| Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy | | | | | | | | | | | Date: March 2023 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Appropriation/Budget Activity<br>1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)* | | | | | R-1 Program Element (Number/Name)<br>PE 0603382N *I Advanced Combat Systems Tech* | | | | | | | |
| **COST ($ in Millions)** | **Prior Years** | **FY 2022** | **FY 2023** | **FY 2024 Base** | **FY 2024 OCO** | **FY 2024 Total** | **FY 2025** | **FY 2026** | **FY 2027** | **FY 2028** | **Cost To Complete** | **Total Cost** |
| Total Program Element | 125.286 | 40.937 | 73.128 | 6.216 | - | 6.216 | 2.051 | 2.088 | 2.038 | 2.080 | Continuing | Continuing |
| 0324: *Adv Combat System Technology* | 10.558 | 1.519 | 2.480 | 2.216 | - | 2.216 | 2.051 | 2.088 | 2.038 | 2.080 | Continuing | Continuing |
| 2480: *SSL-TM* | 21.050 | 11.882 | 16.148 | 4.000 | - | 4.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 53.080 |
| 3422: *SHARC Surface Platform* | 28.688 | 3.630 | 0.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 32.318 |
| 3423: *LOCUST* | 6.886 | 3.270 | 40.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 50.156 |
| 3437: *EMW/SEWIP/SSEE Accelerator* | 58.104 | 17.740 | 0.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 75.844 |
| 9999: *Congressional Adds* | 0.000 | 2.896 | 14.500 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 17.396 |

**A. Mission Description and Budget Item Justification**

Open architecture sets standards for technology fields to promote interoperability. For defense systems, standards enable interconnectivity across services and in coalition operations at machine-to-machine speeds. Reducing barriers associated with proprietary software speeds development and delivery of warfighting advantage. The Advanced Combat System Technology line is to evolve the technical and business practices for programs to change to an open architecture construct. The program was constructed to mature both technical and business model integration for C5I systems programs of record in an open architecture environment. The priority was incorporating the principles of modular design and design disclosure, reusable application software, interoperability and secure information exchange, lifecycle affordability and encouraging competition and collaboration.

Project Unit 0324: Funding is to implement of the Naval Open Systems Architecture (OSA) strategy. The implementation of this strategy provides the tools and leadership for assisting programs and the Naval Research and Development Establishment through the technical, business and cultural transition to OSA. The primary tools and assistance will be established through an enterprise reference architecture that transforms and standardizes the Navy technical and interoperability baseline and through related enterprise sandbox technologies with consistent contract language guidance, Intellectual Property strategies and improvements in transparency of design disclosure and information exchange on past and current investments to support portfolio management and cross-program reuse. Applicable small business technologies such as Automated Test/Re-Test will also be leveraged to facilitate the Navy's implementation of OSA. The OSA transformation effort will be applied to programs of record. Those elements include ensuring that naval systems, families of systems, programs and prototypes move to modular OSA in accordance with DoD Instruction 5000.01 of 7 Jan 2015 which mandates that all DoD programs utilize Modular OSA to field affordable and interoperable systems. This project facilitates a strategic shift in the technical and business methods to establish cooperation and cross-domain/COI business relationships. This improves innovation and economies of scale throughout the Navy and Marine Corps. This project includes identification of business cases and return on investment for moving the Navy towards an open systems approach, supported by the development of open systems technologies and integrated best business and technical practices for open systems development within Naval acquisition. This project also supports Systems engineering and acquisition services to deliver capabilities through acquisition, development, integration, production, test, deployment and sustainment of interoperable command, control, communication, computers, intelligence, surveillance reconnaissance,

cyber, microelectronics, and information technology capabilities enabling Information Warfare, un-crewed systems, and other functions. Naval OSA ensures Navy-wide system architectures become extensible and scalable in function, capacity, and workload to meet Joint warfighting requirements. This also includes the identification and development of common software components, functions, reuse methodologies, and extensible product lines.

Project Unit 2480: The efforts described in this mission area address the advanced component development and prototype demonstration associated with the Navy's Solid State Laser Technology Maturation (SSL-TM) Innovative Naval Prototypes (INP) Program and the Leap Ahead Technology (LA-Tech) investments. The SSL-TM program is developing an integrated Laser Weapons System Demonstrator (LWSD). SSL-TM will provide a new capability to the Fleet to address known capability gaps against asymmetric threats (UAS, small boats, and ISR sensors) and will inform future acquisition strategies, system designs, integration architectures, and fielding plans for laser weapon systems.

Project Unit 3422: The SHARC Surface Platforms demonstration project is part of the Department of Defense Third Offset Strategy as one element in the Sensor Grid category for 24/7 autonomy infused Situational Awareness (SA). This project will purchase Commercial-off-the-Shelf SHARC Platforms (wave gliders) and integrate four (4) unique Government-owned classified mission payloads focused on the detection of threats. These capabilities will enable CONOPS development in an operationally relevant environment to demonstrate how these technologies can improve the SA to the battlespace Commanders.

Project Unit 3423: The LOCUST demonstration is part of the Department of Defense Third Offset Strategy as one element in the Effector Grid category for small autonomous systems. LOCUST leverages the BA-3 Innovative Naval Prototype program developing and demonstrating swarming technology. The BA-3 effort is developing both the air vehicle, UAS swarming behaviors, and miniaturized sensor systems. ONR has demonstrated an autonomous system capable of launching 33 UASs in 40 seconds and flying them in a coordinated swarm. This BA-4 effort is trailing the BA-3 demonstration of technologies by a fiscal quarter and then demonstrating the technology in operationally relevant environments with military mission applications.

Project 3437: The EMW/SEWIP/SSEE Accelerator is part of the Department of Defense Third Offset Strategy to improve real time Electro-Magnetic Maneuver Warfare operations. This effort will develop integrated cross platform active and passive sensing solutions, next generation network and real time spectrum operations.

Project 3438: This activity addresses the advanced component development and prototype demonstration associated with ONR's Innovative Naval Prototypes (INP) Program and the Leap Ahead Technology (LA-Tech) investments. INP and LA-Tech investments represent game changing technologies with the potential to revolutionize operational concepts. They are disruptive in nature as they would dramatically change the way naval forces fight. INPs and LA-Techs push the imagination of our nation's technical talent to deliver transformational warfighting capabilities. Investments may include such mission areas as Unmanned and Autonomous Systems, Directed Energy / Electric Weapons, Electromagnetic Maneuver Warfare, Cyber Warfare, and Undersea Warfare.

Advanced Component Development and Prototypes (ACD&P) efforts necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment are funded in this PE. Most of the work in this PE can be classified between Technology Readiness Level (TRL) 6 (system/subsystem model or prototype demonstration in a relevant environment) and TRL 7 (system prototype demonstration in an operational environment).

| Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy | Date: March 2023 |
|---|---|
| **Appropriation/Budget Activity**<br>1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)* | **R-1 Program Element (Number/Name)**<br>PE 0603382N *I Advanced Combat Systems Tech* |

| B. Program Change Summary ($ in Millions) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 35.310 | 18.628 | 2.205 | - | 2.205 |
| Current President's Budget | 40.937 | 73.128 | 6.216 | - | 6.216 |
| Total Adjustments | 5.627 | 54.500 | 4.011 | - | 4.011 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | 54.500 | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | 6.700 | 0.000 | | | |
| • SBIR/STTR Transfer | -1.073 | 0.000 | | | |
| • Program Adjustments | 0.000 | 0.000 | 4.000 | - | 4.000 |
| • Rate/Misc Adjustments | 0.000 | 0.000 | 0.011 | - | 0.011 |

| Congressional Add Details ($ in Millions, and Includes General Reductions) | FY 2022 | FY 2023 |
|---|---|---|
| **Project:** 9999: *Congressional Adds* | | |
| Congressional Add: *Minotaur data dissemination and interoperability* | 2.896 | 6.500 |
| Congressional Add: *Force-level dynamic interoperable C2* | 0.000 | 8.000 |
| Congressional Add Subtotals for Project: 9999 | 2.896 | 14.500 |
| Congressional Add Totals for all Projects | 2.896 | 14.500 |

**Change Summary Explanation**

$4M increase in FY 2024 supports the de-installation and program completion expenses for Solid-State Laser Technology Maturation (SSL-TM) program.

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | | Date: March 2023 |
|---|---|---|---|
| Appropriation/Budget Activity<br>1319 / 4 | R-1 Program Element (Number/Name)<br>PE 0603382N / *Advanced Combat Systems Tech* | Project (Number/Name)<br>0324 / *Adv Combat System Technology* | |

| COST ($ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0324: *Adv Combat System Technology* | 10.558 | 1.519 | 2.480 | 2.216 | - | 2.216 | 2.051 | 2.088 | 2.038 | 2.080 | Continuing | Continuing |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

**A. Mission Description and Budget Item Justification**

Funding is to implement of the Naval Open Systems Architecture (OSA) strategy. The implementation of this strategy provides the tools and leadership for assisting programs and the Naval Research and Development Establishment through the technical, business and cultural transition to OSA. The primary tools and assistance will be established through an enterprise reference architecture that transforms and standardizes the Navy technical and interoperability baseline and through related enterprise sandbox technologies with consistent contract language guidance, Intellectual Property strategies and improvements in transparency of design disclosure and information exchange on past and current investments to support portfolio management and cross-program reuse. Applicable small business technologies such as Automated Test/Re-Test will also be leveraged to facilitate the Navy's implementation of OSA.

The OSA transformation effort will be applied to CNO priority capability deliveries. Those elements include ensuring that naval systems, families of systems, microelectronics, modeling and simulation, ADENA, Digital Transformation programs and prototypes to collectively move to modular OSA in accordance with DoD Instruction 5000.01 of 7 Jan 2015 which mandates that all DoD programs utilize Modular OSA to field affordable and interoperable systems. This project supports the Naval strategic shift in the technical and business methods to establish cooperation and cross-domain/COI business relationships. This improves innovation and economies of scale throughout the Navy and Marine Corps.

