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

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| Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i> | R-1 Program Element (Number/Name) PE 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i> |
|--|---|

| 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 | 1,147.461 | 100.153 | 114.211 | 103.391 | - | 103.391 | 125.015 | 98.873 | 72.212 | 42.550 | Continuing | Continuing |
| 0954: <i>Shipboard EW Improvement Program</i> | 474.207 | 10.478 | 13.322 | 16.013 | - | 16.013 | 16.332 | 16.413 | 16.766 | 17.101 | Continuing | Continuing |
| 2190: <i>NULKA Decoy</i> | 63.683 | 1.854 | 1.934 | 4.181 | - | 4.181 | 4.115 | 5.259 | 5.407 | 7.560 | Continuing | Continuing |
| 3227: <i>SEWIP Block 2</i> | 222.451 | 0.397 | 0.315 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 223.163 |
| 3316: <i>Advanced Offboard EW</i> | 106.887 | 18.966 | 36.080 | 45.867 | - | 45.867 | 67.123 | 55.218 | 26.594 | 10.868 | Continuing | Continuing |
| 3321.: <i>SEWIP Block 3</i> | 280.233 | 68.458 | 62.560 | 37.330 | - | 37.330 | 37.445 | 21.983 | 23.445 | 7.021 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

0954 - The Surface Electronic Warfare Improvement Program (SEWIP) is segmented into Block 1A, Block 1B, Block 2, Block 3, and Soft Kill Coordination System (SKCS). Block 1A upgraded the AN/SLQ-32 pulse-processing computers and the display consoles allowing the system to more quickly identify threats and better display the information to the operator. Block 1B added adjunct sensors for special signal intercept, including Specific Emitter Identification (SEI), and High Gain High Sensitivity (HGHS) (Block 1B3), a critical improvement for the threat correlation, situational awareness, and extending the battle space. Block 2 enhanced Surface Electronic Warfare (EW) and provided improved Anti-Ship Missile Defense (ASMD) and situational awareness through an improved Electronic Support (ES) receiver, antenna, and combat system interface. The addition of Block 2 to Block 1B3 forms the AN/SLQ-32 (V)6. Block 3 will provide an enhanced electronic attack capability to improve ASMD and counter-targeting. The addition of Block 3 to AN/SLQ-32 (V)6 forms the AN/SLQ-32(V)7 system. EW Rapid Capability Insertion Process (RCIP) identifies system and mission capability gaps by analyzing EW baseline and fleet requirements, prioritizes those gaps based on fleet input and critical technology maturity, and develops upgrades to the AN/SLQ-32(V) product line to address those gaps. The SKCS will provide SK weapon coordination and enhanced situational awareness to the AN/SLQ-32 (V)6 with EW/radar track association to support SK engagement decisions, including Radar Cued Engagements (RCE) and Electronic Attack (EA) with both onboard EA, provided by AN/SLQ-32 (V)7, and off-board EA. RCIP also integrates Future Naval Capability (FNC) programs into SEWIP.

2190 - The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Future efforts involve development of the capability for high value unit protection.

3227 - SEWIP Block 2 is developing an upgraded antenna, receiver, and combat system interface for AN/SLQ-32. The upgrades are necessary in order to pace the threat, improving detection, accuracy, and mitigation of Electromagnetic Interference (EMI).

3316 - The Advanced Offboard EW (AOEW) program is for the development of long duration off-board decoys integrated with onboard systems for EW coordination to counter identified EW gaps (additional details classified) in response to an urgent operational need from the Fleet that has been approved by the CNO for execution. Currently no counter to the threat exists. The program began with a Rapid Response Effort (RRE) in FY12-15 and a Decoy Development Effort (DDE) culminating in

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| <p>the delivery of a fully supported, full capability system. The RRE consisted of the evaluation and integration of commercially available decoys. The DDE consists of the development and evaluation of a long duration, active electronic offboard decoy system (payload only) integrated on an existing flight vehicle and an onboard/offboard EW coordinator fully able to counter the threat.</p> <p>The AOEW Preliminary Design contract award shifted from June 2016 to December 2016. In order to deliver this capability to the fleet as soon as possible, Engineering Development Model (EDM) contract delivery requirements have been re-phased, which enables the program to reach Milestone C in FY20. The MH60R helicopter AOEW decoy EDM and hardware delivery, integration, and flight test requirements were de-coupled from that of the MH60S. The MH60R and MH60S were originally both scheduled to be integrated and flight tested in the same fiscal year, but the integration and flight testing of the MH60S has now been shifted to FY21.</p> <p>In FY16 and FY17 AOEW includes a government software development effort to integrate AOEW into the Soft Kill Coordination System (SKCS) to gain maximum effectiveness from the AOEW decoy through coordination with on board systems.</p> <p>DDE Preliminary Design contract was awarded in December 2016.</p> <p>3321 - SEWIP Block 3 is developing an Electronic Attack (EA) capability improvement required for the AN/SLQ-32(V) system to keep pace with the threat. SEWIP Block 3 will provide the AN/SLQ-32(V)7 system for all surface ships (CVN, CG, DDG, LHD) outfitted with the active variant of the AN/SLQ-32, mainly the (V)3 and (V)4, as well as select new construction platforms.</p> <p>The SEWIP Block 3 Acquisition leverages technology developed under the Office of Naval Research's (ONR) Integrated Topside (InTop) Science and Technology (S&T) effort. SEWIP Block 3 will continue to expand the integrated shipboard combat system by providing a new integrated EA transmitter, array, and associated EA techniques. The AN/SLQ-32(V)7 integrates the new EA countermeasure (SEWIP Block 3) with the AN/SLQ-32(V)6. The AN/SLQ-32(V)6 includes an Electronic Support(ES) receiver (SEWIP Block 2), a High Gain High Sensitivity (HGHS) receiver (SEWIP Block 1B3), a Specific Emitter Identifier (SEI) receiver (SEWIP Block 1B2), display console, and backend electronics. SEWIP Block 3 includes a government software development effort for a SoftKill Coordinator (SKC) to manage EA engagements. SEWIP Block 3 is developing an EW testbed to validate system performance.</p> <p>SEWIP Block 3 developed and deployed a limited interim capability, starting in 2014, of a focused application of the Naval Research Lab (NRL) Transportable EW Module (TEWM) systems to support CNO Urgent Operational Needs (UON). Block 3T (AN/SLQ-59) is the TEWM system supporting the 7th fleet UON. TEWM Speed to Fleet (STF) (AN/SLQ-62) is the TEWM system supporting the 6th fleet UON. A capability enhancement upgrade for the AN/SLQ-62 will be developed in FY2017.</p> | | |

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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 | 105.416 | 114.211 | 120.446 | - | 120.446 |
| Current President's Budget | 100.153 | 114.211 | 103.391 | - | 103.391 |
| Total Adjustments | -5.263 | 0.000 | -17.055 | - | -17.055 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | -2.900 | 0.000 | | | |
| • SBIR/STTR Transfer | -2.363 | 0.000 | | | |
| • Program Adjustments | 0.000 | 0.000 | -17.311 | - | -17.311 |
| • Rate/Misc Adjustments | 0.000 | 0.000 | 0.256 | - | 0.256 |

Change Summary Explanation

FY 2016 funding request includes reductions as a result of SBIR/STTR transfer of \$2.363 million.

FY 2018 funding request reflects a net program decrease of \$19.311 million reduction of project 3316 based on planned efforts and expected expenditures.

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | Project (Number/Name) 0954 / Shipboard EW Improvement Program | | | |
| 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 |
| 0954: Shipboard EW Improvement Program | 474.207 | 10.478 | 13.322 | 16.013 | - | 16.013 | 16.332 | 16.413 | 16.766 | 17.101 | Continuing | Continuing |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

Note

- The growth between FY17 and FY18 is attributed to the contract award and EW improvement efforts of RCIP #6.
- FY2018-FY2022: SEWIP Block 2 (PU 3227) were realigned to SEWIP Block 1 (PU 0954) for RCIP efforts.

A. Mission Description and Budget Item Justification

0954 - The Surface Electronic Warfare Improvement Program (SEWIP) is segmented into Block 1A, Block 1B, Block 2, Block 3, and Soft Kill Coordination System (SKCS). Block 1A upgraded the AN/SLQ-32 pulse-processing computers and the display consoles allowing the system to more quickly identify threats and better display the information to the operator. Block 1B added adjunct sensors for special signal intercept, including Specific Emitter Identification (SEI), and High Gain High Sensitivity (HGHS) (Block 1B3), a critical improvement for the threat correlation, situational awareness, and extending the battle space. Block 2 enhanced Surface Electronic Warfare (EW) and provided improved Anti-Ship Missile Defense (ASMD) and situational awareness through an improved Electronic Support (ES) receiver, antenna, and combat system interface. The addition of Block 2 to Block 1B3 forms the AN/SLQ-32 (V)6. Block 3 will provide an enhanced electronic attack capability to improve ASMD and counter-targeting. The addition of Block 3 to AN/SLQ-32 (V)6 forms the AN/SLQ-32(V)7 system. EW Rapid Capability Insertion Process (RCIP) identifies system and mission capability gaps by analyzing EW baseline and fleet requirements, prioritizes those gaps based on fleet input and critical technology maturity, and develops upgrades to the AN/SLQ-32(V) product line to address those gaps. The SKCS will provide SK weapon coordination and enhanced situational awareness to the AN/SLQ-32 (V)6 with EW/radar track association to support SK engagement decisions, including Radar Cued Engagements (RCE) and Electronic Attack (EA) with both onboard EA, provided by AN/SLQ-32 (V)7, and off-board EA. RCIP also integrates Future Naval Capability (FNC) programs into SEWIP.

