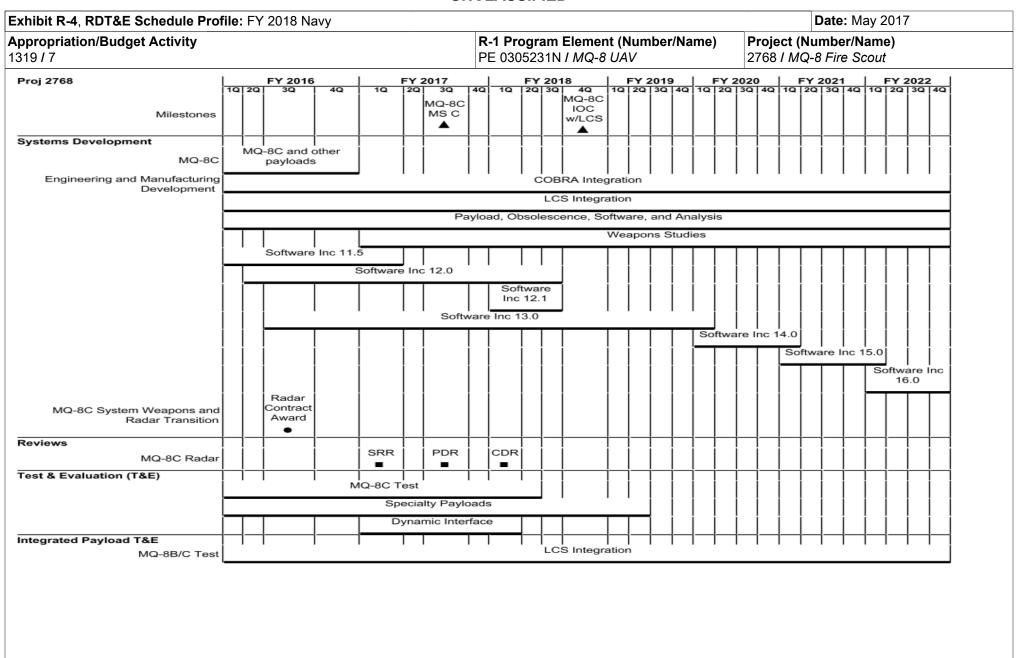
Remarks

DT&E Team transitioning from contractor to government.

OT&E includes MQ-8C IOT&E.

PE 0305231N: MQ-8 UAV

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PE 0305231N: *MQ-8 UAV* Navy

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| Exhibit R-4, RDT&E Schedule Profi | ile: FY 2018 Navy | | Date: May 2017 |
|--|--------------------------------------|---|---|
| Appropriation/Budget Activity 1319 / 7 | | R-1 Program Element (Number/Name) PE 0305231N / MQ-8 UAV | Project (Number/Name) 2768 / MQ-8 Fire Scout |
| MQ-8C System Transition | | ASW/MCM/SUW Mission | |
| MQ-8C Radar Transition | | Radar DT Radar OT | |
| Production Milestones Contract Awards | MQ-8C IV — MQ-8C MQ-8C V | | |
| | | | |

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| Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy | | | Date: May 2017 |
|--|----------------------------|----------|------------------------------|
| Appropriation/Budget Activity 1319 / 7 | , | · · | umber/Name) -8 Fire Scout |
| 131977 | I L 030323 IN T IVIQ-0 OAV | 21001 WQ | -0 Tile Scout |