This project includes identification of business cases and return on investment for moving the Navy towards an open systems approach, supported by the development of open systems technologies and integrated best business and technical practices for open systems development within Naval acquisition.

This project also supports Systems engineering and acquisition services to deliver capabilities through acquisition, development, integration, production, test, deployment and sustainment of interoperable command, control, communication, computers, intelligence, surveillance reconnaissance, cyber, and information technology capabilities enabling Information Warfare; and other functions. Naval OSA ensures Navy-wide system architectures become extensible and scalable in function, capacity, and workload to meet Joint warfighting requirements. This also includes the identification and development of common software components, functions, reuse methodologies, and extensible product lines.

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| ***Title:*** OSA Prototyping and Demonstration | 0.450 | 0.766 | 0.674 | 0.000 | 0.674 |
| ***Articles:*** | - | - | - | - | - |
| ***FY 2023 Plans:*** | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>0324 / *Adv Combat System Technology* |

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| - Continue to coordinate the development and scaling of supporting OSA enablers that include the Navy's Integrated Model Environment (IME) the Digital Warfighting Platform (DWP), and related enterprise sandbox technologies, with associated open standards and policy guidance development that enable application development conforming to open software development kits and application programming interfaces.<br><br>- Continue to coordinate the prototyping, demonstration, and transition of OSA technologies to validate performance metrics, models, design, and system-of system requirements to meet fleet requirements.<br><br>- Continue to coordinate the development of open standards and interfaces supported by the Automated Test/ Retest (ATRT)<br>tool suite to enable further integration of third party tools and capabilities leveraging OSA.<br>***FY 2024 Base Plans:***<br>- Continue to coordinate the prototyping and demonstration of supporting OSA technologies and enablers that may include Modeling and Simulation, Live-Virtual-Constructive and related enterprise digital battlespace and sandbox technologies, cybersecurity and information assurance technologies, cloud technologies, network technologies, artificial intelligence/machine learning, automated test technologies, and microelectronics. Continue development of associated open standards and policy that enable application development conforming to open software development kits and application programming interfaces.<br><br>Continue to coordinate the prototyping, demonstration, and transition of OSA technologies to validate performance metrics, models, design, and system-of system requirements for crewed and un-crewed platforms, systems, and operational, simulated and developmental environments.<br>***FY 2024 OCO Plans:***<br>N/A<br>***FY 2023 to FY 2024 Increase/Decrease Statement:***<br>Decrease of $92K from FY23 to FY24 is due to various program phasing plan adjustments to maintain alignment with supported programs and systems. | | | | | |
| ***Title:*** OSA Scaling and Integration | 1.069 | 1.406 | 1.234 | 0.000 | 1.234 |
| ***Articles:*** | - | - | - | - | - |
| ***FY 2023 Plans:*** | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>0324 / *Adv Combat System Technology* |

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| - Continue to integrate Modular Open Systems Architecture capabilities and standards into the Navy's enterprise sandbox technologies and digital warfighting systems, with associated software development practices, policy changes, and standards development that enable improved test and evaluation, validation, verification, and certification of naval systems.<br><br>- Leverage OSA implemented on the DWP and the sandbox, as supported by systems engineering and microelectronic subject matter expert support and enabling technologies such as Automated Test/Re-Test (ATRT) and the Force-Level Interoperability SoS Testbed (FLIST), to further scale prototyping, experimentation, demonstration, analysis, implementation and adoption of OSA for various Battle Management Aids (BMAs) / Mission Planning Aids (MPs) that include Artificial Intelligence / Machine Learning (AI/ML) applications, Networking capabilities, C2, data and track management tools and other common services, and related supporting hardware compute infrastructure solutions and related enterprise sandbox technologies. | | | | | |
| ***FY 2024 Base Plans:***<br>- Continue to scale and integrate Modular Open Systems Architecture capabilities and standards into the Navy's enterprise digital battlespace and sandbox technologies and digital warfighting systems, with associated software development practices, policy changes, and standards development that enable improved test and evaluation, validation, verification, and certification of naval systems.<br><br>- Leverage OSA, the digital battlespace and the sandbox, as supported by systems engineering and microelectronic subject matter expert support and enabling technologies such as Automated Test/Re-Test (ATRT) to further scale the integration, implementation and adoption of OSA for various enterprise developmental and operational environments and crewed/un-crewed systems which may include various Battle Management Aids (BMAs) / Mission Planning Aids (MPs), Artificial Intelligence / Machine Learning (AI/ML), Networking capabilities, C2, data, track management tools and other common services, enterprise digital battlespace and sandbox and/or Modeling and Simulation / Live-Virtual-Constructive environments, related supporting hardware compute infrastructure solutions and microelectronics, related cloud technologies, and related enterprise sandbox technologies. | | | | | |
| ***FY 2024 OCO Plans:***<br>N/A | | | | | |
| ***FY 2023 to FY 2024 Increase/Decrease Statement:*** | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>0324 / *Adv Combat System Technology* |

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| Decrease of $172K from FY23 to FY24 due to various program phasing plan adjustments to maintain alignment with supported programs and systems. | | | | | |
| ***Title:*** OSA Systems Engineering and Analysis | 0.000 | 0.308 | 0.308 | 0.000 | 0.308 |
| ***Articles:*** | - | - | - | - | - |
| ***FY 2023 Plans:***<br>- Continue to coordinate the development and scaling of supporting OSA enablers that include the Navy's Integrated Model Environment (IME), the DWP, and related enterprise technologies, with associated open standards and policy guidance development that enable application development conforming to open software development kits and application programming interfaces.<br><br>- Continue to coordinate the prototyping, demonstration, and transition of OSA technologies to validate performance metrics, models, design, and system-of system requirements to meet fleet requirements.<br><br>- Continue to coordinate the development of open standards and interfaces supported by the Automated Test/ Retest (ATRT) tool suite to enable further integration of third party tools and capabilities leveraging OSA.<br>***FY 2024 Base Plans:***<br>- Continue to provide systems engineering support and analysis to coordinate the prototyping, demonstration, scaling, and integration of supporting OSA technologies and enablers that may include Modeling and Simulation, Live-Virtual-Constructive and related enterprise digital battlespace and sandbox technologies, cybersecurity and information assurance technologies, cloud technologies, network technologies, artificial intelligence/machine learning, automated test technologies, and microelectronics.<br><br>- Continue development of associated open standards and policy that enable application development conforming to open software development kits and application programming interfaces.<br><br>- Continue to provide systems engineering support and analysis to coordinate the prototyping, demonstration, scaling, integration, and transition of OSA technologies to validate performance metrics, models, design, and system-of system requirements for crewed and un-crewed platforms, systems, and operational, simulated, and developmental environments.<br>***FY 2024 OCO Plans:*** | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>0324 / *Adv Combat System Technology* |

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| N/A | | | | | |
| **Accomplishments/Planned Programs Subtotals** | 1.519 | 2.480 | 2.216 | 0.000 | 2.216 |

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

| Line Item | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| • RDTEN/0307577N: *Intelligence Mission Data (IMD)* | 0.907 | 0.851 | 0.788 | - | 0.788 | 0.793 | 0.807 | 0.821 | 0.837 | Continuing | Continuing |
| • RDTEN/0308601N/2222: *Modeling & Simulation* | 9.479 | 9.437 | 10.994 | - | 10.994 | 10.924 | 10.772 | 10.957 | 11.180 | Continuing | Continuing |

**Remarks**

This effort synergizes with and leverages/supports other funded efforts including Intelligence Mission Data (IMD) (RDTEN/PE 0307577N) and Modeling & Simulation Support (RDTEN/PE 0308601N, OMN/4B3N) to support development of the Naval Operational Architecture, warfighting digital transformation efforts, and enterprise digital battlespace and sandbox technologies and environments.

**D. Acquisition Strategy**

This is a non-ACAT program. This project has been a Navy Acquisition Executive directed effort to fundamentally alter the business, technical and policy environment for warfare systems acquisition to result in improved affordability, increased access to innovation, entreprenurialship, a reduction in time to field, improved operational availability, agility, and promote cultural environment change. The Navy's OSA Enterprise effort built off past successes such as the Acoustic Rapid Commercial-off-the-Shelf Insertion (ARCI) program policy statement dated 5 August 2004, the Deputy Chief of Naval Operations (DCNO) requirement dated 23 December 2005, and the Naval OSA Strategy of 2011) and is now being extended and scaled for applicability across the Department of the Navy to enable open, affordable and rapid integrated capability development. This effort continues to expand into and enable related strategic support for Rapid Prototyping, Experimentation and Demonstration and the leveraging of large and small business capabilities, the defense industrial base, government laboratories, and academia partnered with agile contracting approaches to support the evolution of the business, technical and policy landscape for warfare systems acquisition.

This effort synergizes with and supports other funded efforts including Intelligence Mission Data (IMD) (RDTEN/PE 0307577N) and Modeling & Simulation Support (RDTEN/PE 0308601N, OMN/4B3N) to support development of the Naval Operational Architecture, warfighting digital transformation efforts, and enterprise digital battlespace and sandbox technologies and environments.

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>0324 / *Adv Combat System Technology* |

**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OSA Prototyping and Demonstration (1) | Various | WFCs : Various | 3.902 | 0.464 | Mar 2022 | 0.756 | Mar 2023 | 0.607 | Mar 2024 | - | | 0.607 | Continuing | Continuing | Continuing |
| OSA Scaling and Integration (1) | Various | NSWC, NRL, NUWC, NAWC WD; NAWC AD, VARIOUS : Various | 2.932 | 0.794 | Apr 2022 | 1.185 | Apr 2023 | 1.106 | Mar 2024 | - | | 1.106 | Continuing | Continuing | Continuing |
| OSA Systems Engineering and Analysis | Various | Various : Various | 0.000 | 0.000 | | 0.297 | Apr 2023 | 0.277 | Mar 2024 | - | | 0.277 | Continuing | Continuing | Continuing |
| | | **Subtotal** | 6.834 | 1.258 | | 2.238 | | 1.990 | | - | | 1.990 | Continuing | Continuing | N/A |

**Remarks**

(1) Funding changes from FY23 to FY24 are due to various program phasing plan adjustments to maintain alignment with supported programs and systems.