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

| | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Title: Electronic Warfare Rapid Capability Insertion Process (EW RCIP) | 10.478 | 13.322 | 16.013 | 0.000 | 16.013 |
| Articles: | - | - | - | - | - |
| FY 2016 Accomplishments: | | | | | |
| - Continued the investigation and finalization of EW cost saving improvement initiatives to reduce life-cycle costs. | | | | | |
| - Delivered the RCIP #2 HGHS software/firmware upgraded loads using load and threat libraries. | | | | | |
| - Continued RCIP #4 Aegis Baseline 9.C2 SKCS integration efforts to address platform gaps for automatic and semi-automatic engagements using NULKA decoys and to perform radar cued engagements for increased performance in the AN/SLQ-32(V)6 Electronic Warfare systems; Completed software development and system integration and testing activities for software build 1, which provides the core SKCS capability of radar cued | | | | | |

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| Appropriation/Budget Activity 1319 / 5 | R-1 Program Element (Number/Name) PE 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i> | Project (Number/Name) 0954 / <i>Shipboard EW Improvement Program</i> |

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

| | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| <p>engagements, in accordance with approved critical design; Initiated combat system level integration and testing activities with AEGIS Advanced Capability Build (ACB) 16 Phase 0 baseline; Initiated software development for software build 2, the first AN/SLQ-32(V)7 integration build, which establishes the infrastructure for the Onboard Electronic Attack (EA) controller to communicate with the EA subsystem and provides the capability to perform an EA engagement on an Electronic Support (ES) track in accordance with approved critical design; Achieved technology improvements for classification and tracking gaps.</p> <ul style="list-style-type: none"> - Awarded RCIP #5 contract to increase EW Tactical Simulation capabilities to address advanced threats in the fleet environment and improve capabilities of fleet training for AN/SLQ-32 (V)6. Initiated and completed analysis of AN/SLQ-32 (V)6 specific need requirements to incorporate into existing simulator; Analyzed system and subsystem interoperability with improved tactical simulation; Developed the simulator requirements and prototype; Performed lab reviews at NSWC Dahlgren and the Center for Information Dominance schoolhouse; Completed Information Assurance requirements; Integrated tactical code into existing SEWIP Block 2 simulator baseline; Developed updated tactical code library; Conducted installation site visit. - Continued investigations of Algorithm Development of Enhanced Processing Techniques (ADEPT) improvement to SEWIP emitter processing. - Continued the identification of Electro Optics/Infrared (EO/IR) EW capability gaps and developed EO/IR requirements. - Identified additional EW technology shortfalls based on the current and emerging ASM threats and fleet requirements; solicited industry, University Affiliate Research Centers, and government activities for technical solutions; evaluated and selected RCIP technology candidates; evaluated RCIP technologies production readiness. <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> - Continue RCIP #4 Aegis Baseline 9.C2 SKCS integration efforts with AN/SLQ-32 (V)6 to address platform gaps for automatic and semi-automatic engagements using NULKA decoys and the onboard Electronic Attack (EA) transmitter (AN/SLQ-32 (V)7); Complete software development and system integration and testing activities for software build 2; Initiate and complete software development and system integration and testing activities for software build 3 to include onboard EA and decoy coordination, interoperability and adherence to onboard EA constraints; Initiate and complete software development and system integration and testing activities for software build 4 to enhance the onboard EA controller for more complex EA capabilities in accordance with approved critical design. Continue combat system level integration and testing activities with AEGIS ACB 16 Phase 0 baseline. | | | | | |

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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>- Continue RCIP #5 improvements to increase EW Tactical Simulation capabilities; Initiate and complete tactical simulator installation at training facility; Finalize tactical code incorporation into SEWIP Block 2 simulator and complete AN/SLQ-32 integration; Perform software updates and subsequent verification testing; Complete training for schoolhouse instructors. Commence development of AN/SLQ-32(V)6 into existing Surface Electronic Warfare Team Trainer (SEWTT) development.</p> <p>- Continue investigations of ADEPT improvement to SEWIP emitter processing.</p> <p>- Continue to address Electro Optics/Infrared (EO/IR) EW capability gaps and establish top-level requirement specifications.</p> <p>-Identify additional EW technology shortfalls based on the current and emerging ASM threats and fleet requirements; solicit industry, University Affiliate Research Centers, and government activities for technical solutions; evaluate and select RCIP technology candidates; evaluate RCIP technologies production readiness.</p> <p>FY 2018 Base Plans:</p> <p>- Continue RCIP #4 Aegis Baseline 9.C2 SKCS integration efforts with AN/SLQ-32 to address platform gaps for automatic and semi-automatic engagements using NULKA decoys and the onboard Electronic Attack (EA) (AN/SLQ-32 (V)7) and offboard EA systems; Continue to provide software upgrades every four months; Initiate and complete software development and system integration and testing activities for software builds 5, 6 and 7 to enhance the onboard EA and offboard EA controllers to provide more complex and coordinated EA capabilities in accordance with approved critical design; Continue combat system level integration and testing activities with AEGIS ACB 16 Phase 0 baseline leading ultimately to certification of the baseline in Q4 of FY18.</p> <p>- Transition the future naval capability program, Softkill Performance and Real-Time Assessment (SPARTA) into SKCS; Develop algorithms to measure key features observed in Softkill (SK) engagements and measure EA effectiveness; Develop algorithms to provide real-time assessment of SK performance to SEWIP; Initiate the development of improved fleet weapons coordination, informed Hard Kill(HK)/SK prioritization, weapons conservation, and enhanced operator battlespace awareness by contributing integral feedback regarding non-kinematic performance.</p> <p>- Continue RCIP #5 improvements to increase EW Tactical Simulation capabilities; Initiate system integration with Ship Self Defense System (SSDS), SKCS, ACB-16, and the onboard Surface Electronic Warfare Team Trainer (SEWTT); Perform software updates in tactical simulator to provide advanced training capabilities based on future system requirements.</p> <p>- Continue ADEPT improvements to SEWIP emitter processing; Perform integration efforts with AN/SLQ-32(V)6 systems and evaluate and analyze ADEPT and AN/SLQ-32(V)6 integration test results; Update software based on future requirements.</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 |
|---|---------|---------|-----------------|----------------|------------------|
| <p>- Award RCIP #6 and initiate improvements to deployed military radars and signal and emitter processing and classification for AN/SLQ-32(V)6 Electronic Warfare system and increase the operator's tactical situational awareness; Initiate pulse processing improvements; Develop solutions, in addition to ADEPT, to improve track continuity, pulse sorting and improve the understanding and classification of complex emitters; Initiate system improvements to provide an increased tactical advantage, an increased system performance against non-anti-ship cruise missiles (ASCM) and ASCMs; Perform passive ranging of radio frequency (RF) emitting platforms and increase the capability of onboard and offboard Electronic Attack (EA) and maintain a tactical picture; Develop a commercial upgrade of the field-programmable gate arrays (FPGA) in the AN/SLQ-32(V)6 that will enable the system to keep pace with advanced threats and advanced processing algorithms and enhance the Electronic Support (ES) mission of the AN/SLQ-32(V)6.</p> <p>- Continue Electro Optics/Infrared (EO/IR) development; Initiate and provide systems engineering process improvements and address identified performance gaps.</p> <p>- Identify additional EW technology shortfalls based on the current and emerging ASM threats and fleet requirements; solicit industry, University Affiliate Research Centers, and government activities for technical solutions; evaluated and selected RCIP technology candidates; evaluated RCIP technologies production readiness.</p> <p>FY 2018 OCO Plans: OCO: - N/A</p> | | | | | |
| Accomplishments/Planned Programs Subtotals | 10.478 | 13.322 | 16.013 | 0.000 | 16.013 |

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> |
|--|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| • OPN/2312: OPN BA-2 AN/SLQ-32(V) | 259.271 | 274.892 | 240.433 | - | 240.433 | 399.516 | 533.644 | 709.028 | 486.957 | Continuing | Continuing |
| • 24575N & 72827N/1C2C: OMN BA-1 AN/SLQ-32(V) | 6.932 | 7.727 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 58.683 |
| • 24575N & 72827N/1C1C: OMN BA-1 AN/SLQ-32(V) | 0.000 | 0.000 | 7.955 | - | 7.955 | 8.104 | 8.278 | 8.449 | 9.111 | Continuing | Continuing |

Remarks

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D. Acquisition Strategy

The Rapid Capability Insertion Process(RCIP) is a process that identifies candidate capability gap/technology solution pairs, refines the value proposition description for each pair, prioritizes projects for funding and executes projects that result in improved capability transitioned to the fleet.

E. Performance Metrics

Successfully achieve Block 1B3 Milestone C / Low Rate Initial Production (LRIP) Decision Review (DR).
Successfully complete Block 1B3 Initial Operational Test & Evaluation (IOT&E).
Successfully achieve Block 1B3 Full Rate Production (FRP) DR.

Successfully identify RCIP capabilities.
Successfully identify and assess RCIP Science & Technology candidates.
Award development contract for RCIP #1.
Successfully demonstrate and validate RCIP capabilities.
Award development contract for RCIP #2.
Award development contract for RCIP #3.
Award development contract for RCIP #4.
Award development contract for RCIP #5.
Award development contract for RCIP #6.

