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|---|-------------|---------|---------|--------------|--|---------------|---------|---------|---------|---------------------|------------------|------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy | | | | | | | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD) | | | | | R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev | | | | | | | |
| COST (\$ in Millions) | Prior Years | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost |
| Total Program Element | 1,572.603 | 5.189 | 5.371 | 16.611 | - | 16.611 | 21.402 | 2.534 | 2.579 | 2.636 | Continuing | Continuing |
| 1707: MH-60 Development | 1,572.603 | 5.189 | 5.371 | 16.611 | - | 16.611 | 21.402 | 2.534 | 2.579 | 2.636 | Continuing | Continuing |
| Program MDAP/MAIS Code: Project MDAP/MAIS Code(s): 191 | | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| <p>This Program Element includes funding for the development and improvement of MH-60R/S systems. MH-60R/S Multi-Mission helicopters provide both carrier and own-ship defense, and they greatly expand the capability of surface platforms through employment of onboard sensors and weapons systems. The MH-60R/S fleet is nearly 600 aircraft strong and serves as the world's premier multi-mission helicopter force. The MH-60R provides warfighting effectiveness in the primary mission areas of Anti-Submarine Warfare, Electronic Warfare, and Surface Warfare, including fast attack craft/fast in-shore attack craft (FAC/FIAC) threat response. Secondary MH-60R mission areas include search and rescue, vertical replenishment, naval surface fire support, logistics support, naval special warfare, strike warfare, personnel transport, and medical evacuation. The basic MH-60S conducts search and rescue, vertical replenishment, and logistics operations. Armed Helicopter and Airborne Mine Countermeasures (AMCM) have been added as primary mission areas for the MH-60S as block upgrades to the platform. Armed Helicopter upgrades provide Surface Warfare and Maritime Interdiction Operations capabilities to address FAC/FIAC threat, as well as Special Warfare Support and Combat Search and Rescue. AMCM provides the Littoral Combat Ship with the airborne portion of the Mine Countermeasures Mission Package. MH-60S secondary roles include torpedo and drone recovery, noncombatant evacuation operations, and SEAL team and Explosive Ordnance Disposal support.</p> | | | | | | | | | | | | |
| <p>The FY 2019 budget request funds the following efforts: System Configuration 20 which includes capability improvements including fuel management and integration of both the Advanced Offboard Electronic Warfare (AOEW) pod and Multifunction Information Distribution System-Low Volume Terminal (MIDS/LVT) Block Upgrade 2 terminal; development of Network Enabled Weapons capability which includes the integration of J11 and J12.6 series messages into the MH-60R/S Link-16 architecture. These messages enable the helicopter to provide in-flight target updates to Net Enabled Weapons, streamline target sorting, and expand over-the-horizon targeting capability for surface platforms; development of critical Aircraft Survivability Equipment (ASE) upgrades, specifically, platform design for the integration of a common ASE architecture; and developmental activities including capability studies, interoperability studies, aircraft service life evaluations, and open hardware and software architectures definition in support of MH-60 Mid-Life Upgrade.</p> | | | | | | | | | | | | |

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy | | | | Date: February 2018 | |
|---|---------|---|--------------|---------------------|---------------|
| Appropriation/Budget Activity | | R-1 Program Element (Number/Name) | | | |
| 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD) | | PE 0604216N / Multi-Mssn Helicopter Upgrade Dev | | | |
| B. Program Change Summary (\$ in Millions) | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total |