Schedule Details

| | Sta | art | En | d |
|--|---------|------|---------|------|
| Events by Sub Project | Quarter | Year | Quarter | Year |
| Proj 2768 | | | | |
| Milestones: MQ-8 Initial Operational Capability (IOC) - MQ-8C Littoral Combat Ship (LCS) | 4 | 2018 | 4 | 2018 |
| Milestones: MQ-8C Milestone C Decision | 3 | 2017 | 3 | 2017 |
| Systems Development: MQ-8C: MQ-8C and other payloads | 1 | 2016 | 4 | 2016 |
| Systems Development: Engineering and Manufacturing Development: Coastal Battlefield Reconnaissance and Analysis Integration (COBRA), BLK 1/2/3 | 1 | 2016 | 4 | 2022 |
| Systems Development: Engineering and Manufacturing Development: Littoral Combat Ship (LCS) Integration | 1 | 2016 | 4 | 2022 |
| Systems Development: Engineering and Manufacturing Development: Payload, Obsolescence, Software, and Analysis | 1 | 2016 | 4 | 2022 |
| Systems Development: Engineering and Manufacturing Development: Weapons Studies | 1 | 2017 | 4 | 2022 |
| Systems Development: Engineering and Manufacturing Development: Software Increment 11.5 | 1 | 2016 | 1 | 2017 |
| Systems Development: Engineering and Manufacturing Development: Software Increment 12.0 | 2 | 2016 | 3 | 2018 |
| Systems Development: Engineering and Manufacturing Development: Software Increment 12.1 | 1 | 2018 | 3 | 2018 |
| Systems Development: Engineering and Manufacturing Development: Software Increment 13.0 | 3 | 2016 | 1 | 2020 |
| Systems Development: Engineering and Manufacturing Development: Software Increment 14.0 | 1 | 2020 | 1 | 2021 |
| Systems Development: Engineering and Manufacturing Development: Software Increment 15.0 | 1 | 2021 | 1 | 2022 |

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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy **Date:** May 2017 Appropriation/Budget Activity R-1 Program Element (Number/Name) Project (Number/Name) 1319*I* 7 PE 0305231N / MQ-8 UAV 2768 I MQ-8 Fire Scout

| | Sta | art | Er | nd |
|---|---------|------|---------|------|
| Events by Sub Project | Quarter | Year | Quarter | Year |
| Systems Development: Engineering and Manufacturing Development: Software Increment 16.0 | 1 | 2022 | 4 | 2022 |
| Systems Development: MQ-8C System Weapons and Radar Transition: Radar Contract Award | 3 | 2016 | 3 | 2016 |
| Reviews: MQ-8C Radar: System Requirements Review (SRR) | 1 | 2017 | 1 | 2017 |
| Reviews: MQ-8C Radar: Preliminary Design Review (PDR) | 3 | 2017 | 3 | 2017 |
| Reviews: MQ-8C Radar: Critical Design Review (CDR) | 1 | 2018 | 1 | 2018 |
| Test & Evaluation (T&E): MQ-8C Development Test | 1 | 2016 | 2 | 2018 |
| Test & Evaluation (T&E): Specialty Payloads | 1 | 2016 | 2 | 2019 |
| Test & Evaluation (T&E): MQ-8C Dynamic Interface (DI) Testing | 1 | 2017 | 1 | 2018 |
| Integrated Payload T&E: MQ-8B/C Test: Littoral Combat Ship (LCS) Integration | 1 | 2016 | 4 | 2022 |
| MQ-8C System Transition: Operational Test and Evaluation (OT&E) | 1 | 2016 | 3 | 2018 |
| MQ-8C System Transition: ASW/MCM/SUW Mission | 1 | 2016 | 4 | 2022 |
| MQ-8C System Transition: MQ-8C Radar Transition: Radar Developmental Test (DT) | 2 | 2018 | 1 | 2019 |
| MQ-8C System Transition: MQ-8C Radar Transition: Radar Operational Test (OT) | 2 | 2019 | 3 | 2020 |
| Production Milestones: Contract Awards: Air Vehicles MQ-8C IV | 4 | 2016 | 4 | 2016 |
| Production Milestones: Contract Awards: Air Vehicles MQ-8C V | 4 | 2016 | 4 | 2016 |
| Production Milestones: Contract Awards: Air Vehicles MQ-8C VI | 1 | 2017 | 1 | 2017 |

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