**Management Services ($ in Millions)**

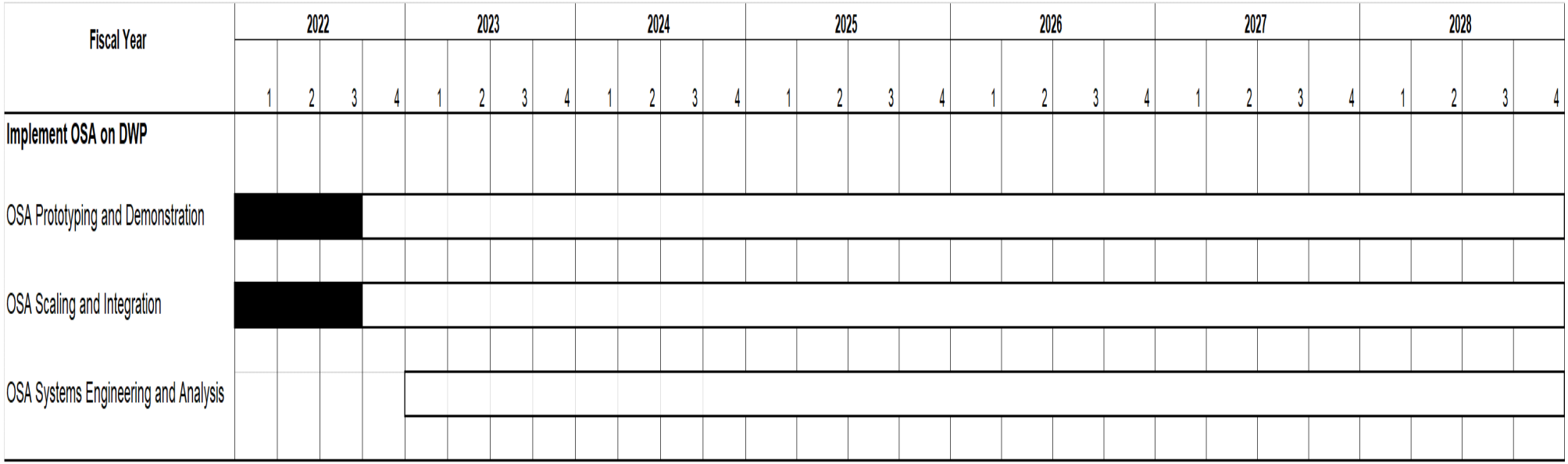
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Program Management Support | C/CPAF | Miscellaneous : VARIOUS | 3.724 | 0.261 | Mar 2022 | 0.242 | Mar 2023 | 0.226 | Mar 2024 | - | | 0.226 | Continuing | Continuing | Continuing |
| | | **Subtotal** | 3.724 | 0.261 | | 0.242 | | 0.226 | | - | | 0.226 | Continuing | Continuing | N/A |

| | Prior Years | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 10.558 | 1.519 | | 2.480 | | 2.216 | | - | | 2.216 | Continuing | Continuing | N/A |

**Remarks**

Decrease of $264K from FY 2023 to FY 2024 is due to various program phasing plan adjustments to maintain alignment with supported programs and systems.

| Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>0324 / *Adv Combat System Technology* |



| Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>0324 / *Adv Combat System Technology* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Events by Sub Project** | **Quarter** | **Year** | **Quarter** | **Year** |
| ***Proj 0324*** | | | | |
| Implement OSA: OSA Prototyping and Demonstration | 1 | 2022 | 4 | 2028 |
| Implement OSA: OSA Scaling and Integration | 1 | 2022 | 4 | 2028 |
| Implement OSA: OSA Systems Engineering and Analysis | 1 | 2023 | 4 | 2028 |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | | | | | | | | | Date: March 2023 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Appropriation/Budget Activity<br>1319 / 4 | | | | | R-1 Program Element (Number/Name)<br>PE 0603382N / *Advanced Combat Systems Tech* | | | | Project (Number/Name)<br>2480 / *SSL-TM* | | | |
| **COST ($ in Millions)** | **Prior Years** | **FY 2022** | **FY 2023** | **FY 2024 Base** | **FY 2024 OCO** | **FY 2024 Total** | **FY 2025** | **FY 2026** | **FY 2027** | **FY 2028** | **Cost To Complete** | **Total Cost** |
| 2480: *SSL-TM* | 21.050 | 11.882 | 16.148 | 4.000 | - | 4.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 53.080 |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

**Note**

This PU 2480 includes Solid State Laser Technology Maturation (SSL-TM) resources and associated plans intended to provide advanced component development and prototyping for selected SSL-TM technologies maturing out of ONR's supporting Innovative Naval Prototype (INP) BA3 portfolio.

**A. Mission Description and Budget Item Justification**

The efforts described in this mission area address the advanced component development and prototype demonstration associated with the Navy's Solid State Laser Technology Maturation (SSL-TM) Innovative Naval Prototypes (INP) Program investments. The SSL-TM program is developing an integrated Laser Weapons System Demonstrator (LWSD). SSL-TM will provide a new capability to the Fleet to address known capability gaps against asymmetric threats (UAS, small boats, and ISR sensors) and will inform future acquisition strategies, system designs, integration architectures, and fielding plans for laser weapon systems. Based on ship's schedule, SSL-TM is planned to start de-installation, ship restoration, and hardware disposition activities during FY23.

INP and LA-Tech investments represent game changing technologies with the potential to revolutionize operational concepts. They are disruptive in nature as they would dramatically change the way naval forces fight. INPs and LA-Techs push the imagination of our nation's technical talent to deliver transformational warfighting capabilities. Successful demonstrations are intended to present the Department of the Navy with a programmatic challenge as these new capabilities can lead to the obsolescence of existing capabilities and significant decisions as to the path forward for integrating the new technological capabilities into the warfighting systems of the future.

ONR manages a continuum of INP and LA-Tech development from BA2 to BA3 to BA4. The goal of these BA4 investments is to further mature development and expend efforts necessary to evaluate integrated technologies, representative modes or prototype systems in high fidelity and realistic operating environments. This BA4 investment includes system specific efforts that help expedite technology transition from the laboratory to operational use. Emphasis is on proving component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives. Projects in this category involve efforts prior to Milestone B and are referred to as advanced component development activities and include technology demonstrations. It is the goal of these projects to achieve Technology Readiness Levels 6 or 7. Successful experimentation and demonstration highlights the viability of new technological capabilities that could be implemented if an acquisition program were to be established to support further development. The portfolio is periodically refreshed through the selection of new INPs and LA-Tech investments as existing ones are completed.

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| ***Title:*** Solid State Laser Technology Maturation (SSL-TM) | 11.882 | 16.148 | 4.000 | 0.000 | 4.000 |
| ***Articles:*** | - | - | - | - | - |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>2480 / *SSL-TM* |

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| ***Description:*** The Solid State Laser Technology Maturation (SSL-TM) Program is developing an integrated Laser Weapons System Demonstrator (LWSD) that will be installed on USS Portland (LPD-27) during FY 2019 with investments funded in the BA3 Innovative Naval Prototypes Program Element 0603801N. The investment programmed in Program Element 0603382N, Advanced Combat Systems Technology, funds costs for extended at-sea experimentation, operations, and support of the installed system on LPD-27 in the Pacific operating areas. SSL-TM will provide a new capability to the Fleet to address known capability gaps against asymmetric threats (UAS, small boats, and ISR sensors) and will inform future acquisition strategies, system designs, integration architectures, and fielding plans for laser weapon systems.<br><br>***FY 2023 Plans:***<br>Initiate Laser Weapons System Demonstrator de-installation.<br><br>Complete final report, program closeout and hardware disposition after equipment is removed from the ship.<br><br>***FY 2024 Base Plans:***<br>Complete Laser Weapons System Demonstrator de-installation.<br><br>Complete delayed final report, lessons learned and program closeout for SSL-TM program.<br><br>***FY 2024 OCO Plans:***<br>N/A<br><br>***FY 2023 to FY 2024 Increase/Decrease Statement:***<br>The decrease in funding from FY 2023 to FY 2024 in the SSL-TM project is due to completing the effort in FY 2024. | | | | | |
| **Accomplishments/Planned Programs Subtotals** | 11.882 | 16.148 | 4.000 | 0.000 | 4.000 |

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

N/A

**Remarks**

**D. Acquisition Strategy**

The projects identified for execution are non-acquisition programs. The Office of Naval Research will provide Government oversight to the projects. Each project will develop a project plan to support execution. Project plans will include a schedule and the necessary technical requirements and objectives to measure and evaluate

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>2480 / *SSL-TM* |

performance. Additionally, each project will be subjected to experimentation then demonstrated in operationally relevant environments to assess their ability to meet warfighter requirements. Project deliverables will include the actual integrated hardware/software prototype systems, test reports, and technical data, necessary to support decision making. These decisions include the transition of technologies to acquisition, further refinement of the technology, or termination and reinvestment of remaining funds to other technologies that add military value.