| Previous President's Budget | 5.275 | 5.371 | 2.549 | - | 2.549 |
| Current President's Budget | 5.189 | 5.371 | 16.611 | - | 16.611 |
| Total Adjustments | -0.086 | 0.000 | 14.062 | - | 14.062 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.086 | 0.000 | | | |
| • Program Adjustments | 0.000 | 0.000 | 14.200 | - | 14.200 |
| • Rate/Misc Adjustments | 0.000 | 0.000 | -0.138 | - | -0.138 |
| Change Summary Explanation | | | | | |
| FY 2019 increase of \$14.200M for System Configuration 20, Network Enabled Weapons, Common ASE Architecture and Mid-Life Upgrade studies to include Cyber Evaluation/Validation and Radar Development activities that were not funded in the previous President's Budget. | | | | | |
| Schedule: Updated for Network Enabled Weapons, Common ASE Architecture and delay of System Configuration 18 test efforts. | | | | | |
| Technical: Not Applicable | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy | | | | | | | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 1319 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604216N / <i>Multi-Mssn Helicopter Upgrade Dev</i> | | | | Project (Number/Name) 1707 / <i>MH-60 Development</i> | | | |
| COST (\$ in Millions) | Prior Years | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost |
| 1707: <i>MH-60 Development</i> | 1,572.603 | 5.189 | 5.371 | 16.611 | - | 16.611 | 21.402 | 2.534 | 2.579 | 2.636 | Continuing | Continuing |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |
| Project MDAP/MAIS Code: 191 | | | | | | | | | | | | |
| <p>A. Mission Description and Budget Item Justification</p> <p>The MH-60R/S program pursues upgrades and enhancements that pace the rapidly evolving threat and improve safety-of-flight for its pilots and aircrew. These efforts include improvements to existing sensors, avionics, communications, and navigation systems to include Identification Friend or Foe (IFF), the Multi-spectral Targeting System (MTS), the MH-60R radar equipped with Automatic Radar Periscope Detection and Discrimination (ARPDD), integration of the Joint Air-to-Ground Missile (obsolescence follow-on for Hellfire), the Sensor Operator Console, and MH-60R data-fusion capability. The program is also making incremental improvements to various airframe, flight safety, and mission-planning systems. VOR/ILS, on schedule be installed on MH-60R aircraft commencing in FY 2019, adds precision approach and airways-navigation capability to the MH-60R, and it greatly expands crews' ability to navigate in adverse weather. MH-60R is the lead platform for integration of the Multifunctional Information Distribution System (MIDS) / Low Volume Terminal (LVT) Block Upgrade 2 (an FAA and NSA mandate). MH-60R/S research and development initiatives include the evaluation and validation of the platform's cybersecurity posture. The MH-60R/S program is pursuing capability studies on open hardware and software architectures, avionics, mission systems, and air-vehicle kinematic performance. The program is also pursuing efforts in support of the MH-60 Mid-Life Upgrade.</p> <p>The FY 2019 budget request funds the following efforts: System Configuration 20 which includes capability improvements including fuel management and integration of both the Advanced Offboard Electronic Warfare (AOEW) pod and MIDS/LVT Block Upgrade 2 terminal; development of Network Enabled Weapons capability which includes the integration of J11 and J12.6 series messages into the MH-60R/S Link-16 architecture. These messages enable the helicopter to provide in-flight target updates to Net Enabled Weapons, streamline target sorting, and expand over-the-horizon targeting capability for surface platforms; development of critical Aircraft Survivability Equipment (ASE) upgrades, specifically, platform design for the integration of a common ASE architecture; and developmental activities including capability studies, interoperability studies, aircraft service life evaluations, and open hardware and software architectures definition in support of MH-60 Mid-Life Upgrade.</p> | | | | | | | | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | | | | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | |
| Title: Avionics H/W and S/W Development | | | | | | | 0.855 | 2.010 | 9.010 | 0.000 | 9.010 | |
| Articles: | | | | | | | - | - | - | - | - | |
| Description: Development efforts support aircraft integration, problem investigation, lab management and upgrades, and repairs in support of the test program. Avionics hardware and software development and integration to include: Pre-planned Product Improvements, new system configurations, radar enhancements, VOR/ILS, solutions to address the FAC/FIAC threat, development of Network Enabled Weapons capability | | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 1319 / 5 | | R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev | | Project (Number/Name) 1707 / MH-60 Development | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total |
| which includes the integration of J11 and J12.6 series messages into the MH-60R/S Link-16 architecture, and development of critical Aircraft Survivability Equipment (ASE) upgrades, and cyber evaluations/validations. FY 2018 Plans: Complete VOR/ILS and FAC/FIAC activities. Complete operational usage spectrum update to support fatigue life assessment of MH-60R aircraft structure and subsystem conditions. FY 2019 Base Plans: Commence activities for System Configuration 20 development which includes capability improvements for fuel management and safety, Advanced Offboard Electronic Warfare, and Multifunctional Information Distribution System Block Upgrade 2. Commence activities and award contract for the development of J11 and J12.6 series messages for network enabled weapon support, ASE upgrades, cyber evaluation/validation activities and radar enhancements. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Increase of \$7.000M from FY 2018 to FY 2019 is due to the increase of product development for Network Enabled Weapons capability, Common ASE architecture, cyber evaluation/validation activities, and radar enhancements. | | | | | | |
| Title: Engineering and Logistics Articles: | | 1.432 - | 1.702 - | 2.650 - | 0.000 - | 2.650 - |
| FY 2018 Plans: Continue to provide MH-60 engineering specialists, integrated logistics support, government furnished equipment, support equipment, program management, contract support services, and travel to support VOR/ILS, FAC/FIAC threat, and operational usage spectrum update efforts. Commence MH-60 Mid-Life Upgrade capability studies and develop initial open architectures, avionics, mission system, and air vehicle development cost and schedule planning estimates. Commence System Configuration 18 engineering support and finish FFFW/Rockets and mixed loads integration for Digital Rocket Launcher (DRL) on MH-60S. FY 2019 Base Plans: Continue to provide MH-60 engineering support, integrated logistics support, government furnished equipment, support equipment, program management, contract support services, and travel to support Mid-Life Upgrade | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 1319 / 5 | | R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev | | Project (Number/Name) 1707 / MH-60 Development | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total |
| capability studies and initial open architectures, avionics, mission system, and air vehicle development cost and schedule planning estimates. This includes performing high-time aircraft teardowns and fatigue life research. Commence engineering support, integrated logistics support, government furnished equipment, support equipment, program management, contract support services, and travel to support System Configuration 20, ASE Common Architecture development and contract preparation, Network Enabled Weapons contract preparation and award, and radar enhancement efforts. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Increase of \$0.948M from FY 2018 to FY 2019 is due to the increase of systems engineering support for System Configuration 20, Network Enabled Weapons capability, Common Airborne Survivability Equipment architecture, and radar enhancements. | | | | | | |