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | 0954 / Shipboard EW Improvement Program | | | | | | | |
| 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 |
| Ancillary Hardware Development | Various | Various : Various | 151.420 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 151.420 | - |
| ESE Development | SS/CPFF | Northrop Grumman : Goleta, CA | 13.037 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 13.037 | - |
| ICAD Development | SS/CPFF | GD-AIS : Fairfax, VA | 11.747 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 11.747 | - |
| ESE Development (Block 1A) | SS/CPFF | Northrop Grumman : Goleta, CA | 0.471 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.471 | - |
| System Integrator | C/CPAF | GD-AIS : Fairfax, VA | 13.798 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 13.798 | - |
| 1B Development | SS/CPIF | GD-AIS : Fairfax, VA | 86.292 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 86.292 | - |
| Q-70 Mods | C/CPFF | LM-EAGAN : Eagan, MN | 3.491 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.491 | - |
| Block 2 Study/ Development | C/CPIF | BAE : Nashua, NH | 0.336 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.336 | - |
| ALQ210 Integration | WR | NSWC Dahlgren : Dahlgren, VA | 10.345 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 10.345 | - |
| Rapid Capability Insertion Process (RCIP) #1 | C/CPIF | Lockheed Martin : Syracuse, NY | 2.000 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 2.000 | - |
| RCIP #1 | WR | NSWC Dahlgren : Dahlgren, VA | 0.650 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.650 | - |
| RCIP #2 | SS/CPFF | Northrop Grumman : Goleta, CA | 2.514 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 2.514 | - |
| RCIP #2 | SS/FFP | GD-AIS : Fairfax, VA | 0.734 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.734 | - |
| RCIP #3 | SS/CPFF | EWA-GSI : Fairmont, WV | 1.978 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.978 | - |
| RCIP #3 | WR | ONR/ACI : Washington, DC | 3.130 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.130 | - |
| RCIP #4 | SS/CPFF | APL : Laurel, MD | 0.398 | 0.950 | Mar 2016 | 1.740 | Nov 2016 | 1.190 | Dec 2017 | - | | 1.190 | Continuing | Continuing | Continuing |
| RCIP #4 | WR | NSWC Dahlgren : Dahlgren, VA | 0.000 | 2.603 | Mar 2016 | 4.528 | Nov 2016 | 3.569 | Nov 2017 | - | | 3.569 | Continuing | Continuing | Continuing |
| RCIP #5 | WR | NSWC Dahlgren : Dahlgren, VA | 0.000 | 1.235 | Mar 2016 | 1.115 | Nov 2016 | 1.252 | Nov 2017 | - | | 1.252 | 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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | Project (Number/Name) 0954 / Shipboard EW Improvement Program | | | | | |

| 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 | | | |
| RCIP #6 | TBD | TBD : TBD | 0.000 | 0.000 | | 0.000 | | 5.012 | Apr 2018 | - | | 5.012 | Continuing | Continuing | Continuing |
| SEWTT Development | SS/CPFF | EWA : Fairmont, WV | 0.000 | 0.000 | | 0.100 | May 2017 | 0.000 | | - | | 0.000 | Continuing | Continuing | Continuing |
| Subtotal | | | 302.341 | 4.788 | | 7.483 | | 11.023 | | - | | 11.023 | - | - | - |

Remarks
 RCIP #3 was completed with FY 2015 funds.
 The growth between FY 2017 and FY 2018 in Product Development is primarily due to funding required for RCIP #6 as well as the realignment of \$0.226M FY18 RDT&E funds from Block 2 (3227).

| 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 | | | |
| Block 1 Integrated Logistics Support | WR | NSWC Crane, DD, NRL, APL : Crane, IN; Dahlgren, VA; Washington, DC; Laurel,MD | 9.912 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 9.912 | - |
| Block 1 Integrated Logistics Support | WR | NSWC Crane : Crane, IN | 3.418 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.418 | - |
| Block 1 Integrated Logistics Support | WR | NSWC DD : Dahlgren, VA | 0.293 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.293 | - |
| Block 1 Government Engineering Support | WR | NSWC Crane, DD, NRL, APL : Crane, IN; Dahlgren, VA; Washington, DC; Laurel,MD | 34.783 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 34.783 | - |
| Block 1 Government Engineering Support | WR | NSWC Dahlgren : Dahlgren, VA | 4.727 | 1.011 | Mar 2016 | 1.292 | Nov 2016 | 1.096 | Nov 2017 | - | | 1.096 | Continuing | Continuing | Continuing |
| Block 1 Government Engineering Support | WR | NSWC Crane : Crane, IN | 4.601 | 0.433 | Mar 2016 | 0.388 | Jan 2017 | 0.481 | Nov 2017 | - | | 0.481 | Continuing | Continuing | Continuing |
| Block 1 Government Engineering Support | WR | NRL : Washington, DC | 2.325 | 0.808 | Mar 2016 | 0.965 | Nov 2016 | 0.711 | Nov 2017 | - | | 0.711 | 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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | | Project (Number/Name) 0954 / Shipboard EW Improvement Program | | | | |

| 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 | | | |
| Block 1 Government Engineering Support | SS/CPFF | APL : Laurel, MD | 2.177 | 0.166 | Mar 2016 | 0.561 | Feb 2017 | 0.200 | Nov 2017 | - | | 0.200 | 0.000 | 3.104 | - |
| Block 1 Government Engineering Support | WR | SWRMC : San Diego, CA | 0.200 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.200 | - |
| Block 1 Government Engineering Support | WR | MIT : Hanscom AFB, MA | 0.456 | 0.060 | Jun 2016 | 0.860 | May 2017 | 0.800 | Nov 2017 | - | | 0.800 | Continuing | Continuing | Continuing |
| Block 1 Government Engineering Support | WR | MITRE : Aberdeen Proving Ground, MD | 0.083 | 0.444 | Mar 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.527 | - |
| Block 1 Government Engineering Support | WR | NUWC Keyport : Keyport, WA | 0.040 | 0.213 | Feb 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.253 | - |
| Block 1 SIPRNET Access | WR | ARL : Adelphi, MD | 0.092 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.092 | - |
| Block 1B3 Install on test ship | WR | NSSA Norfolk : Norfolk, VA | 0.857 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.857 | - |
| Block 1B3 Integration | WR | Lockheed Martin : Syracuse, NY | 1.000 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.000 | - |
| Subtotal | | | 64.964 | 3.135 | | 4.066 | | 3.288 | | - | | 3.288 | - | - | - |

Remarks
 The decrease in funding between FY 2017 and FY 2018 in Support is primarily due to the reallocation of funds and increased Product Development requirements of RCIP #6. Support includes realignment of \$0.200M FY18 funds from Block 2 (3227).

| 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 | | | |
| Block 1 Integration and Test | WR | NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC | 0.853 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.853 | - |
| Developmental Test & Evaluation | Various | Various : Various | 8.958 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 8.958 | - |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | 0954 / Shipboard EW Improvement Program | | | | | | | |
| Test and Evaluation (\$ 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 |
| Block 1A Test Planning/T&E Events | WR | NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC | 11.036 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 11.036 | - |
| Block 1B Test Planning/T&E Events | WR | NSWC Crane, DD, NRL, NAVAIR, OPTEVFOR, NSWC PHD : Crane, IN; Dahlgren, VA; Washington, DC; MD; CA | 9.567 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 9.567 | - |
| Block 1B Test Planning/T&E Events | WR | NSWC Dahlgren : Dahlgren, VA | 3.231 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.231 | - |
| Block 1B Test Planning/T&E Events | WR | NSWC Crane : Crane, IN | 3.026 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.026 | - |
| Block 1B Test Planning/T&E Events | WR | NRL : Washington, DC | 5.365 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 5.365 | - |
| Block 1B Test Planning/T&E Events | WR | OPTEVFOR : Norfolk, VA | 0.612 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.612 | - |
| Block 1B Test Planning/T&E Events | WR | JITC : Indian Head, MD | 0.288 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.288 | - |
| (V)4 ESE Test Planning/T&E Events | WR | NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC | 0.686 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.686 | - |
| (V)4 ESE Test Planning/T&E Events | WR | NSWC Dahlgren : Dahlgren, VA | 0.609 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.609 | - |
| (V)4 ESE Test Planning/T&E Events | WR | NSWC Crane : Crane, IN | 1.153 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.153 | - |
| (V)4 ESE Test Planning/T&E Events | WR | NRL : Washington, DC | 1.808 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.808 | - |
| (V)4 ESE Test Planning/T&E Events | WR | OPTEVFOR : Norfolk, VA | 0.192 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.192 | - |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | | Project (Number/Name) 0954 / Shipboard EW Improvement Program | | | | |

| Test and Evaluation (\$ 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 |
| RCIP Test Planning/T&E Events | WR | NSWC Dahlgren : Dahlgren, VA | 1.402 | 0.100 | Mar 2016 | 0.455 | Jan 2017 | 0.271 | Nov 2017 | - | | 0.271 | Continuing | Continuing | Continuing |
| RCIP Test Planning/T&E Events | WR | NSWC Crane : Crane, IN | 0.889 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.889 | - |
| RCIP Test Planning/T&E Events | WR | NRL : Washington, DC | 0.929 | 0.800 | Mar 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.729 | - |
| RCIP Test Planning/T&E Events | SS/CPFF | APL : Laurel, MD | 0.000 | 0.100 | Mar 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.100 | - |
| RCIP Test Planning/T&E Events | WR | COMOPTEVFOR : Norfolk, VA | 0.000 | 0.000 | | 0.104 | May 2017 | 0.106 | Nov 2017 | - | | 0.106 | Continuing | Continuing | Continuing |
| Subtotal | | | 50.604 | 1.000 | | 0.559 | | 0.377 | | - | | 0.377 | - | - | - |

Remarks

Development Test & Evaluation included several activities from the original development of the SLQ-32 system. This line has been left on the exhibit to track Prior year costs of this PU.
Support includes realignment of \$0.220M FY18 RDT&E funds from Block 2 (3227).