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy | | | Date: March 2023 |
|---|---|---|---|
| Appropriation/Budget Activity<br>1319 / 4 | R-1 Program Element (Number/Name)<br>PE 0603382N / *Advanced Combat Systems Tech* | Project (Number/Name)<br>2480 / *SSL-TM* | |

**Test and Evaluation ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E) | WR | Naval Surface Warfare Center Dahlgren Division : Dahlgren, VA | 3.185 | 0.600 | Oct 2021 | 0.900 | Oct 2022 | 0.000 | | - | | 0.000 | 0.000 | 4.685 | - |
| Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E) | WR | Naval Surface Warfare Center, Port Hueneme Divisio : Port Hueneme, CA | 13.068 | 2.670 | Oct 2021 | 0.400 | Oct 2022 | 0.000 | | - | | 0.000 | 0.000 | 16.138 | - |
| Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E) | C/CPFF | Northrup Grumman : Redondo Beach, CA | 4.462 | 1.000 | Oct 2021 | 0.700 | Oct 2022 | 0.000 | | - | | 0.000 | 0.000 | 6.162 | - |
| Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E) | WR | Naval Surface Warfare Center Crane Division : Crane, IN | 0.000 | 0.150 | Oct 2021 | 0.150 | Oct 2022 | 0.000 | | - | | 0.000 | 0.000 | 0.300 | - |
| Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E) | MIPR | MITRE : Aberdeen Proving Ground, MD | 0.000 | 0.050 | Oct 2021 | 0.050 | Oct 2022 | 0.000 | | - | | 0.000 | 0.000 | 0.100 | - |
| Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E) | C/CPFF | RCT Systems Inc : Baltimore, MD | 0.000 | 0.462 | Oct 2021 | 0.203 | Oct 2022 | 0.000 | | - | | 0.000 | 0.000 | 0.665 | - |
| Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E) | C/CPFF | Gryphon Technologies : Washington, DC | 0.000 | 0.250 | Oct 2021 | 0.145 | Oct 2022 | 0.000 | | - | | 0.000 | 0.000 | 0.395 | - |
| Developmental Test & Evaluation (DT&E) | C/CPFF | Naval Surface Warfare Center, Port Hueneme Divisio : Port Hueneme, CA | 0.335 | 0.000 | | 0.300 | Oct 2022 | 0.750 | Dec 2023 | - | | 0.750 | 0.000 | 1.385 | - |
| Developmental Test & Evaluation (DT&E) | WR | Naval Surface Warfare Center Dahlgren Division : Dahlgren, VA | 0.000 | 0.000 | | 0.750 | Oct 2022 | 1.250 | Dec 2023 | - | | 1.250 | 0.000 | 2.000 | - |
| Developmental Test & Evaluation (DT&E) | WR | Naval Surface Warfare Center | 0.000 | 0.000 | | 1.550 | Oct 2022 | 0.500 | Dec 2023 | - | | 0.500 | 0.000 | 2.050 | - |

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>2480 / *SSL-TM* |

**Test and Evaluation ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Crane Division : Cran : Crane, IN | | | | | | | | | | | | | |
| Developmental Test & Evaluation (DT&E) | C/CPFF | Huntington Ingalls : Not Specified | 0.000 | 0.000 | | 0.500 | Oct 2022 | 0.250 | Dec 2023 | - | | 0.250 | 0.000 | 0.750 | - |
| Developmental Test & Evaluation (DT&E) | SS/IDIQ | CACI : Chantilly, VA | 0.000 | 6.700 | Jun 2022 | 9.000 | Oct 2022 | 0.250 | Dec 2023 | - | | 0.250 | 0.000 | 15.950 | - |
| Developmental Test & Evaluation (DT&E) | TBD | TBD1 : Not Specified | 0.000 | 0.000 | | 0.750 | Oct 2022 | 0.250 | Dec 2023 | - | | 0.250 | 0.000 | 1.000 | - |
| Developmental Test & Evaluation (DT&E) | TBD | TBD2 : Not Specified | 0.000 | 0.000 | | 0.750 | Oct 2022 | 0.750 | Dec 2023 | - | | 0.750 | 0.000 | 1.500 | - |
| | | **Subtotal** | 21.050 | 11.882 | | 16.148 | | 4.000 | | - | | 4.000 | 0.000 | 53.080 | N/A |

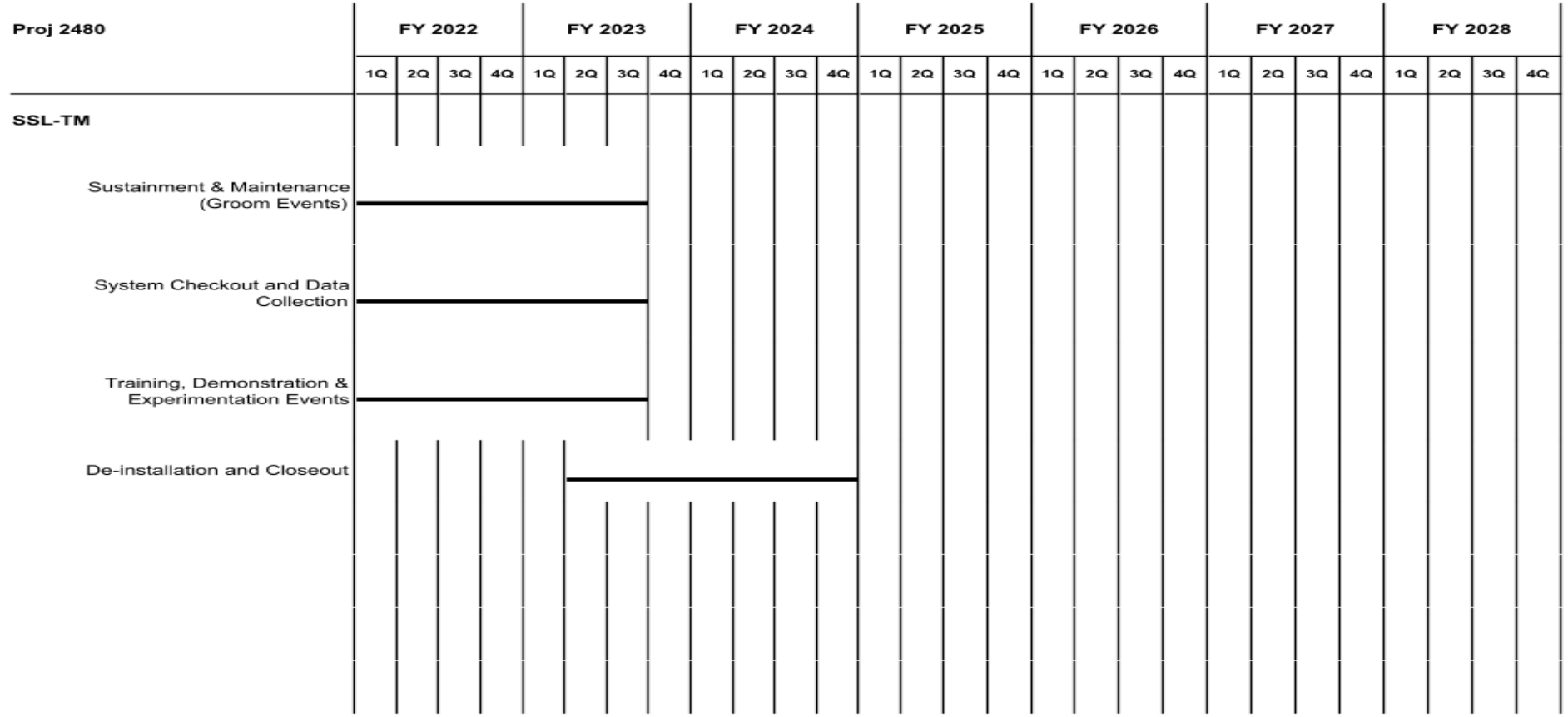
**Remarks**

Increase funding to CACI and various subcontractors for de-installation, disposal, and final reporting costs.

| | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 21.050 | 11.882 | | 16.148 | | 4.000 | | - | | 4.000 | 0.000 | 53.080 | N/A |

**Remarks**

| Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>2480 / *SSL-TM* |




*2024DON - 0603382N - 2480*

| Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>2480 / *SSL-TM* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Events by Sub Project** | **Quarter** | **Year** | **Quarter** | **Year** |
| ***Proj 2480*** | | | | |
| SSL-TM: Sustainment & Maintenance (Groom Events): Sustainment & Maintenance (Groom Events) | 1 | 2022 | 3 | 2023 |
| SSL-TM: System Checkout and Data Collection: System Checkout and Data Collection | 1 | 2022 | 3 | 2023 |
| SSL-TM: Training, Demonstration & Experimentation Events: Training, Demonstration & Experimentation Events | 1 | 2022 | 3 | 2023 |
| SSL-TM: De-installation and Closeout: De-installation, final report, program closeout and hardware disposition | 2 | 2023 | 4 | 2024 |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | | Date: March 2023 |
|---|---|---|---|
| Appropriation/Budget Activity<br>1319 / 4 | R-1 Program Element (Number/Name)<br>PE 0603382N / *Advanced Combat Systems Tech* | Project (Number/Name)<br>3422 / *SHARC Surface Platform* | |

| COST ($ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3422: *SHARC Surface Platform* | 28.688 | 3.630 | 0.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 32.318 |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

**A. Mission Description and Budget Item Justification**

The Sensor Hosting Autonomous Remote Craft (SHARC) Surface Platforms demonstration project is part of the Department of Defense Third Offset Strategy as one element in the Sensor Grid category for 24/7 autonomy infused Situational Awareness (SA). This project will purchase Unmanned Surface Vehicle (USV), autonomous wave gliders, and integrate four (4) unique Government-owned classified mission payloads focused on the detection of threats. The successful demonstration of one particular payload integration to support a high priority warfighting mission area will be followed by a prototype operational event. The full mission cannot be executed without the full array / mission set quantity. Without full mission execution, this will jeopardize our armed forces security by degrading and delaying a critical joint capability. These capabilities will enable Concepts of Operation (CONOPS) development in an operationally relevant environment to demonstrate how these technologies can improve the SA to the battlespace Commanders. This includes persistent, autonomous SA and early warning of submarines or related submarine activity as well as broad area, clandestine implementation of capabilities that enhance Intelligence Preparation of the Battlefield (IPB) and strike missions.