| Title: Test and Evaluation Articles: FY 2018 Plans: Commence System Configuration 18 test support and finish MH-60R VOR/ILS test and evaluation efforts. FY 2019 Base Plans: Complete System Configuration 18 and MH-60R VOR/ILS test and evaluation efforts. Commence System Configuration 20 test support. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Increase of \$3.292M from FY 2018 to FY 2019 is due finalization of testing for System Configuration 18 and commencement of System Configuration 20 test activities. | | 2.902 - | 1.659 - | 4.951 - | 0.000 - | 4.951 - |
| Accomplishments/Planned Programs Subtotals | | 5.189 | 5.371 | 16.611 | 0.000 | 16.611 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy | | | | | | | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 1319 / 5 | | | | R-1 Program Element (Number/Name) PE 0604216N / <i>Multi-Mssn Helicopter Upgrade Dev</i> | | | | Project (Number/Name) 1707 / <i>MH-60 Development</i> | | | | |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | | |
| | <u>Line Item</u> | <u>FY 2017</u> | <u>FY 2018</u> | <u>FY 2019</u> <u>Base</u> | <u>FY 2019</u> <u>OCO</u> | <u>FY 2019</u> <u>Total</u> | <u>FY 2020</u> | <u>FY 2021</u> | <u>FY 2022</u> | <u>FY 2023</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
| | • APN-5/0530: <i>SH60 Series</i> | 122.900 | 110.715 | 130.661 | 4.858 | 135.519 | 156.874 | 168.347 | 127.694 | 128.416 | Continuing | Continuing |
| Remarks | | | | | | | | | | | | |
| D. Acquisition Strategy | | | | | | | | | | | | |
| VOR/ILS will be developed using cost plus incentive fee type contracts. | | | | | | | | | | | | |
| E. Performance Metrics | | | | | | | | | | | | |
| Successfully support developmental and operation test activities to qualify aircraft modifications/upgrades. | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy | | | | | | | | | | | | Date: February 2018 | | | |
|--|------------------------|--------------------------------|-------------|---------|------------|--|------------|--------------|------------|---|------------|---------------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity 1319 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev | | | | Project (Number/Name) 1707 / MH-60 Development | | | | | |
| Product Development (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 SW Dev. Fast Attack Craft/Fast In-Shore Attack Craft (FAC/FIAC) demo | SS/BOA | Lockheed Martin : Owego, NY | 5.556 | 0.037 | Apr 2017 | 0.107 | Apr 2018 | 0.000 | | - | | 0.000 | 0.000 | 5.700 | 5.700 |
| Primary Hdw/SW Dev, Instrument Landing System | SS/CPFF | Lockheed Martin : Owego, NY | 1.249 | 0.000 | | 0.627 | Mar 2018 | 0.000 | | - | | 0.000 | 0.000 | 1.876 | 1.876 |
| Primary Hdw/SW Dev, Instrument Landing System | SS/CPIF | Sikorsky : Stratford, CT | 1.808 | 0.000 | | 0.592 | Apr 2018 | 0.000 | | - | | 0.000 | 0.000 | 2.400 | 2.400 |
| Primary HDW/SW Dev, Usage Spectrum Update | SS/CPIF | Sikorsky : Stratford, CT | 0.000 | 0.000 | | 0.684 | Apr 2018 | 0.000 | | - | | 0.000 | 0.000 | 0.684 | 0.684 |
| Prior year Product Dev Cost no longer funded in the FYDP | Various | Various : Various | 1,165.791 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1,165.791 | - |
| System Configuration 20 | SS/CPFF | Lockheed Martin : Owego, NY | 0.000 | 0.000 | | 0.000 | | 0.110 | Apr 2019 | - | | 0.110 | Continuing | Continuing | Continuing |
| Primary Hdw Dev, Avionics FFFW | MIPR | Army, DOTC : Picatinny, NJ | 0.000 | 0.818 | Jan 2017 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.818 | - |
| Network Enabled Weapons | SS/CPFF | Lockheed Martin : Owego, NY | 0.000 | 0.000 | | 0.000 | | 5.000 | Mar 2019 | - | | 5.000 | 11.000 | 16.000 | 16.000 |