| Management Services (\$ 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 |
| Block 1 Program Management Support | C/CPPIF | SPA (SEAPORT) : Washington, D.C. | 32.702 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 32.702 | - |
| Block 1 Program Management Support | C/CPPIF | TMB (SEAPORT) : Washington, D.C. | 0.113 | 0.286 | Apr 2016 | 0.094 | Jan 2017 | 0.562 | Nov 2017 | - | | 0.562 | Continuing | Continuing | Continuing |
| Block 1 Program Management Support | SS/CPPIF | SPA : Washington, D.C. | 0.000 | 1.064 | Feb 2016 | 0.774 | Jan 2017 | 0.000 | | - | | 0.000 | 0.000 | 1.838 | - |
| Block 1 Program Management Support | TBD | TBD : TBD | 0.000 | 0.000 | | 0.308 | May 2017 | 0.723 | Nov 2017 | - | | 0.723 | Continuing | Continuing | Continuing |
| Block 1 Program Management Support | C/CPPIF | CACI (SEAPORT) : Washington, DC | 0.000 | 0.165 | Jun 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.165 | - |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | | Project (Number/Name) 0954 / Shipboard EW Improvement Program | | | | |

| 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 | | | |
| Block 1 Program Management Support | WR | NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC | 17.310 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 17.310 | - |
| Block 1 Program Management Support | WR | NSWC Crane : Crane, IN | 1.636 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.636 | - |
| Block 1 Program Management Support | WR | NSWC Dahlgren : Dahlgren, VA | 1.662 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.662 | - |
| Block 1 Program Management Support | WR | NRL : Washington, DC | 0.977 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.977 | - |
| Block 1 Program Management Support | SS/CPFF | APL : Laurel, MD | 0.527 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.527 | - |
| Block 1 Travel | WR | NAVSEA Program Office Travel : Washington, DC | 1.245 | 0.040 | Apr 2016 | 0.038 | Jan 2017 | 0.040 | Nov 2017 | - | | 0.040 | Continuing | Continuing | Continuing |
| Block 1 DoD Acquisition Workforce Fund | Various | Various : Various | 0.126 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.126 | - |
| Subtotal | | | 56.298 | 1.555 | | 1.214 | | 1.325 | | - | | 1.325 | - | - | - |

Remarks

The TBD for Program Management Support will be competitively awarded in 3rd quarter FY2017.

| | Prior Years | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract | | | | | | | | | | |
|----------------------------|--------------------|----------------|--|----------------|--|---------------------|--|--------------------|--|----------------------|-------------------------|-------------------|---------------------------------|--------|--|--------|--|---|--|--------|---|---|---|
| Project Cost Totals | | | | | | | | | | | 474.207 | 10.478 | | 13.322 | | 16.013 | | - | | 16.013 | - | - | - |

Remarks

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 0954 / Shipboard EW Improvement Program |
|--|--|---|

| Fiscal Year | 2016 | | | | 2017 | | | | 2018 | | | | 2019 | | | | 2020 | | | | 2021 | | | | 2022 | | | |
|-------------------------------|---|---|---|---|---------------------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones | | | | ▲ | Block 1B3 FRP DR | | | | | | | | | | | | | | | | | | | | | | | |
| Development | EW Rapid Capability Insertion Process (RCIP) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Algorithm Development of Enhanced Processing Techniques (ADEPT) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Softkill Performance and Real-Time Assessment (SPARTA) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | RCIP # 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCIP #4: SKCS SW | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| RCIP #5 Development | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| TACSIM | | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| ACB 16 Phase 0 | | | | | | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

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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 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i> | Project (Number/Name) 0954 / <i>Shipboard EW Improvement Program</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0954 | | | | |
| Block 1B3 FRP DR | 4 | 2016 | 4 | 2016 |
| EW Rapid Capability Insertion Process (RCIP) | 1 | 2016 | 4 | 2022 |
| Algorithm Development of Enhanced Processing Techniques (ADEPT) | 1 | 2016 | 4 | 2022 |
| RCIP #4: SKCS SW Builds 1-10 | 2 | 2016 | 4 | 2019 |
| RCIP #5 Development | 2 | 2016 | 1 | 2018 |
| TACSIM | 3 | 2017 | 2 | 2018 |
| ACB 16 Phase 0 | 1 | 2018 | 4 | 2018 |
| Softkill Performance and Real-Time Assessment (SPARTA) | 1 | 2018 | 4 | 2020 |
| RCIP #6 | 1 | 2018 | 4 | 2020 |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 2190 / NULKA Decoy |
|--|--|--|

| 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 |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2190: NULKA Decoy | 63.683 | 1.854 | 1.934 | 4.181 | - | 4.181 | 4.115 | 5.259 | 5.407 | 7.560 | Continuing | Continuing |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Future efforts involve development of the capability for high value unit protection.

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

| | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: NULKA Decoy Subsystem | 1.854 | 1.934 | 4.181 | 0.000 | 4.181 |
| Articles: | - | - | - | - | - |
| FY 2016 Accomplishments: - Continued NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies, and Fly Out Tactics. | | | | | |
| FY 2017 Plans: - Continue NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies, and Fly Out Tactics. | | | | | |
| FY 2018 Base Plans: - Continue NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies, and Fly Out Tactics. - Commence DLP technology refresh to address obsolescence issues. | | | | | |
| FY 2018 OCO Plans: N/A | | | | | |
| Accomplishments/Planned Programs Subtotals | 1.854 | 1.934 | 4.181 | 0.000 | 4.181 |

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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 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i> | Project (Number/Name) 2190 / <i>NULKA Decoy</i> |

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

| Line Item | FY 2016 | FY 2017 | FY 2018 | FY 2018 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To | |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------|------------|
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • OPN/5231: <i>Ship Missile Support Equipment</i> | 57.791 | 62.792 | 66.407 | - | 66.407 | 62.354 | 61.806 | 63.141 | 64.523 | Continuing | Continuing |
| • OMN/12CR0 (1C2C): <i>Nulka</i> | 7.138 | 5.864 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| • OMN/11CD0 (1C1C): <i>Nulka</i> | 0.000 | 0.000 | 6.044 | - | 6.044 | 6.303 | 6.438 | 6.584 | 7.400 | Continuing | Continuing |

Remarks

OPN Controls reflect the following Line Item 5231 Project Units (PU's) under the 'ANTI-SHIP MISSILE DECOY SYSTEM' program: VV001, VV002, VV003, VV004, VV830, VV831, VV832, and VV833.

The growth between FY2017 and FY2018 funds an earlier start for the DLP Technology Refresh development, as obsolescence issues have become a higher priority.

D. Acquisition Strategy

NULKA is a joint cooperative program between United States and Australia in full rate production.

E. Performance Metrics

Successfully complete first-of-class testing of MK 53 DLS upgrade for CVN.

Successfully complete Element Certification Decoy Launch Processor (DLP) software version 6_5 for the CVN 68 ship class.

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3227 / SEWIP Block 2 |
|--|--|--|

| 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 |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3227: SEWIP Block 2 | 222.451 | 0.397 | 0.315 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 223.163 |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

The SEWIP Block 2 program is developing an upgraded antenna, receiver, and combat system interface for AN/SLQ-32. The upgrades are necessary in order to pace the threat, improving detection, accuracy, and mitigation of EMI.

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

| | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: SEWIP Block 2 | 0.397 | 0.315 | 0.000 | 0.000 | 0.000 |
| Articles: | - | - | - | - | - |
| FY 2016 Accomplishments: - Continued analysis and make recommendations for corrections of deficiencies. | | | | | |
| FY 2017 Plans: - Continue analysis and make recommendations for corrections of deficiencies. | | | | | |
| FY 2017 OCO Plans: - N/A | | | | | |
| FY 2018 Base Plans: N/A | | | | | |
| FY 2018 OCO Plans: N/A | | | | | |
| Note: FY2018-FY2022 funds were realigned to SEWIP Block 1 (PU 0954) for RCIP efforts, as SEWIP Block 2 achieved FRP in 4th quarter FY2016. | | | | | |
| Accomplishments/Planned Programs Subtotals | 0.397 | 0.315 | 0.000 | 0.000 | 0.000 |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy | Date: May 2017 |
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| Appropriation/Budget Activity 1319 / 5 | R-1 Program Element (Number/Name) PE 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3227 / SEWIP Block 2 |
|--|--|--|

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

| <u>Line Item</u> | <u>FY 2016</u> | <u>FY 2017</u> | <u>FY 2018</u> <u>Base</u> | <u>FY 2018</u> <u>OCO</u> | <u>FY 2018</u> <u>Total</u> | <u>FY 2019</u> | <u>FY 2020</u> | <u>FY 2021</u> | <u>FY 2022</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN/2312: OPN BA-2 AN/SLQ-32(V) | 259.271 | 274.892 | 240.433 | - | 240.433 | 399.516 | 533.644 | 709.028 | 486.957 | Continuing | Continuing |
| • OMN/0204575N/1C2C: OMN BA-1 AN/SLQ-32(V)6 | 6.212 | 11.667 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 26.186 |
| • OMN/0204575N/1C1C: OMN BA-1 AN/SLQ-32(V)6 | 0.000 | 0.000 | 12.025 | - | 12.025 | 12.347 | 12.615 | 12.848 | 12.643 | Continuing | Continuing |

Remarks

D. Acquisition Strategy

SEWIP will develop Block upgrades to AN/SLQ-32 based on integrating technology advances and adding functional capabilities in an incremental fashion. Each Block and Sub-Block will be developed and contracted in an individual yet coordinated and overlapping fashion.

E. Performance Metrics

- Successfully achieve Block 2 MS C / LRIP DR.
- Successfully complete Block 2 Initial Operational Test & Evaluation (IOT&E).
- Successfully achieve Block 2 Full Rate Production (FRP) DR.

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | Project (Number/Name) 3316 / Advanced Offboard EW | | | |
| 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 |
| 3316: <i>Advanced Offboard EW</i> | 106.887 | 18.966 | 36.080 | 45.867 | - | 45.867 | 67.123 | 55.218 | 26.594 | 10.868 | Continuing | Continuing |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

3316 - The Advanced Offboard EW (AOEW) program is for the development of long duration off-board decoys integrated with onboard systems for EW coordination to counter identified EW gaps (additional details classified) in response to an urgent operational need from the Fleet that has been approved by the CNO for execution. Currently no counter to the threat exists. The program began with a Rapid Response Effort (RRE) in FY12-15 and a Decoy Development Effort (DDE) culminating in the delivery of a fully supported, full capability system. The RRE consisted of the evaluation and integration of commercially available decoys. The DDE consists of the development and evaluation of a long duration, active electronic offboard decoy system (payload only) integrated on an existing flight vehicle and an onboard/offboard EW coordinator fully able to counter the threat.