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| ***Title:*** Sensor Hosting  Autonomous Remote Craft (SHARC) | 3.630 | 0.000 | 0.000 | 0.000 | 0.000 |
| ***Articles:*** | - | - | - | - | - |
| ***Description:*** This project will demonstrate the warfighting utility of multiple, long endurance platforms with classified payloads conducting critical Intelligence, Surveillance and Reconnaissance (ISR) missions with simultaneous, wideband data links for signal and imagery data transmission between host assets and Operational level processing systems. Emerging technologies and engineering innovations from Naval/DoD research and development and industry, will be integrated to demonstrate secure and reliable collection, analysis, tactical level access to host asset ISR data and fusion of ISR and targeting data from organic assets and sensors. | | | | | |
| ***FY 2023 Plans:***<br>N/A | | | | | |
| ***FY 2024 Base Plans:***<br>N/A | | | | | |
| ***FY 2024 OCO Plans:*** | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3422 / *SHARC Surface Platform* |

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| N/A | | | | | |
| **Accomplishments/Planned Programs Subtotals** | 3.630 | 0.000 | 0.000 | 0.000 | 0.000 |

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

N/A

**Remarks**

**D. Acquisition Strategy**

FY 2019: T&E Milestone: Developmental Test (DT) and assessment of initial payloads installed on USV wave glider platforms
FY 2020: T&E Milestone: DT and assessment of additional payloads installed on USV wave glider platforms
FY 2021: T&E Milestone: Build and validate readiness of integrated Prototype Operational units
FY 2022: T&E and Transition Milestone: COCOM Final Full Mission System Set Operational Demonstration and Transition to OPNAV N2N6F3.

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy | | | Date: March 2023 |
|---|---|---|---|
| Appropriation/Budget Activity<br>1319 / 4 | R-1 Program Element (Number/Name)<br>PE 0603382N / *Advanced Combat Systems Tech* | Project (Number/Name)<br>3422 / *SHARC Surface Platform* | |

**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Requirements and CONOPS Development | MIPR | Naval Undersea Warfare Center (NUWC) : Keyport, WA | 1.775 | 0.400 | Oct 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 2.175 | - |
| System & Payload Design, Engineering, and Integration | MIPR | Space and Naval Warfare System Center Pacific (SSC : San Diego, CA | 9.703 | 0.950 | Oct 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 10.653 | - |
| Purchase COTS SHARC platforms | C/FFP | Space and Naval Warfare System Center Pacific (SSC : San Diego, CA | 12.721 | 0.920 | Dec 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 13.641 | - |
| | | **Subtotal** | 24.199 | 2.270 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 26.469 | N/A |

**Test and Evaluation ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E) | MIPR | PMS-485 Maritime Surveillance Systems, SSCPAC : San Diego, CA | 1.897 | 0.413 | Nov 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 2.310 | - |
| | | **Subtotal** | 1.897 | 0.413 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 2.310 | N/A |

**Management Services ($ in Millions)**

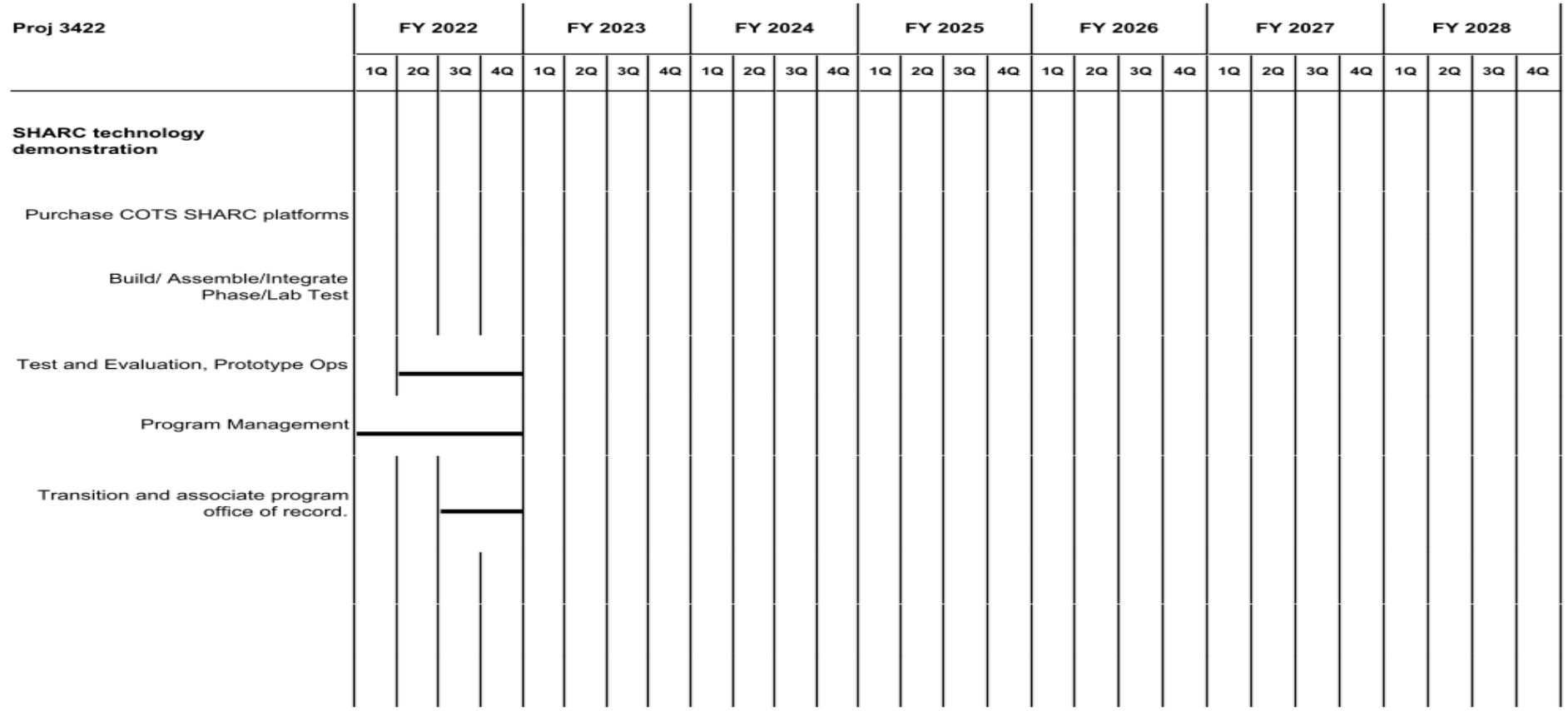
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Program Management | MIPR | PMS-485 Maritime Surveillance Systems, SSCPAC : San Diego, CA | 2.592 | 0.947 | Oct 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.539 | - |
| | | **Subtotal** | 2.592 | 0.947 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.539 | N/A |

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy | | | Date: March 2023 |
|---|---|---|---|
| Appropriation/Budget Activity<br>1319 / 4 | R-1 Program Element (Number/Name)<br>PE 0603382N / *Advanced Combat Systems Tech* | Project (Number/Name)<br>3422 / *SHARC Surface Platform* | |

| | Prior Years | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 28.688 | 3.630 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 32.318 | N/A |

**Remarks**

| Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3422 / *SHARC Surface Platform* |




*2024DON - 0603382N - 3422*

| Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3422 / *SHARC Surface Platform* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Events by Sub Project** | **Quarter** | **Year** | **Quarter** | **Year** |
| ***Proj 3422*** | | | | |
| SHARC technology demonstration: Test and Evaluation, Prototype Ops: Test and Evaluation, Prototype Ops | 2 | 2022 | 4 | 2022 |
| SHARC technology demonstration: Program Management: Program Management | 1 | 2022 | 4 | 2022 |
| SHARC technology demonstration: Transition and associate program office of record.: Transition and program office of record. | 3 | 2022 | 4 | 2022 |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | | Date: March 2023 |
|---|---|---|---|
| Appropriation/Budget Activity<br>1319 / 4 | R-1 Program Element (Number/Name)<br>PE 0603382N / *Advanced Combat Systems Tech* | Project (Number/Name)<br>3423 / *LOCUST* | |

| COST ($ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3423: *LOCUST* | 6.886 | 3.270 | 40.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 50.156 |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

**A. Mission Description and Budget Item Justification**

The Low-Cost UAV Swarming Technology (LOCUST) demonstration is part of the Department of Defense (DOD) Third Offset Strategy as one element in the Effector Grid category for small autonomous systems. LOCUST leverages the BA-3 Innovative Naval Prototype program developing and demonstrating swarming technology. The BA-3 effort is developing both the air vehicle, UAS swarming behaviors, and miniaturized sensor systems. ONR has demonstrated an autonomous system capable of launching 33 UASs in 40 seconds and flying them in a coordinated swarm. This BA-4 effort is trailing the BA-3 demonstration of technologies by a fiscal quarter and then demonstrating the technology in operationally relevant environments with military mission applications. To achieve the ability to operate in relevant environments with military applications, LOCUST is ruggedizing the air platform to survive extended deployments in high shock and vibration environments while in the launchers as well as in-flight for adverse electromagnetic and weather conditions. Significant additional effort is being done to integrate the air platform, command and control, and launchers into and onto several different manned and unmanned host platforms for mission deployment. Scale-up considerations for manufacturing and supply-chain assurance/vulnerability are being pursued.