| Cyber Evaluation/ Validation | TBD | JHU/APL : Laurel, MD | 0.000 | 0.000 | | 0.000 | | 0.600 | Jan 2019 | - | | 0.600 | 0.000 | 0.600 | - |
| Common ASE Architecture | SS/CPFF | Lockheed Martin : Owego, NY | 0.000 | 0.000 | | 0.000 | | 3.000 | Apr 2019 | - | | 3.000 | 5.000 | 8.000 | 8.000 |
| Radar Development | TBD | JHU/APL : Laurel, MD | 0.000 | 0.000 | | 0.000 | | 0.300 | Jan 2019 | - | | 0.300 | 0.000 | 0.300 | - |
| Subtotal | | | 1,174.404 | 0.855 | | 2.010 | | 9.010 | | - | | 9.010 | Continuing | Continuing | N/A |
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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy | | | | | | | | | | | | Date: February 2018 | | | |
| Appropriation/Budget Activity 1319 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev | | | | | | Project (Number/Name) 1707 / MH-60 Development | | | |
| Support (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 eng spt, Very High Frequency Omni Ranging/Instrument Landing Sysem (VOR ILS) | Various | Various : Various | 0.000 | 1.271 | Dec 2016 | 0.250 | Nov 2017 | 0.000 | | - | | 0.000 | 0.000 | 1.521 | - |
| Government eng spt, Usage Spectrum Update | C/BA | TBD : TBD | 0.000 | 0.000 | | 0.920 | Nov 2017 | 0.000 | | - | | 0.000 | 0.000 | 0.920 | - |
| Prior year support cost no longer funded in the FYDP | Various | Various : Various | 163.344 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 163.344 | - |
| MH-60S Forward Firing Weapons/Rockets Government Engineering Support | Various | Various : Various | 0.000 | 0.107 | Dec 2016 | 0.225 | Dec 2017 | 0.000 | | - | | 0.000 | 0.000 | 0.332 | - |
| Government Eng Support , System Configuration 18 | Various | Various : Various | 0.000 | 0.000 | | 0.057 | Nov 2017 | 0.200 | Nov 2018 | - | | 0.200 | 0.000 | 0.257 | - |
| Government Eng Support, Mid-Life Upgrade | Various | Various : Various | 0.000 | 0.000 | | 0.200 | Nov 2017 | 0.600 | Nov 2018 | - | | 0.600 | 0.000 | 0.800 | - |
| Government Eng Support, System Configuration 20 | Various | Various : Various | 0.000 | 0.000 | | 0.000 | | 0.250 | Nov 2018 | - | | 0.250 | Continuing | Continuing | Continuing |
| Government Eng Support, Net Enabled Weapons | Various | Various : Various | 0.000 | 0.000 | | 0.000 | | 0.500 | Nov 2018 | - | | 0.500 | 0.000 | 0.500 | - |
| Government Eng Support, Common ASE Architecture | Various | Various : Various | 0.000 | 0.000 | | 0.000 | | 0.750 | Nov 2018 | - | | 0.750 | 0.000 | 0.750 | - |
| Government Eng Support, Radar Dev | Various | Various : Various | 0.000 | 0.000 | | 0.000 | | 0.300 | Nov 2018 | - | | 0.300 | 0.000 | 0.300 | - |
| Subtotal | | | 163.344 | 1.378 | | 1.652 | | 2.600 | | - | | 2.600 | Continuing | Continuing | N/A |
| Test and Evaluation (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 (DT&E), | WR | NAWC AD : Patuxent River, MD | 167.898 | 0.572 | Feb 2017 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 168.470 | - |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy | | | | | | | | | | | | Date: February 2018 | | | |
| Appropriation/Budget Activity 1319 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev | | | | | Project (Number/Name) 1707 / MH-60 Development | | | | |
| Test and Evaluation (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Projects commencing prior to FY16 | | | | | | | | | | | | | | | |
| Operation Test & Evaluation (OT&E),Projects commencing prior to FY16 | WR | COMOPTEVFOR : Norfolk, VA | 15.445 | 0.004 | Mar 2017 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 15.449 | - |
| Developmental Test & Evaluation (DT&E), Very High Frequency Omni Ranging (VOR)/Instrument Landing System (ILS) | WR | NAWC AD : Patuxent River, MD | 0.000 | 1.270 | Feb 2017 | 0.020 | Nov 2017 | 0.000 | | - | | 0.000 | 0.000 | 1.290 | - |
| Prior year T&E costs no longer funded in the FYDP | Various | various : various | 12.280 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 12.280 | - |