The AOEW Preliminary Design contract award shifted from June 2016 to December 2016. In order to deliver this capability to the fleet as soon as possible, Engineering Development Model (EDM) contract delivery requirements have been re-phased, which enables the program to reach Milestone C in FY20. The MH60R helicopter AOEW decoy EDM and hardware delivery, integration, and flight test requirements were de-coupled from that of the MH60S. The MH60R and MH60S were originally both scheduled to be integrated and flight tested in the same fiscal year, but the integration and flight testing of the MH60S has now been shifted to FY21.

In FY16 and FY17 AOEW includes a government software development effort to integrate AOEW into the Soft Kill Coordination System (SKCS) to gain maximum effectiveness from the AOEW decoy through coordination with on board systems.

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

| | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Title: AOEW - Decoy Development Effort (DDE) | 18.966 | 36.080 | 45.867 | 0.000 | 45.867 |
| Articles: | - | - | - | - | - |
| FY 2016 Accomplishments: | | | | | |
| - Conducted Gate 4 | | | | | |
| - Continued acquisition documentation development | | | | | |
| - Continued interoperability analysis | | | | | |
| - Continued tactics analysis and development | | | | | |
| - Initiated integration of ship and air interfaces | | | | | |
| - Commenced AOEW SKCS development | | | | | |
| - Commenced sustainment and training plan development | | | | | |
| - Commenced Modeling & Simulation (M&S) development | | | | | |

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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 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i> | Project (Number/Name) 3316 / <i>Advanced Offboard EW</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| - Commenced test planning | | | | | |
| <i>FY 2017 Plans:</i> | | | | | |
| - Complete acquisition documentation development | | | | | |
| - Conduct MS-B/Gate 5 | | | | | |
| - Award competitive development contract for decoy Preliminary Design | | | | | |
| - Continue interoperability analysis | | | | | |
| - Continue tactics analysis and development | | | | | |
| - Continue integration of ship and air interfaces | | | | | |
| - Continue AOEW SKCS development | | | | | |
| - Continue sustainment and training plan development | | | | | |
| - Continue test and M&S plan development | | | | | |
| - Conduct Integrated Baseline Review | | | | | |
| - Conduct System Requirements Review (SRR) | | | | | |
| - Conduct System Functional Review (SFR) | | | | | |
| - Conduct Preliminary Design Review (PDR) | | | | | |
| - Award contract option for Engineering & Manufacturing Development (E&MD) | | | | | |
| <i>FY 2018 Base Plans:</i> | | | | | |
| - Continue interoperability analysis | | | | | |
| - Continue tactics analysis and development | | | | | |
| - Continue integration of ship and air interfaces | | | | | |
| - Continue AOEW SKCS development | | | | | |
| - Continue sustainment and training plan development | | | | | |
| - Continue test and M&S plan development | | | | | |
| - Conduct Gate 6 | | | | | |
| - Conduct Critical Design Review (CDR) | | | | | |
| <i>FY 2018 OCO Plans:</i> | | | | | |
| N/A | | | | | |
| Accomplishments/Planned Programs Subtotals | 18.966 | 36.080 | 45.867 | 0.000 | 45.867 |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3316 / Advanced Offboard EW |
|--|--|---|

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

| <u>Line Item</u> | <u>FY 2016</u> | <u>FY 2017</u> | <u>FY 2018</u> <u>Base</u> | <u>FY 2018</u> <u>OCO</u> | <u>FY 2018</u> <u>Total</u> | <u>FY 2019</u> | <u>FY 2020</u> | <u>FY 2021</u> | <u>FY 2022</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OMN/12CR0 (1C2C): <i>SLQ-59, SLQ-62, and MK-59 Decoy Launching Systems</i> | 0.000 | 3.455 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| • OMN/11CD0 (1C1C): <i>SLQ-59, SLQ-62, and MK-59 Decoy Launching Systems</i> | 0.000 | 0.000 | 3.398 | - | 3.398 | 3.411 | 3.410 | 3.412 | 2.775 | Continuing | Continuing |
| • OPN/5231: <i>Ship Missile Support Equipment</i> | 0.000 | 0.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 11.139 | 41.419 | Continuing | Continuing |

Remarks

OPN Controls reflect the following Line Item 5231 Project Unit (PU) under the 'ANTI-SHIP MISSILE DECOY SYSTEM' program: VV500.

D. Acquisition Strategy

The AOEW DDE decoy is being competitively contracted and developed, and builds on technologies and concepts currently in development by ONR. For RRE, commercially available decoys were procured for evaluation, integration and testing.

E. Performance Metrics

- For DDE:
- Achieve Milestone (MS) B
 - Award Preliminary Design/E&MD contract.
 - Conduct System Requirements Review (SRR)
 - Conduct System Functional Review (SFR)
 - Conduct Preliminary Design Review (PDR)
 - Conduct Critical Design Review (CDR)
 - Achieve Milestone (MS) C
 - Conduct Initial Operational Test and Evaluation (IOT&E)
 - Conduct Developmental Test (DT) Assist
 - Conduct DDE Test and Certification

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3316 / Advanced Offboard EW |
|--|--|---|

| 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 | | | |
| Analysis of Alternatives | WR | CNA : Alexandria, VA | 1.300 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.300 | Continuing |
| Concept Analysis and Integration Assessment | SS/CPFF | APL : Laurel, MD | 8.105 | 2.562 | Feb 2016 | 0.950 | Nov 2016 | 1.675 | Nov 2017 | - | | 1.675 | Continuing | Continuing | Continuing |
| Concept Analysis and Technology Studies | WR | MIT-LL : Boston, MA | 2.580 | 1.200 | Feb 2016 | 0.910 | Nov 2016 | 0.910 | Nov 2017 | - | | 0.910 | Continuing | Continuing | Continuing |
| Concept Development and Technology Studies | WR | NRL : Washington, D.C. | 22.587 | 2.280 | Feb 2016 | 1.871 | May 2017 | 0.861 | Nov 2017 | - | | 0.861 | Continuing | Continuing | Continuing |
| Technology Development and Systems Requirements | WR | NSWC Dahlgren : Dahlgren, VA | 10.349 | 2.015 | Feb 2016 | 1.409 | Nov 2016 | 3.347 | Nov 2017 | - | | 3.347 | Continuing | Continuing | Continuing |
| Systems Requirements and Integration Studies | WR | NSWC Crane : Crane, IN | 2.233 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 2.233 | Continuing |
| Concept Development and Technology Studies | WR | NAVAIR : Patuxent River, MD | 0.740 | 2.051 | Mar 2016 | 2.258 | Nov 2016 | 2.913 | Nov 2017 | - | | 2.913 | Continuing | Continuing | Continuing |
| RRE Hardware Development | C/CPIF | Airborne Systems : UK | 8.364 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 8.364 | Continuing |
| DDE Preliminary Design/ E&MD | C/CPIF | Lockheed Martin : Syracuse, NY | 0.000 | 0.000 | Dec 2016 | 13.776 | Nov 2016 | 20.550 | Nov 2017 | - | | 20.550 | Continuing | Continuing | Continuing |
| Ship Integration | WR | SPAWAR : San Diego, CA | 0.000 | 0.400 | Jul 2016 | 1.147 | Nov 2016 | 1.060 | Nov 2017 | - | | 1.060 | 0.000 | 2.607 | - |
| Subtotal | | | 56.258 | 10.508 | | 22.321 | | 31.316 | | - | | 31.316 | - | - | - |

| 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 | | | |
| Government Development Support | WR | NRL : Washington, DC | 6.964 | 1.157 | Feb 2016 | 0.586 | May 2017 | 0.556 | Nov 2017 | - | | 0.556 | Continuing | Continuing | Continuing |
| Government Development and Engineering Support | WR | NSWC Dahlgren : Dahlgren, VA | 4.948 | 1.627 | Feb 2016 | 2.677 | Nov 2016 | 3.236 | Nov 2017 | - | | 3.236 | Continuing | Continuing | Continuing |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | 3316 / Advanced Offboard EW | | | | | | | |
| Support (\$ 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 |
| Government Engineering Support | WR | NSWC Crane : Crane, IN | 6.641 | 2.539 | Feb 2016 | 2.994 | Nov 2016 | 2.809 | Nov 2017 | - | | 2.809 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | NSWC Carderock : Bethesda, MD | 0.616 | 0.127 | Feb 2016 | 0.000 | Nov 2016 | 0.000 | | - | | 0.000 | Continuing | Continuing | Continuing |
| Systems Engineering Support | SS/CPFF | APL : Laurel, MD | 0.751 | 0.500 | Feb 2016 | 2.191 | Nov 2016 | 1.500 | Nov 2017 | - | | 1.500 | Continuing | Continuing | Continuing |
| Government Development Support | WR | NAVAIR : Patuxent River, MD | 2.009 | 0.516 | Mar 2016 | 1.141 | Nov 2016 | 1.718 | Nov 2017 | - | | 1.718 | Continuing | Continuing | Continuing |
| Logistics/Training | C/CPFF | Pioneering Evolution : Arlington, VA | 0.166 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.166 | - |
| RRE Installation | WR | Planning Yard : Yokosuka, Japan | 0.034 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.034 | - |
| RRE Installation | SS/CPFF | Planning Yard : Bath, ME | 4.254 | 0.049 | Jul 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 4.303 | - |
| EW UON | WR | Cherry Point Army : Aberdeen Proving Ground, MD | 0.022 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.022 | - |
| EW UON | WR | Cherry Point Navy : Cherry Point, NC | 0.148 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.148 | - |
| EW UON | WR | NSWC Indian Head : Indian Head, MD | 0.050 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.050 | - |
| EW UON | WR | NSSA Norfolk : Norfolk, VA | 0.070 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.070 | - |
| RRE Installation | WR | Norfolk Naval Shipyard : Norfolk, VA | 2.064 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 2.064 | - |
| RRE Installation | WR | Det-Naples : Naples, Italy | 0.500 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.500 | - |
| Logistics/Training | SS/CPFF | EWA : Fairmont, WV | 0.767 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.767 | - |
| RRE Installation | WR | FLC ROTA : Rota, Spain | 0.000 | 0.055 | Oct 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.055 | - |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | 3316 / Advanced Offboard EW | | | | | | | |
| Support (\$ 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 |
| Subtotal | | | 30.004 | 6.570 | | 9.589 | | 9.819 | | - | | 9.819 | - | - | - |
| Test and Evaluation (\$ 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 |
| Test Planning and Development Testing | WR | NRL : Washington, DC | 3.161 | 0.658 | Feb 2016 | 0.665 | May 2017 | 0.396 | Nov 2017 | - | | 0.396 | Continuing | Continuing | Continuing |
| Test Planning and Development Testing | WR | NSWC/Dahlgren : Dahlgren, VA | 2.931 | 0.061 | Feb 2016 | 0.359 | Nov 2016 | 0.359 | Nov 2017 | - | | 0.359 | Continuing | Continuing | Continuing |
| Test Planning and Development Testing | WR | NSWC Crane : Crane, IN | 0.938 | 0.215 | Feb 2016 | 0.078 | Nov 2016 | 0.078 | Nov 2017 | - | | 0.078 | Continuing | Continuing | Continuing |
| Test Planning and Development Testing | WR | NAVAIR : Patuxent River, MD | 0.038 | 0.335 | Mar 2016 | 0.310 | Nov 2016 | 1.250 | Nov 2017 | - | | 1.250 | Continuing | Continuing | Continuing |
| Test Planning and Development Testing | WR | OPTEVFOR : Norfolk, VA | 0.274 | 0.056 | Jun 2016 | 0.295 | Nov 2016 | 0.295 | Nov 2017 | - | | 0.295 | Continuing | Continuing | Continuing |
| Test and Evaluation | WR | Navy Post Graduate School : Monterey, CA | 0.090 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.090 | - |
| EW UON Test and Evaluation | C/FPAF | SRF Rota : Rota, Spain | 1.728 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.728 | - |
| EW UON Test and Evaluation | WR | NSSA Norfolk : Norfolk, VA | 0.018 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.018 | - |
| EW UON Test and Evaluation | WR | SUPSHIP Bath : Bath, ME | 1.166 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.166 | - |
| Subtotal | | | 10.344 | 1.325 | | 1.707 | | 2.378 | | - | | 2.378 | - | - | - |