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| ***Title:*** Low-Cost Uav Swarming Technology (LOCUST) | 3.270 | 40.000 | 0.000 | 0.000 | 0.000 |
| ***Articles:*** | - | - | - | - | - |
| ***Description:*** This Project focuses on demonstration of mixed-initiative UAV swarming behaviors, enabling the development of payload appropriate CONOPS/TTPs for Many Vehicle/Many Salvo swarms, and provides unmanned system capability to degrade threat Integrated Air Defense Systems (IADS) in support of follow-on manned system operations. | | | | | |
| ***FY 2023 Plans:***<br>Complete the LOCUST INP and transition it to a program office to support combatant commander requirements. Funds will support pre-production activities, purchase of operational test assets, and engineering services, with FY 2023 funds added for Advanced Concept of Operations.<br><br>Complete test planning and component safety qualification and testing. Provide test support.<br><br>Complete program management and technical oversight of contractor fabrication efforts and production | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3423 / *LOCUST* |

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| readiness. Provide management of testing and qualifications. Execute contract actions.<br>***FY 2024 Base Plans:***<br>N/A<br>***FY 2024 OCO Plans:***<br>N/A<br>***FY 2023 to FY 2024 Increase/Decrease Statement:***<br>The Decrease from FY 2023 to FY 2024 is due the completion in FY 2023 of the LOCUST INP. | | | | | |
| **Accomplishments/Planned Programs Subtotals** | 3.270 | 40.000 | 0.000 | 0.000 | 0.000 |

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

| Line Item | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| • RDTEN/0602792N/3423: *LOCUST* | 8.031 | 0.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 28.807 |
| • RDTEN/0603801N/3423: *LOCUST* | 3.386 | 0.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 15.570 |

**Remarks**

**D. Acquisition Strategy**

There are multiple phases for this non-acquisition project.

Phase 1 - Marine Corps Warfighting Laboratory (MCWL) Air Combat Element (ACE) will lead the Phase I effort in FY 2018 & FY 2019. MCWL will procure additional launchers, LOCUST platforms and payloads. MCWL will work with the Common Launch Tube Program of Record to procure the multiple missile Common Launch Tube. MCWL will task NAWC AD to help integrate the launcher system onto the MV-22 and support flight test and flight certification. MCWL will use a supporting Warfare Center to integrate the launcher onto a Marine Corps Polaris Corporation M-RZR vehicle or M-RZR trailer. MCWL ACE will closely coordinate with the BA-3 LOCUST program manager to procure the new 6" diameter, additive manufactured, air frame (purchase through BA-3 activity contract). MCWL Experimental Division will define CONOPS/TTPs, the experimental parameters and measures of effectiveness, and operational experiments suitable to apply the capability in a relevant operational environment to evaluate the military utility of the system to a small Marine Corps maneuver element. The Center for Naval Analysis will consolidate the post demonstration report for the systems military utility.

Phase II -ONR execute a multi-domain swarm effort in FY 2020-2023 to demonstrate the advantages of small swarming UAVs against adversary defenses. ONR will work with the Naval Warfare Development Center (NWDC) to develop CONOPS / TTPS for this mission capability and fleet experimentation. NSWC Panama City Division (NSWC PCD) will provide operational and logistics support for the launch and recovery of the vehicles. Initiation of Phase II in FY2020 intentionally follows the

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3423 / *LOCUST* |

6.3 INP by two fiscal years to allow the INP to develop and mature the miniaturized payloads required for an operational demo. Additionally, close coordination and involvement with acquisition community through these NWDC events and well as simulation exercises and the objective experiments and demonstrations is being done to shape requirements and budget submissions

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3423 / *LOCUST* |

**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Multi-Rotor Platform Procur | MIPR | NRL : Wash, DC | 0.013 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.013 | - |
| Multi-Rotor Platform Payload | MIPR | MITRE : Mclean, VA | 0.350 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.350 | - |
| Payload Procurement | C/CPFF | Raytheon : Tucson, AZ | 1.104 | 0.800 | Nov 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.904 | - |
| Multi-Rotor Tests | MIPR | NSWC : Indian Head, MD | 0.025 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.025 | - |
| Fixed-Wing Procurement | C/CPFF | Raytheon : Tuxson, AZ | 2.085 | 2.070 | Nov 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 4.155 | - |
| Platform Specific Launcher Development | Various | Various : Various | 1.201 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.201 | - |
| Command and Control Integration | Various | Various : Various | 0.560 | 0.000 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.560 | - |
| Fixed Wing Tests | Various | Various : Various | 1.288 | 0.300 | Nov 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 1.588 | - |
| All Up Round Hardware | C/CPFF | Raytheon : Tucson, AZ | 0.000 | 0.000 | | 9.500 | Apr 2024 | 0.000 | | - | | 0.000 | 0.000 | 9.500 | - |
| Production Line Planning and Support | C/CPFF | Raytheon : Tucson, AZ | 0.000 | 0.000 | | 13.000 | Jun 2023 | 0.000 | | - | | 0.000 | 0.000 | 13.000 | - |
| Engineering Services and Readiness Support Planning | C/CPFF | Raytheon : Tucson, AZ | 0.000 | 0.000 | | 11.500 | Jun 2023 | 0.000 | | - | | 0.000 | 0.000 | 11.500 | - |
| | | **Subtotal** | 6.626 | 3.170 | | 34.000 | | 0.000 | | - | | 0.000 | 0.000 | 43.796 | N/A |

**Remarks**

Complete the LOCUST INP and transition it to a program office to support combatant commander requirements. Funds will support pre-production activities, purchase of operational test assets, and engineering services, with FY2023 funds added for Advanced Concept of Operations.

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3423 / *LOCUST* |

**Test and Evaluation ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Developmental Test & Evaluation (DT&E) | Various | Not Specified : Not Specified | 0.000 | 0.000 | | 1.200 | May 2023 | 0.000 | | - | | 0.000 | 0.000 | 1.200 | - |
| Developmental Test & Evaluation (DT&E) | MIPR | NSWC Indian Head : Not Specified | 0.000 | 0.000 | | 1.800 | Mar 2023 | 0.000 | | - | | 0.000 | 0.000 | 1.800 | - |
| | | **Subtotal** | 0.000 | 0.000 | | 3.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.000 | N/A |

**Remarks**

NSWC Indian Head $1,000K - System Safety T&E
NSWC Indian Head $800K - T&E Planning and Execution

Perform test planning and component safety qualification and testing. Provide test support.

**Management Services ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Management | TBD | Not Specified : Not Specified | 0.260 | 0.100 | Nov 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 0.360 | - |
| Project management | MIPR | PMS340 : Not Specified | 0.000 | 0.000 | | 3.000 | Mar 2023 | 0.000 | | - | | 0.000 | 0.000 | 3.000 | - |
| | | **Subtotal** | 0.260 | 0.100 | | 3.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.360 | N/A |

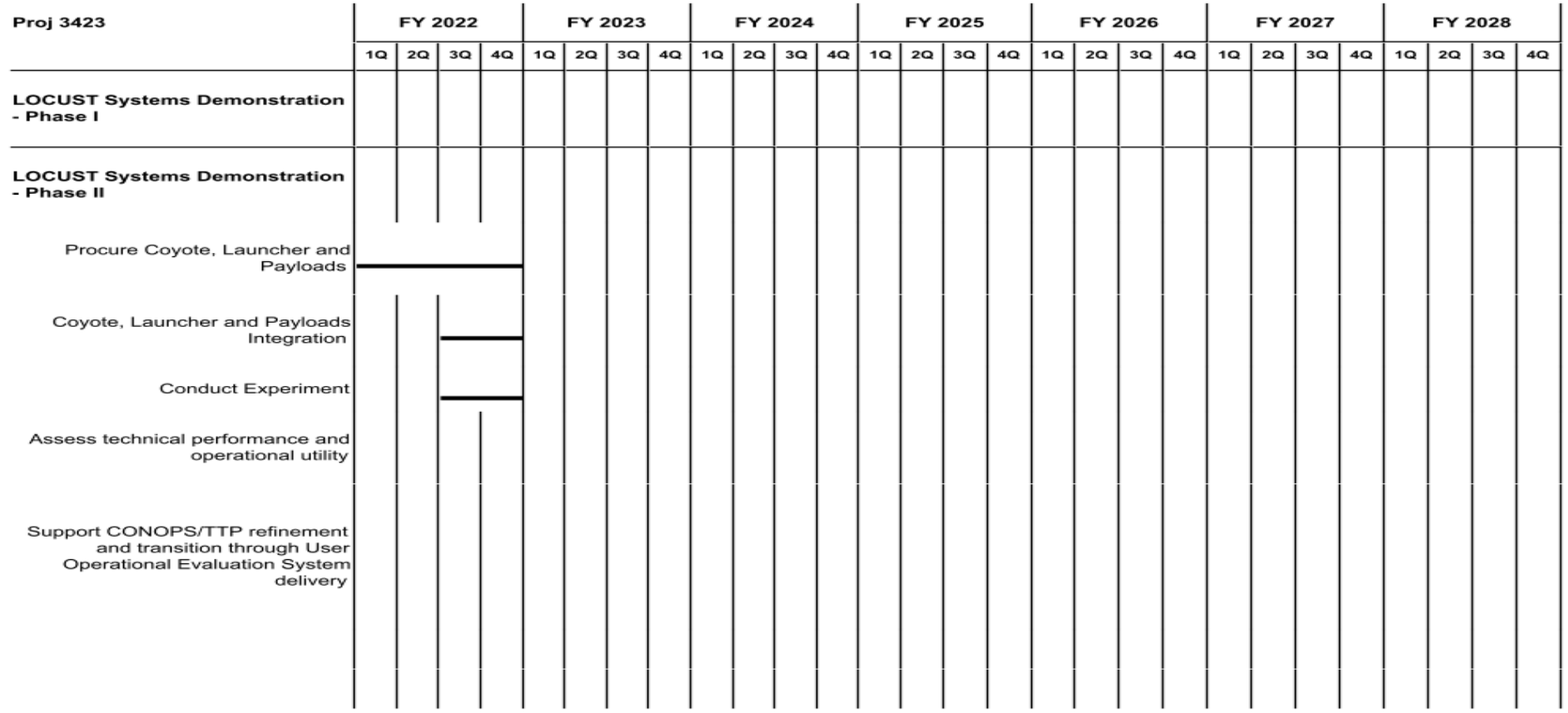
**Remarks**

Provide program management and technical oversight of contractor fabrication efforts and production readiness. Provide management of testing and qualifications. Execute contract actions.