| DT&E, System Configuration 18 | Various | Various : Various | 0.000 | 0.000 | | 1.165 | Nov 2017 | 0.800 | Nov 2018 | - | | 0.800 | 0.000 | 1.965 | - |
| DT&E, MH-60S FFFW/ Rockets | Various | Various : Various | 0.000 | 1.056 | Mar 2017 | 0.474 | Nov 2017 | 0.000 | | - | | 0.000 | 0.000 | 1.530 | - |
| DT&E, System Configuration 20 | WR | NAWC AD : Patuxent River, MD | 0.000 | 0.000 | | 0.000 | | 4.151 | Nov 2018 | - | | 4.151 | Continuing | Continuing | Continuing |
| Subtotal | | | 195.623 | 2.902 | | 1.659 | | 4.951 | | - | | 4.951 | Continuing | Continuing | N/A |
| Management Services (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Travel | WR | NAWC AD : Patuxent River, MD | 4.976 | 0.054 | Oct 2016 | 0.050 | Nov 2017 | 0.050 | Oct 2018 | - | | 0.050 | 0.174 | 5.304 | - |
| Prior year Mgmt Serv cost no longer funded in the FYDP | Various | Various : Various | 34.256 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 34.256 | - |
| Subtotal | | | 39.232 | 0.054 | | 0.050 | | 0.050 | | - | | 0.050 | 0.174 | 39.560 | N/A |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy | | | | | | | | | | Date: February 2018 | | | |
| Appropriation/Budget Activity 1319 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604216N / <i>Multi-Mssn Helicopter Upgrade Dev</i> | | | | | Project (Number/Name) 1707 / <i>MH-60 Development</i> | | | |
| | Prior Years | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | 1,572.603 | 5.189 | | 5.371 | | 16.611 | | - | | 16.611 | Continuing | Continuing | N/A |
| Remarks | | | | | | | | | | | | | |

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy

Date: February 2018

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1319 / 5

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PE 0604216N / Multi-Mssn Helicopter
Upgrade Dev

| Project (Number/Name) | Start Date | End Date | Duration (Days) | Team Lead | Status | Progress (%) | Budget (USD) | Actual Cost (USD) | Variance (USD) | Risk Level | Notes |
|-----------------------|------------|------------|-----------------|-------------------|-------------|--------------|--------------|-------------------|----------------|------------|--|
| 101 | 2023-01-01 | 2023-03-15 | 74 | John Doe | Completed | 100 | 120000 | 118000 | 2000 | Low | Project completed ahead of schedule. |
| 102 | 2023-02-01 | 2023-05-01 | 91 | Jane Smith | In Progress | 75 | 150000 | 145000 | 5000 | Medium | Minor delays in resource allocation. |
| 103 | 2023-03-01 | 2023-06-30 | 121 | Mike Johnson | On Hold | 20 | 180000 | 180000 | 0 | High | Project paused due to budget constraints. |
| 104 | 2023-04-01 | 2023-07-15 | 105 | Sarah Lee | Planned | 0 | 200000 | 200000 | 0 | Medium | Project planning phase. |
| 105 | 2023-05-01 | 2023-08-31 | 152 | David Kim | On Hold | 10 | 250000 | 250000 | 0 | High | Project paused due to technical challenges. |
| 106 | 2023-06-01 | 2023-09-15 | 106 | Emily White | Planned | 0 | 170000 | 170000 | 0 | Medium | Project planning phase. |
| 107 | 2023-07-01 | 2023-10-31 | 152 | Chris Brown | On Hold | 5 | 220000 | 220000 | 0 | High | Project paused due to resource availability. |
| 108 | 2023-08-01 | 2023-11-15 | 136 | Alex Green | Planned | 0 | 190000 | 190000 | 0 | Medium | Project planning phase. |
| 109 | 2023-09-01 | 2023-12-31 | 121 | Mia Black | On Hold | 0 | 210000 | 210000 | 0 | High | Project paused due to budget constraints. |
| 110 | 2023-10-01 | 2024-01-15 | 106 | Noah Grey | Planned | 0 | 160000 | 160000 | 0 | Medium | Project planning phase. |
| 111 | 2023-11-01 | 2024-02-28 | 119 | Olivia Blue | On Hold | 0 | 180000 | 180000 | 0 | High | Project paused due to resource availability. |
| 112 | 2023-12-01 | 2024-03-15 | 104 | Liam Purple | Planned | 0 | 170000 | 170000 | 0 | Medium | Project planning phase. |
| 113 | 2024-01-01 | 2024-04-30 | 120 | Ava Yellow | On Hold | 0 | 190000 | 190000 | 0 | High | Project paused due to budget constraints. |
| 114 | 2024-02-01 | 2024-05-15 | 105 | Ethan Orange | Planned | 0 | 160000 | 160000 | 0 | Medium | Project planning phase. |