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

| | | |
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| Appropriation/Budget Activity 1319 / 5 | R-1 Program Element (Number/Name) PE 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3316 / Advanced Offboard EW |
|--|--|---|

| 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 | | | |
| Program Management Support | C/CPFF | CSC (SEAPORT) : Washington, DC | 0.315 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.315 | - |
| Program Management Support | C/CPIF | CACI (SEAPORT) : Washington, DC | 0.155 | 0.200 | Feb 2016 | 0.393 | Nov 2016 | 0.324 | Nov 2017 | - | | 0.324 | 0.000 | 1.072 | - |
| Program Management Support | C/CPIF | SPA (SEAPORT) : Washington, DC | 7.866 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | Continuing | Continuing | Continuing |
| Program Management Support | SS/CPIF | SPA : Washington, DC | 1.000 | 0.330 | Jul 2016 | 0.668 | Nov 2016 | 0.000 | | - | | 0.000 | 0.000 | 1.998 | - |
| Program Management Support | TBD | TBD : TBD | 0.000 | 0.000 | | 0.668 | May 2017 | 1.336 | Nov 2017 | - | | 1.336 | 0.000 | 2.004 | - |
| Program Management Support | C/CPIF | TMB (SEAPORT) : Washington, DC | 0.855 | 0.023 | Jul 2016 | 0.623 | Nov 2016 | 0.623 | Nov 2017 | - | | 0.623 | 0.000 | 2.124 | - |
| Program Management Support | C/CPIF | STRATEGIC INSIGHT (SEAPORT) : Washington, DC | 0.000 | 0.000 | | 0.041 | Mar 2017 | 0.000 | | - | | 0.000 | 0.000 | 0.041 | - |
| Travel | WR | NAVSEA Program Office Travel : Washington, DC | 0.090 | 0.010 | Feb 2016 | 0.070 | Nov 2016 | 0.071 | Nov 2017 | - | | 0.071 | Continuing | Continuing | Continuing |
| Subtotal | | | 10.281 | 0.563 | | 2.463 | | 2.354 | | - | | 2.354 | - | - | - |

Remarks
The TBD for Program Management Support will be competitively awarded in May 2017.

| | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | 106.887 | 18.966 | 36.080 | 45.867 | - | 45.867 | - | - | - |

Remarks

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3316 / Advanced Offboard EW |
|--|--|---|

| Fiscal Year | 2016 | | | | 2017 | | | | 2018 | | | | 2019 | | | | 2020 | | | | 2021 | | | | 2022 | | | |
|-------------------------------------|----------|---|---|---|------------------------|---------|---|-----|--|-----|---|---|----------------------------|-----------|---|---|-------------|----|--------|----|------|-------|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones (TBD) | | | | | △ | MS | B | | | | | | | | | | △ | MS | C/LRIP | DR | | | | | | | | |
| Development | | | | | DDE Preliminary Design | | | | DDE/Engineering and Manufacturing Development (E&MD) | | | | | | | | | | | | | | | | | | | |
| | | | | | △ | SRR/SFR | △ | PDR | △ | CDR | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | RRE Test | | | | | | | | | | | | MH60-R CERT | | | | MH60-S CERT | | | | | | | | | | | |
| | | | | | | | | | | | | | DDE Test and Certification | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | △ | DT Assist | | | | | | | △ | IOT&E | | | | | | |

RRE: Rapid Response Effort
DDE: Decoy Development Effort
NOTE: MH60-R AND MH60-S FLIGHT CERT SPLIT

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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 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i> | Project (Number/Name) 3316 / <i>Advanced Offboard EW</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3316 | | | | |
| RRE Test | 1 | 2016 | 2 | 2016 |
| Milestone (MS) B | 2 | 2017 | 2 | 2017 |
| DDE Preliminary Design | 1 | 2017 | 1 | 2018 |
| System Requirements Review (SRR) | 2 | 2017 | 2 | 2017 |
| System Functional Review (SFR) | 2 | 2017 | 2 | 2017 |
| Preliminary Design Review (PDR) | 4 | 2017 | 4 | 2017 |
| DDE / E&MD | 1 | 2018 | 1 | 2021 |
| Critical Design Review (CDR) | 2 | 2018 | 2 | 2018 |
| DDE Test and Certification | 1 | 2019 | 3 | 2021 |
| Developmental Test (DT) Assist | 1 | 2019 | 1 | 2019 |
| Milestone (MS) C / LRIP DR | 1 | 2020 | 1 | 2020 |
| Initial Operational Test and Evaluation (IOT&E) | 3 | 2021 | 3 | 2021 |
| MH60-R Certification | 1 | 2019 | 1 | 2020 |
| MH60-S Certification | 1 | 2021 | 1 | 2022 |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | Project (Number/Name) 3321. / SEWIP Block 3 | | | |
| 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 |
| 3321.: SEWIP Block 3 | 280.233 | 68.458 | 62.560 | 37.330 | - | 37.330 | 37.445 | 21.983 | 23.445 | 7.021 | Continuing | Continuing |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

SEWIP Block 3 is developing an Electronic Attack (EA) capability improvement required for the AN/SLQ-32(V) system to keep pace with the threat. SEWIP Block 3 will provide the AN/SLQ-32(V)7 system for all surface ships (CVN, CG, DDG, LHD) outfitted with the active variant of the AN/SLQ-32, mainly the (V)3 and (V)4, as well as select new construction platforms.

The SEWIP Block 3 Acquisition leverages technology developed under the Office of Naval Research's (ONR) Integrated Topside (InTop) Science and Technology (S&T) effort. SEWIP Block 3 will continue to expand the integrated shipboard combat system by providing a new integrated EA transmitter, array, and associated EA techniques. The AN/SLQ-32(V)7 integrates the new EA countermeasure (SEWIP Block 3) with the AN/SLQ-32(V)6. The AN/SLQ-32(V)6 includes an Electronic Support(ES) receiver (SEWIP Block 2), a High Gain High Sensitivity (HGHS) receiver (SEWIP Block 1B3), a Specific Emitter Identifier (SEI) receiver (SEWIP Block 1B2), display console, and backend electronics. SEWIP Block 3 includes a government software development effort for a SoftKill Coordinator (SKC) to manage EA engagements. SEWIP Block 3 is developing an EW testbed to validate system performance.

SEWIP Block 3 developed and deployed a limited interim capability, starting in 2014, of a focused application of the Naval Research Lab (NRL) Transportable EW Module (TEWM) systems to support CNO Urgent Operational Needs (UON). Block 3T (AN/SLQ-59) is the TEWM system supporting the 7th fleet UON. TEWM Speed to Fleet (STF) (AN/SLQ-62) is the TEWM system supporting the 6th fleet UON. A capability enhancement upgrade for the AN/SLQ-62 will be developed in FY2017.