| | Prior Years | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 6.886 | 3.270 | | 40.000 | | 0.000 | | - | | 0.000 | 0.000 | 50.156 | N/A |

**Remarks**

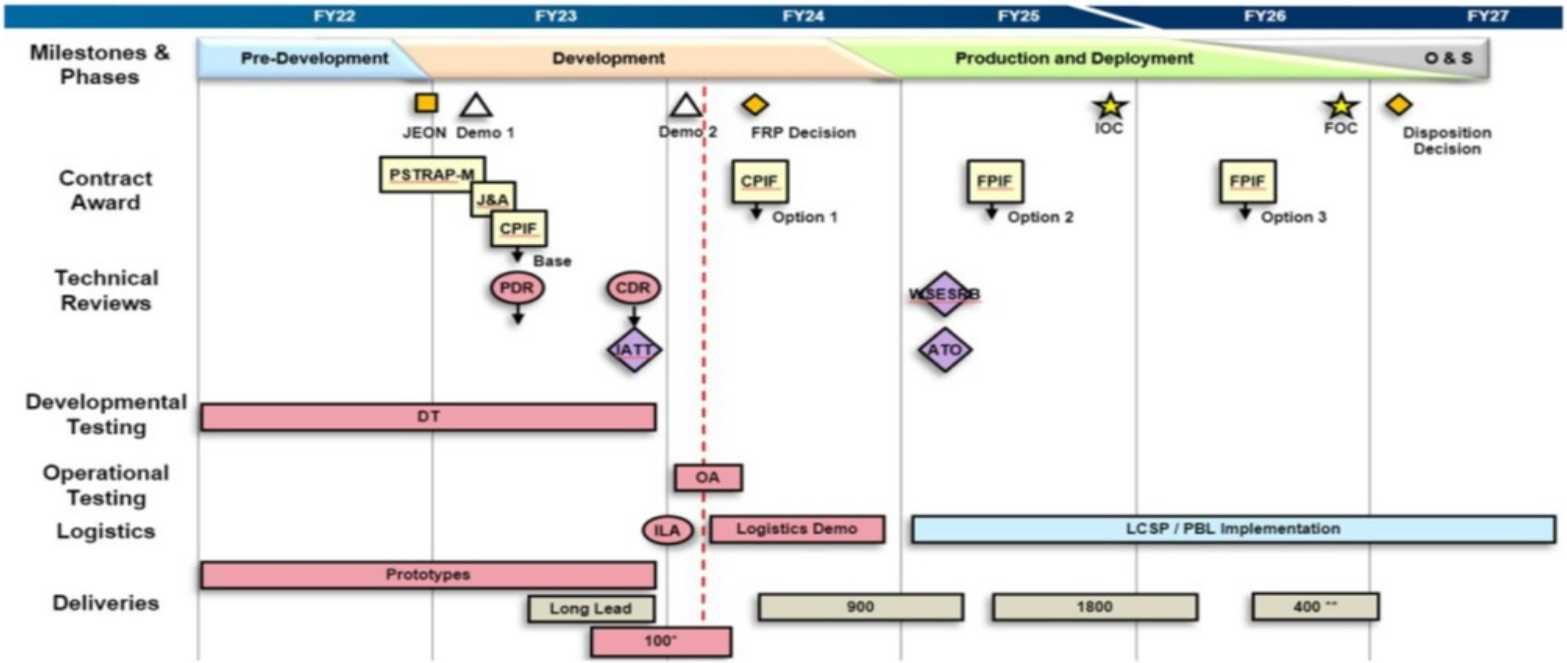
| Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3423 / *LOCUST* |




*2024DON - 0603382N - 3423*

| Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3423 / *LOCUST* |

## PE 0603382N / Advanced Combat Systems Tech, 3423 Locust – Schedule



| Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3423 / *LOCUST* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Events by Sub Project** | **Quarter** | **Year** | **Quarter** | **Year** |
| ***Proj 3423*** | | | | |
| LOCUST Systems Demonstration - Phase II: Procure Coyote, Launcher and Payloads: Procure Coyote, Launcher and Payloads | 1 | 2022 | 4 | 2022 |
| LOCUST Systems Demonstration - Phase II: Coyote, Launcher and Payloads Integration: Coyote, Launcher and Payloads Integration | 3 | 2022 | 4 | 2022 |
| LOCUST Systems Demonstration - Phase II: Conduct Experiment: Conduct Experiment | 3 | 2022 | 4 | 2022 |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | | Date: March 2023 |
|---|---|---|---|
| Appropriation/Budget Activity<br>1319 / 4 | R-1 Program Element (Number/Name)<br>PE 0603382N / *Advanced Combat Systems Tech* | Project (Number/Name)<br>3437 / *EMW/SEWIP/SSEE Accelerator* | |

| COST ($ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3437: *EMW/SEWIP/SSEE Accelerator* | 58.104 | 17.740 | 0.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 75.844 |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

**A. Mission Description and Budget Item Justification**

The Electromagnetic Maneuver Warfare/Surface Electronic Warfare Improvement Program/Ship's Signals Exploitation Equipment (EMW/SEWIP/SSEE) Accelerator is part of the Department of Defense Third Offset Strategy to improve real time Electro-Magnetic Maneuver Warfare operations. EMW/SEWIP/SSEE Accelerator leverages the S&T Budget Activity (BA)-3 Electro-Magnetic Maneuver Warfare technology developments specifically in cross platform operations. The BA-3 effort is developing high speed sensor and electro-magnetic networking, real time spectrum operations and passive targeting technologies. ONR has demonstrated elements of next generation networking, passive tracking, and cross platform combat system coordination. This BA-4 effort is trailing the BA-3 demonstration of technologies deploying and demonstrating the technology in operationally relevant environments with military mission applications. The deployment will allow the ONR to significantly reduce risk, incorporate early warfighter improvements and test with real world data and scenarios.

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|---|---|---|---|---|
| ***Title:*** EMW/SEWIP/SSEE Accelerator | 17.740 | 0.000 | 0.000 | 0.000 | 0.000 |
| ***Articles:*** | - | - | - | - | - |
| ***Description:*** EMW/SEWIP/SSEE accelerator builds off of two BA-3 efforts: Surface platform arrays, radios and control software were developed under the Multi-Link CDL System Future Naval Capability and airborne relay were developed within the High Altitude Relay and Routing Future Naval Capability. To date ONR has demonstrated 4-beam CDL surface arrays, radios and controls via land based motion simulators, while the airborne relay functionality has been demonstrated on a P-3 platform in a relevant environment.<br>***FY 2023 Plans:***<br>N/A<br>***FY 2024 Base Plans:***<br>N/A<br>***FY 2024 OCO Plans:***<br>N/A | | | | | |
| **Accomplishments/Planned Programs Subtotals** | 17.740 | 0.000 | 0.000 | 0.000 | 0.000 |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3437 / *EMW/SEWIP/SSEE Accelerator* |

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

N/A

**Remarks**

**D. Acquisition Strategy**

Projects identified for execution under this project number are non-acquisition programs. Each project will develop a project plan to support project execution. Project plans will include a project schedule and technical requirements and objectives to measure project performance. Based on prior BA-3 work prototype contracts are in place and can be used to develop hardware for at sea trials. Software and ship installation are expected to use a combination of existing shipyard contracts and government field activities.

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3437 / *EMW/SEWIP/SSEE Accelerator* |

**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Prototype Development | MIPR | NSWC : various | 30.462 | 2.630 | Oct 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 33.092 | - |
| Prototype Development | PO | NAWC : various | 16.107 | 3.761 | Oct 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 19.868 | - |
| Prototype Development | MIPR | SUPSHIP : Bath Maine | 5.267 | 0.874 | Oct 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 6.141 | - |
| Prototype Development | MIPR | NRL : Washington, DC | 6.268 | 2.624 | Oct 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 8.892 | - |
| Prototype Development | C/CPFF | Vectrus and BAE : various | 0.000 | 3.916 | Oct 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.916 | - |
| Prototype Demonstration | C/CPFF | LEIDOS : various | 0.000 | 3.935 | Oct 2021 | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 3.935 | - |
| | | **Subtotal** | 58.104 | 17.740 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 75.844 | N/A |