| 115 | 2024-03-01 | 2024-06-30 | 121 | Sophia Pink | On Hold | 0 | 200000 | 200000 | 0 | High | Project paused due to resource availability. |
| 116 | 2024-04-01 | 2024-07-15 | 105 | Lucas Brown | Planned | 0 | 180000 | 180000 | 0 | Medium | Project planning phase. |
| 117 | 2024-05-01 | 2024-08-31 | 152 | Isabella Green | On Hold | 0 | 220000 | 220000 | 0 | High | Project paused due to budget constraints. |
| 118 | 2024-06-01 | 2024-09-15 | 106 | Mason Blue | Planned | 0 | 170000 | 170000 | 0 | Medium | Project planning phase. |
| 119 | 2024-07-01 | 2024-10-31 | 152 | Charlotte Purple | On Hold | 0 | 210000 | 210000 | 0 | High | Project paused due to resource availability. |
| 120 | 2024-08-01 | 2024-11-15 | 136 | Benjamin Yellow | Planned | 0 | 190000 | 190000 | 0 | Medium | Project planning phase. |
| 121 | 2024-09-01 | 2025-01-15 | 106 | Evelyn Orange | On Hold | 0 | 160000 | 160000 | 0 | High | Project paused due to budget constraints. |
| 122 | 2024-10-01 | 2025-02-28 | 119 | William Pink | Planned | 0 | 180000 | 180000 | 0 | Medium | Project planning phase. |
| 123 | 2024-11-01 | 2025-03-15 | 104 | Grace Brown | On Hold | 0 | 170000 | 170000 | 0 | High | Project paused due to resource availability. |
| 124 | 2024-12-01 | 2025-04-30 | 151 | Henry Green | Planned | 0 | 200000 | 200000 | 0 | Medium | Project planning phase. |
| 125 | 2025-01-01 | 2025-05-15 | 135 | Abigail Blue | On Hold | 0 | 190000 | 190000 | 0 | High | Project paused due to budget constraints. |
| 126 | 2025-02-01 | 2025-06-30 | 151 | Isaac Purple | Planned | 0 | 180000 | 180000 | 0 | Medium | Project planning phase. |
| 127 | 2025-03-01 | 2025-07-15 | 136 | Chloe Yellow | On Hold | 0 | 210000 | 210000 | 0 | High | Project paused due to resource availability. |
| 128 | 2025-04-01 | 2025-08-31 | 152 | James Orange | Planned | 0 | 200000 | 200000 | 0 | Medium | Project planning phase. |
| 129 | 2025-05-01 | 2025-09-15 | 136 | Madison Pink | On Hold | 0 | 190000 | 190000 | 0 | High | Project paused due to budget constraints. |
| 130 | 2025-06-01 | 2025-10-31 | 152 | Christopher Brown | Planned | 0 | 220000 | 220000 | 0 | Medium | Project planning phase. |
| 131 | 2025-07-01 | 2025-11-15 | 136 | Victoria Green | On Hold | 0 | 210000 | 210000 | | | |

1707 / MH-60 Development

[illegible]

2019PB - 0604216N - 1707

UNCLASSIFIED

| | | | |
|---|--|---|----------------------------|
| Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy | | | Date: February 2018 |
| Appropriation/Budget Activity 1319 / 5 | R-1 Program Element (Number/Name) PE 0604216N / <i>Multi-Mssn Helicopter Upgrade Dev</i> | Project (Number/Name) 1707 / <i>MH-60 Development</i> | |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>PE 0604216N: Multi-Mission Helicopter Upgrade Development</i> | | | | |
| Systems Development: Network Enabled Weapons | 1 | 2019 | 2 | 2022 |
| Systems Development: Mid-Life Upgrade (MLU) Studies: MLU Studies | 2 | 2018 | 4 | 2020 |
| Systems Development: Aircraft Service-Life Evaluation: Usage Spectrum Update | 3 | 2017 | 4 | 2018 |
| Systems Development: Multifunction Information Distribution System (MIDS)-Low Volume Terminal (LVT): Block Upgrade 2 Integration | 1 | 2017 | 3 | 2017 |
| Systems Development: Very High Frequency Omni Ranging/Instrument Landing System (ILS): ILS integration | 4 | 2017 | 3 | 2018 |
| Systems Development: Forward Firing Weapons/Rockets Deficiencies: Correction of Deficiencies | 2 | 2017 | 3 | 2018 |
| Systems Development: Common ASE Architecture: Common ASE Architecture | 1 | 2019 | 4 | 2022 |
| Test and Evaluation: VOR ILS DT | 2 | 2018 | 3 | 2018 |
| Test and Evaluation: System Configuration 18 (SC18) | 1 | 2018 | 3 | 2019 |
| Test and Evaluation: System Configuration 20 (SC20) | 1 | 2019 | 4 | 2020 |
| Test and Evaluation: Integration and Testing of Network Enabled Weapons | 3 | 2021 | 4 | 2022 |
| Test and Evaluation: Integration and Testing of Common ASE Architecture | 1 | 2021 | 4 | 2023 |