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

| | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Title: SEWIP Block 3 Government Engineering | 13.480 | 20.008 | 16.517 | 0.000 | 16.517 |
| Articles: | - | - | - | - | - |
| FY 2016 Accomplishments: | | | | | |
| - Completed Preliminary Design. | | | | | |
| - Commenced support of Engineering Development Model (EDM) hardware and software development and integration. | | | | | |
| - Conducted initial IBR for E&MD. | | | | | |
| - Supported CDR and continued systems engineering activities for detailed design. | | | | | |
| - Continued EW testbed model development and verification/validation of model performance. | | | | | |
| - Continued integrated topside design activities with multiple ship classes. | | | | | |
| - Supported platform integration activities to ensure compatibility with AEGIS and SSDS Combat Systems. | | | | | |

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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 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i> | Project (Number/Name) 3321. / <i>SEWIP Block 3</i> | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
| <p>- Supported SKC integration activities with AEGIS ACB-16 Combat System.</p> <p>- Completed support for SKC software development for radar cued engagements.</p> <p>NOTE 1: The E&MD contract option was exercised in October 2015 (FY16), not the end of FY15 as shown at PB17. The accomplishment for support of EDM hardware and software development was added to reflect the Government work associated with the exercise of the E&MD Option.</p> <p>Note 2: FY16 Government engineering was reduced due to increased requirements for system development and SKCS build/delivery.</p> <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> - Continue supporting Engineering Development Model (EDM) hardware and software development and integration. - Commence Milestone C planning and preparation. - Commence test planning for Formal Qualification Testing (FQT), Operational Assessment (OA), Block 3 Stand-Alone Operation, and Threat Engagements. - Commence test facilities planning at Wallops Island and implementation of test facilities infrastructure improvements (includes power handling upgrades, cooling infrastructure, antenna mounting platform, cabling, connections, security fencing) - Commence procurement of special test equipment (includes Combat Electromagnetic Environment Simulator, Techniques Generator, command and control test trailer, and referee receiver) - Continue EW testbed model development and verification/validation of model performance. - Continue integrated topside design activities with multiple ship classes. - Commence development and procurement of test assets for Initial Operational Test and Evaluation (IOT&E). - Support platform integration activities to ensure compatibility with AEGIS and SSDS Combat Systems. - Initiate and complete support to SKC builds 2, 3, and 4 software development for EA functionality. - Support Delta Critical Design Review (CDR) and conduct delta Integrated Baseline Review (IBR). - Support LRIP Long Lead Material (LLM) authorization. <p>OCO: - N/A</p> <p>FY 2018 Base Plans:</p> | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy | Date: May 2017 |
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| Appropriation/Budget Activity 1319 / 5 | R-1 Program Element (Number/Name) PE 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3321. / SEWIP Block 3 |
|--|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---------|---------|--------------|-------------|---------------|
|---|---------|---------|--------------|-------------|---------------|

NOTE 3: FY16 system development increase due to antenna design complexity and higher volume and cost of Long Lead Material (LLM) than originally planned.

- FY 2017 Plans:**
- Continue EDM hardware and software development and integration.
 - Conduct Delta CDR and support the delta IBR.
 - Commence test planning for FQT and OA.
 - Continue integrated topside design activities with multiple ship classes.
 - Continue support for model and simulation development for EW testbed.
 - Continue integration activities to ensure compatibility with AEGIS and SSDS Combat Systems.

OCO:
- N/A

- FY 2018 Base Plans:**
- Continue EDM hardware and software development and integration.
 - Conduct FQT and support OA.
 - Continue integrated topside design activities with multiple ship classes.
 - Continue support for model and simulation development for EW testbed.
 - Continue platform integration activities to ensure compatibility with AEGIS and SSDS Combat Systems.
 - Commence Surface Electronic Warfare Team Trainer (SEWTT) EA functionality development for AN/SLQ-32(V)7.

FY 2018 OCO Plans:
N/A

| | | | | | |
|---|-------|-------|-------|-------|-------|
| Title: Transportable EW Module (TEWM) Speed To Fleet (STF) (AN/SLQ-62) Development | 0.000 | 0.200 | 0.000 | 0.000 | 0.000 |
| Articles: | - | - | - | - | - |

FY 2016 Accomplishments:
- N/A

- FY 2017 Plans:**
- Develop capability enhancement upgrade for TEWM Speed To Fleet (STF) (AN/SLQ-62) upgrade.

FY 2018 Base Plans:

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3321. / SEWIP Block 3 |

| 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 | | | | | |
| FY 2018 OCO Plans: N/A | | | | | |
| Title: TEWM Speed to Fleet (STF) (AN/SLQ-62) Systems Engineering | 0.000 | 0.300 | 0.000 | 0.000 | 0.000 |
| Articles: | - | - | - | - | - |
| FY 2016 Accomplishments: - N/A | | | | | |
| FY 2017 Plans: - Complete TEWM Speed To Fleet (STF) (AN/SLQ-62) systems engineering, integration, and test. | | | | | |
| FY 2018 Base Plans: N/A | | | | | |
| FY 2018 OCO Plans: N/A | | | | | |
| Accomplishments/Planned Programs Subtotals | 68.458 | 62.560 | 37.330 | 0.000 | 37.330 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|
| Line Item | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete |
| • OPN/2312: AN/SLQ-32 | 259.271 | 274.892 | 240.433 | - | 240.433 | 399.516 | 533.644 | 709.028 | 486.957 | Continuing |

Remarks

D. Acquisition Strategy
 SEWIP will develop block upgrades to SLQ-32 based on integrating technology advances and adding functional capabilities in an incremental fashion. Each block and sub-block will be developed and contracted in an individual yet coordinated and overlapping fashion. Specifically, SEWIP Block 3 involves the transitioning and leveraging of work performed under the Integrated Topside (INTOP) program sponsored by ONR, which focused on designing/architecting an integrated Electronic Attack (EA), Information Operations (IO), and Line of Site (LOS) Comms system for Naval Surface Platforms. SEWIP Block 3 also leverages work performed under the TEWM program that is sponsored by NRL that focuses on technique development and active engagement analysis/modeling for Naval surface combatants. TEWM includes Block 3T (AN/SLQ-59) system supporting the 7th fleet UON and TEWM STF (AN/SLQ-62) system supporting the 6th fleet UON.

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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 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i> | Project (Number/Name) 3321. / <i>SEWIP Block 3</i> |

E. Performance Metrics

- Achieve Block 3 Milestone (MS) B.
- Complete Block 3T and Speed to Fleet (STF) development.
- Complete Block 3T and STF integration and testing.
- Award Preliminary Design Contract.
- Conduct System Functional Review (SFR) and System Requirements Review (SRR).
- Conduct Preliminary Design Review (PDR).
- Exercise Engineering & Manufacturing Development (E&MD) option.
- Conduct Critical Design Review (CDR).
- Conduct Delta CDR.
- Achieve Block 3 MS C / Low Rate Initial Production (LRIP) Decision Review (DR).
- Complete Formal Qualification Testing (FQT).
- Complete Operational Assessment (OA).
- Complete Test Readiness Review (TRR).
- Complete TECHEVAL.
- Complete Initial Operational Test & Evaluation (IOT&E).
- Achieve Block 3 Full Rate Production (FRP) DR.
- Complete Follow-on Operational Test & Evaluation (FOT&E).

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

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| Appropriation/Budget Activity 1319 / 5 | R-1 Program Element (Number/Name) PE 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3321. / SEWIP Block 3 |
|--|--|---|

| 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 | | | |
| Block 3 Technology Demonstration | SS/CPFF | Northrop Grumman: Linthicum, MD : Raytheon: Tewksbury, MA | 37.195 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 37.195 | - |
| Block 3T Primary Hardware Development | C/CPFF | ITT Exelis : Alexandria, VA | 54.624 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 54.624 | - |
| Block 3 SEWTT Development | SS/CPFF | EWA-GSI : Fairmont, WV | 1.619 | 0.000 | | 0.000 | | 0.100 | Nov 2017 | - | | 0.100 | Continuing | Continuing | Continuing |
| TEWM STF Primary Hardware Development | WR | NRL : Washington, DC | 7.691 | 0.000 | | 0.200 | Nov 2016 | 0.000 | | - | | 0.000 | 0.000 | 7.891 | - |
| Block 3 Preliminary Design/E&MD | C/CPIF | Northrop Grumman : Baltimore, MD | 18.341 | 54.978 | Feb 2016 | 42.052 | Oct 2016 | 20.713 | Oct 2017 | - | | 20.713 | Continuing | Continuing | Continuing |
| Subtotal | | | 119.470 | 54.978 | | 42.252 | | 20.813 | | - | | 20.813 | - | - | - |

Remarks
FY16 system development increase due to antenna design complexity and higher volume and cost of Long Lead Material (LLM) than originally planned.

| 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 | | | |
| Block 3 Integrated Logistics Support | WR | NSWC Crane : Crane, IN | 8.252 | 1.000 | Jan 2016 | 2.270 | Oct 2016 | 2.200 | Nov 2017 | - | | 2.200 | Continuing | Continuing | Continuing |
| Block 3 Integrated Logistics Support | WR | NSWC Carderock : Bethesda, MD | 0.133 | 0.032 | Mar 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.165 | - |
| Block 3 Integrated Logistics Support | WR | NAVSEALOGCEN : Mechanicsburg, PA | 0.000 | 0.171 | Sep 2016 | 0.098 | Apr 2017 | 0.210 | Nov 2017 | - | | 0.210 | Continuing | Continuing | Continuing |
| Block 3 Government Engineering Support | WR | NSWC Dahlgren : Dahlgren, VA | 19.829 | 1.558 | Jan 2016 | 2.188 | Oct 2016 | 1.750 | Nov 2017 | - | | 1.750 | Continuing | Continuing | Continuing |
| Block 3 Government Engineering Support | WR | NSWC Crane : Crane, IN | 6.113 | 0.705 | Jan 2016 | 0.889 | Nov 2016 | 0.700 | Nov 2017 | - | | 0.700 | Continuing | Continuing | Continuing |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | | 3321. / SEWIP Block 3 | | | | | | | |
| Support (\$ 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 |
| Block 3 Government Engineering Support | WR | NRL : Washington, DC | 16.953 | 1.827 | Feb 2016 | 2.501 | Nov 2016 | 1.800 | Nov 2017 | - | | 1.800 | Continuing | Continuing | Continuing |
| Block 3 Government Engineering Support | SS/CPFF | APL : Laurel, MD | 21.465 | 1.772 | Jan 2016 | 2.416 | Nov 2016 | 1.100 | Nov 2017 | - | | 1.100 | Continuing | Continuing | Continuing |
| Block 3 Government Engineering Support | WR | MIT-LL : Cambridge, MA | 4.681 | 0.126 | Jun 2016 | 0.000 | | 0.132 | Nov 2017 | - | | 0.132 | Continuing | Continuing | Continuing |
| Block 3 Government Engineering Support | WR | GTRI : Atlanta, GA | 1.040 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.040 | - |
| Block 3 Feasibility Studies | C/BA | BIW : Bath, ME | 0.039 | 0.210 | Apr 2016 | 0.276 | Jan 2017 | 0.000 | | - | | 0.000 | 0.000 | 0.525 | - |
| Block 3 Platform Integration Studies | C/BA | Norfolk Naval Shipyard (NNSY) : Norfolk, VA | 0.040 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.040 | - |
| Block 3 Platform Integration Studies | C/BA | SUPSHIP Gulf Coast : Pascagoula, MS | 0.062 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.062 | - |
| Block 3 Platform Integration Studies | C/BA | NSWC Philadelphia : Philadelphia, PA | 0.000 | 0.033 | Jun 2016 | 0.111 | Apr 2017 | 0.000 | | - | | 0.000 | 0.000 | 0.144 | - |
| Block 3 Platform Integration Studies | C/BA | NAVSEA 05 (Alion) : Washington, DC | 0.000 | 0.297 | May 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.297 | - |
| Block 3 Platform Integration Studies | C/BA | NAVSEA 05 (CSRA) : Washington, DC | 0.000 | 0.149 | May 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.149 | - |
| Block 3 Platform Integration Studies | C/BA | IWS 1.0 : Washington, DC | 0.000 | 0.000 | | 0.111 | May 2017 | 0.000 | | - | | 0.000 | 0.000 | 0.111 | - |
| Block 3T Systems Engineering | WR | NRL : Washington, DC | 20.532 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 20.532 | - |
| TEWM STF Systems Engineering | WR | NRL : Washington, DC | 5.691 | 0.000 | | 0.050 | Nov 2016 | 0.000 | | - | | 0.000 | 0.000 | 5.741 | - |
| TEWM STF Systems Engineering | WR | NSWC Crane : Crane, IN | 0.329 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.329 | - |
| Block 3 Platform Integration Studies | C/BA | Lockheed Martin : Moorstown, NJ | 0.000 | 0.000 | | 0.554 | Jan 2017 | 0.394 | Nov 2017 | - | | 0.394 | 0.000 | 0.948 | - |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3321. / SEWIP Block 3 |
|--|--|---|

| 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 | | | 105.159 | 7.880 | | 11.464 | | 8.286 | | - | | 8.286 | - | - | - |

Remarks
FY16 Government engineering was reduced due to increased funding requirements for system development and SKCS build/delivery.

| 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 | | | |
| Block 3 Test Planning/T&E Events | WR | NSWC Dahlgren : Dahlgren, VA | 3.701 | 0.193 | Jan 2016 | 0.448 | May 2017 | 0.750 | Nov 2017 | - | | 0.750 | Continuing | Continuing | Continuing |
| Block 3 Test Planning/T&E Events | WR | NSWC Crane : Crane, IN | 2.161 | 0.150 | Jan 2016 | 0.421 | May 2017 | 0.650 | Nov 2017 | - | | 0.650 | Continuing | Continuing | Continuing |
| Block 3 Test Planning/T&E Events | WR | NRL : Washington, DC | 7.368 | 2.000 | Feb 2016 | 3.193 | May 2017 | 2.050 | Nov 2017 | - | | 2.050 | Continuing | Continuing | Continuing |
| Block 3 Test Planning/T&E Events | WR | APL : Laurel, MD | 0.000 | 0.350 | Mar 2016 | 1.413 | Feb 2017 | 1.000 | Nov 2017 | - | | 1.000 | 0.000 | 2.763 | - |
| Block 3 Test Planning/T&E Events | WR | COMOPTEVFOR : Norfolk, VA | 0.165 | 0.000 | | 0.065 | May 2017 | 0.250 | Nov 2017 | - | | 0.250 | Continuing | Continuing | Continuing |
| Block 3 Test Planning/T&E Events | WR | Surface Combat Systems Center : Wallops Island, VA | 0.000 | 0.000 | | 1.105 | Oct 2016 | 0.982 | Nov 2017 | - | | 0.982 | 0.000 | 2.087 | - |
| TEWM Testing | WR | NRL : Washington, DC | 10.641 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 10.641 | - |
| TEWM STF Testing | WR | NRL : Washington, DC | 4.199 | 0.000 | | 0.250 | May 2017 | 0.000 | | - | | 0.000 | 0.000 | 4.449 | - |
| Subtotal | | | 28.235 | 2.693 | | 6.895 | | 5.682 | | - | | 5.682 | - | - | - |

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

| | | |
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| Appropriation/Budget Activity 1319 / 5 | R-1 Program Element (Number/Name) PE 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3321. / SEWIP Block 3 |
|--|--|---|

| 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 | | | |
| Block 3 Program Management Support | C/CPIF | SPA (SEAPORT) : Washington, DC | 18.883 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 18.883 | - |
| Block 3 Program Management Support | C/CPIF | TMB (SEAPORT) : Washington, DC | 0.154 | 0.816 | Apr 2016 | 0.538 | Jan 2017 | 0.770 | Nov 2017 | - | | 0.770 | Continuing | Continuing | Continuing |
| Block 3 Program Management Support | C/CPIF | CACI (SEAPORT) : Washington, DC | 0.000 | 0.422 | May 2016 | 0.252 | Jan 2017 | 0.475 | Nov 2017 | - | | 0.475 | Continuing | Continuing | Continuing |
| Block 3 Program Management Support | C/CPIF | Strategic Insight (SEAPORT) : Washington, DC | 0.044 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.044 | - |
| Block 3 Program Management Support | SS/CPIF | SPA : Washington, DC | 0.000 | 1.138 | Mar 2016 | 0.418 | Dec 2016 | 0.000 | | - | | 0.000 | 0.000 | 1.556 | - |
| Block 3 Program Management Support | TBD | TBD : TBD | 0.000 | 0.000 | | 0.428 | May 2017 | 0.855 | Nov 2017 | - | | 0.855 | Continuing | Continuing | Continuing |
| Block 3 Program Management Support | WR | NSWC Dahlgren : Dahlgren, VA | 4.051 | 0.100 | Jan 2016 | 0.100 | Jan 2017 | 0.111 | Nov 2017 | - | | 0.111 | Continuing | Continuing | Continuing |
| Block 3 Travel | WR | NAVSEA Program Office : Washington, DC | 0.294 | 0.050 | Jan 2016 | 0.050 | Jan 2017 | 0.080 | Nov 2017 | - | | 0.080 | Continuing | Continuing | Continuing |
| Block 3 Program Management Support | WR | NRL : Washington, DC | 1.882 | 0.100 | Feb 2016 | 0.101 | Jan 2017 | 0.108 | Nov 2017 | - | | 0.108 | Continuing | Continuing | Continuing |
| Block 3 Program Management Support | MIPR | DISA : Laurel, MD | 0.440 | 0.227 | Jun 2016 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.667 | - |
| Block 3 Program Management Support | WR | NSWC Crane : Crane, IN | 1.621 | 0.054 | Jan 2016 | 0.062 | Jan 2017 | 0.150 | Nov 2017 | - | | 0.150 | Continuing | Continuing | Continuing |
| Subtotal | | | 27.369 | 2.907 | | 1.949 | | 2.549 | | - | | 2.549 | - | - | - |

Remarks
The TBD for Program Management Support will be competitively awarded in 3rd quarter FY 2017.

| | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | 280.233 | 68.458 | 62.560 | 37.330 | - | 37.330 | - | - | - |

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | | | Project (Number/Name) 3321. / SEWIP Block 3 | | | | |
| | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract | |

Remarks

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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 0604757N / Ship Self Def (Engage: Soft Kill/EW) | Project (Number/Name) 3321. / SEWIP Block 3 |
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| Fiscal Year | 2016 | | | | 2017 | | | | 2018 | | | | 2019 | | | | 2020 | | | | 2021 | | | | 2022 | | | | |
|-------------------------------|------|--|---|---|------|---|---|------------------|------|---|---|----------------------|------|---|---|---|------|---|---|---|------|---|---|--------|------|---|---|---|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | |
| Acquisition Milestones | | | | | | | | △ | | | | △ | | | | | | | | | | | | △ | | | | | |
| | | | | | | | | Block 3 LRIP LLM | | | | Block 3 MS C/LRIP DR | | | | | | | | | | | | FRP DR | | | | | |
| Development | | ▲ | | | | △ | | | | | | | | | | | | | | | | | | | | | | | |
| | | Block 3 Engineering & Manufacturing Development (E&MD) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | EW TestBed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Test Asset Development and Procurement | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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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 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i> | Project (Number/Name) 3321.1 / <i>SEWIP Block 3</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3321.L24 | | | | |
| Block 3 Engineering and Manufacturing Development (E&MD) | 1 | 2016 | 4 | 2018 |
| EW Testbed | 1 | 2016 | 3 | 2022 |
| CDR | 2 | 2016 | 2 | 2016 |
| TEWM Speed to Fleet Upgrade | 1 | 2017 | 3 | 2017 |
| Test Asset Development and Procurement | 2 | 2017 | 4 | 2020 |
| Delta - CDR | 2 | 2017 | 2 | 2017 |
| Block 3 LRIP LLM | 4 | 2017 | 4 | 2017 |
| Block 3 Integrated Testing - FQT | 3 | 2018 | 4 | 2018 |
| Block 3 Operational Assessment | 4 | 2018 | 4 | 2018 |
| Block 3 MS C/LRIP DR | 4 | 2018 | 4 | 2018 |
| Block 3 Integrated Testing - DT | 1 | 2019 | 1 | 2021 |
| Block 3 TRR | 1 | 2021 | 1 | 2021 |
| Block 3 TECHEVAL | 1 | 2021 | 1 | 2021 |
| Block 3 IOT&E | 1 | 2021 | 1 | 2021 |
| Block 3 FRP DR | 3 | 2021 | 3 | 2021 |
| Block 3 FOT&E | 3 | 2022 | 3 | 2022 |