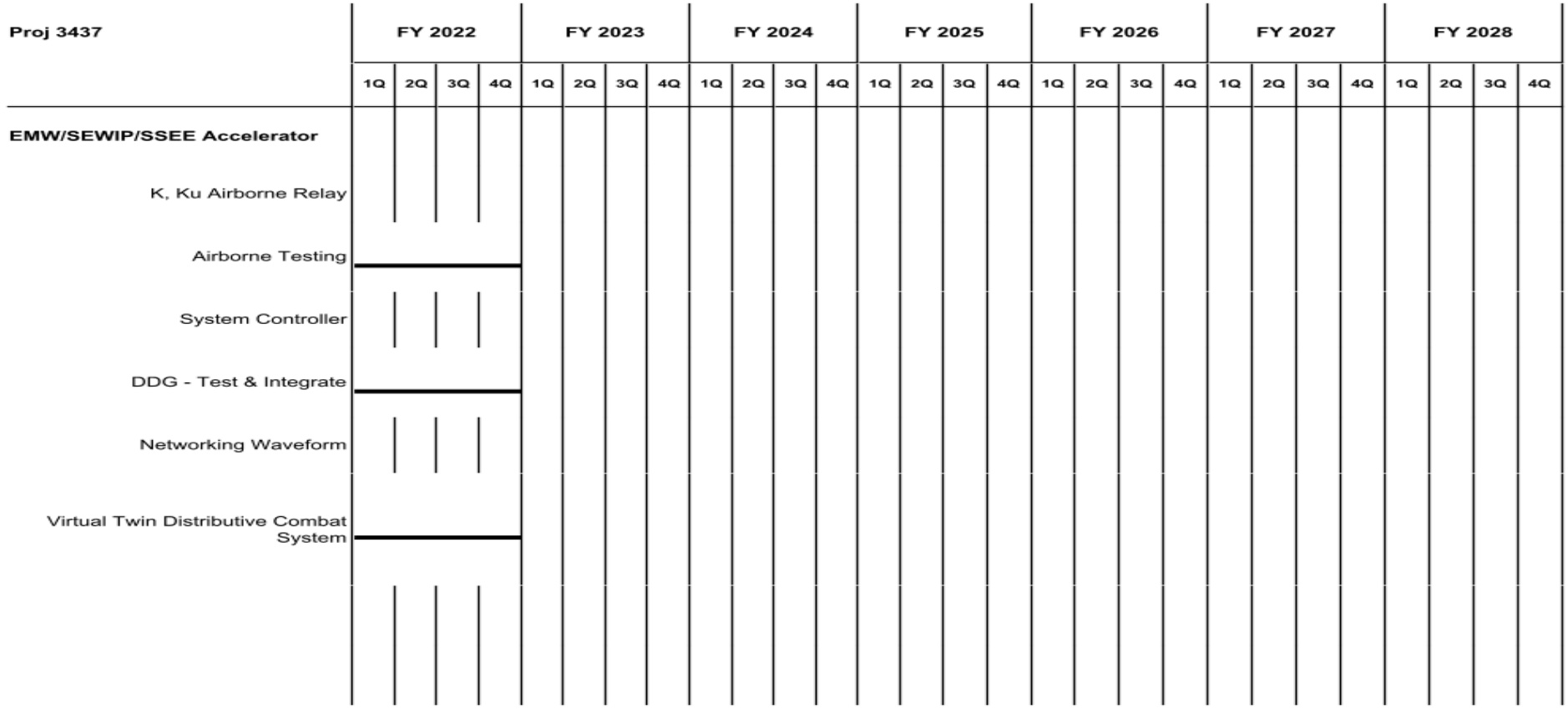
**Remarks**

NSWC: Prototype development of shipboard next generation networking apertures and EMW cross platform software.
NAWC: Prototype development of airborne next generation apertures and networking software.
SUPSHIP: Installation and testing of Cross platform EMW accelerator prototype on 2 Navy test vessels.
NRL: Installation and testing of Cross platform EMW accelerator prototype on Navy maritime patrol aircraft.

| | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 58.104 | 17.740 | | 0.000 | | 0.000 | | - | | 0.000 | 0.000 | 75.844 | N/A |

**Remarks**

| Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3437 / *EMW/SEWIP/SSEE Accelerator* |




*2024DON - 0603382N - 3437*

| Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>3437 / *EMW/SEWIP/SSEE Accelerator* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Events by Sub Project** | **Quarter** | **Year** | **Quarter** | **Year** |
| ***Proj 3437*** | | | | |
| EMW/SEWIP/SSEE Accelerator: Airborne Testing: Airborne Testing | 1 | 2022 | 4 | 2022 |
| EMW/SEWIP/SSEE Accelerator: DDG - Test & Integrate: DDG - Test & Integrate | 1 | 2022 | 4 | 2022 |
| EMW/SEWIP/SSEE Accelerator: Virtual Twin Distributive Combat System: Virtual Twin Distributive Combat System | 1 | 2022 | 4 | 2022 |

| Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy | | | | | | | | | | | Date: March 2023 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Appropriation/Budget Activity<br>1319 / 4 | | | | | R-1 Program Element (Number/Name)<br>PE 0603382N / *Advanced Combat Systems Tech* | | | | Project (Number/Name)<br>9999 / *Congressional Adds* | | | |
| **COST ($ in Millions)** | **Prior Years** | **FY 2022** | **FY 2023** | **FY 2024 Base** | **FY 2024 OCO** | **FY 2024 Total** | **FY 2025** | **FY 2026** | **FY 2027** | **FY 2028** | **Cost To Complete** | **Total Cost** |
| 9999: *Congressional Adds* | 0.000 | 2.896 | 14.500 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 17.396 |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

**A. Mission Description and Budget Item Justification**

Congressional Interest Items not included in other Projects.

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2022 | FY 2023 |
|---|---|---|
| ***Congressional Add:*** Minotaur data dissemination and interoperability<br>***FY 2022 Accomplishments:*** Conduct Minotaur data dissemination and interoperability.<br>***FY 2023 Plans:*** The development of Minimum Viable Product (MVP) using the Business of Innovation for Tri-service Integration and Test (I&T) support efforts, systems and software engineering, technical, and programmatic requirements. Develop and use R&D DevSecOps Environment to leverage USCG USMC Lab infrastructure. | 2.896 | 6.500 |
| ***Congressional Add:*** Force-level dynamic interoperable C2<br>***FY 2022 Accomplishments:*** N/A<br>***FY 2023 Plans:*** Conduct Force-level dynamic interoperable C2 research | 0.000 | 8.000 |
| **Congressional Adds Subtotals** | 2.896 | 14.500 |

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>9999 / *Congressional Adds* |

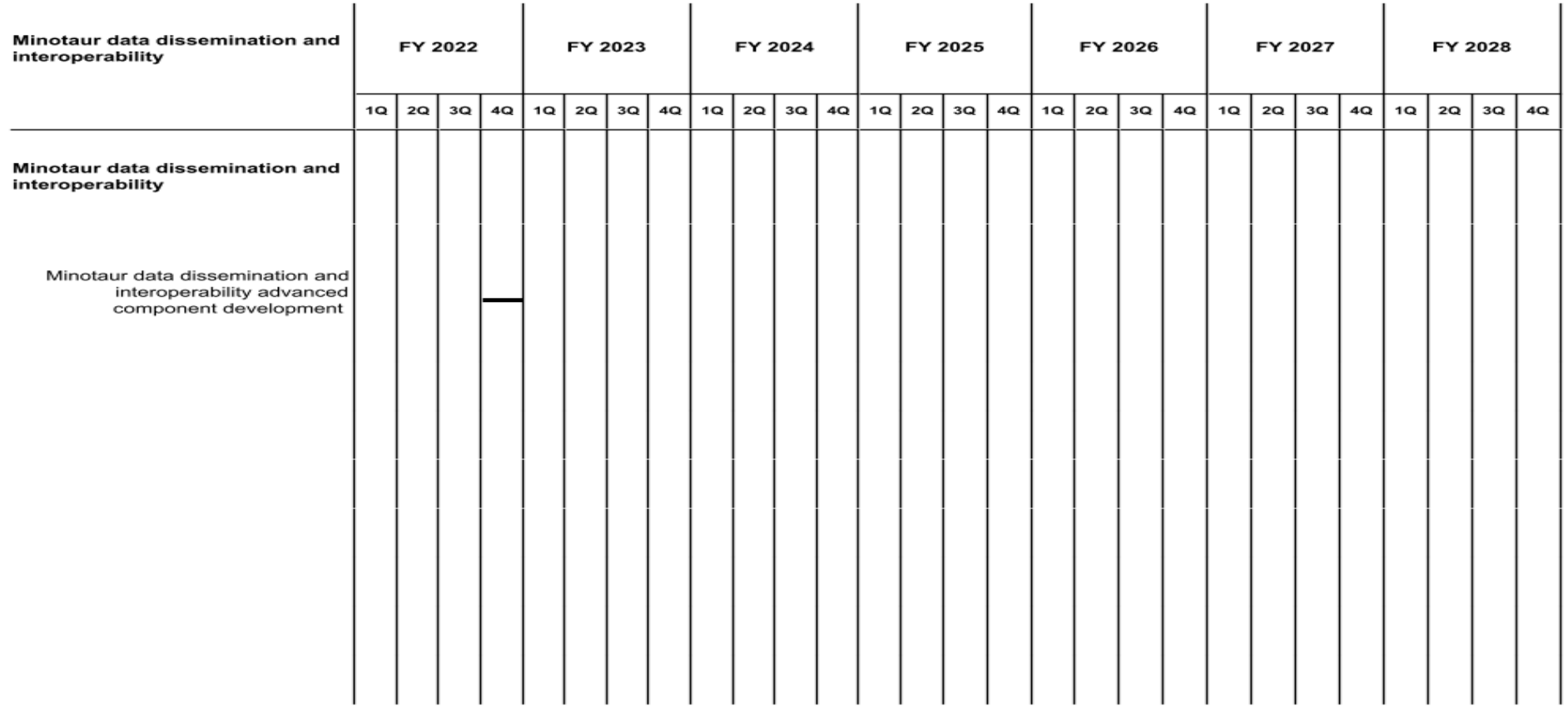
**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2022 Cost | FY 2022 Award Date | FY 2023 Cost | FY 2023 Award Date | FY 2024 Base Cost | FY 2024 Base Award Date | FY 2024 OCO Cost | FY 2024 OCO Award Date | FY 2024 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TBD | TBD | TBD : TBD | 0.000 | 2.896 | Sep 2022 | 14.500 | Sep 2023 | 0.000 | | - | | 0.000 | 0.000 | 17.396 | - |
| | | **Subtotal** | 0.000 | 2.896 | | 14.500 | | 0.000 | | - | | 0.000 | 0.000 | 17.396 | N/A |

| | Prior Years | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 0.000 | 2.896 | | 14.500 | | 0.000 | | - | | 0.000 | 0.000 | 17.396 | N/A |

**Remarks**

| Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>9999 / *Congressional Adds* |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy | | Date: March 2023 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 4 | **R-1 Program Element (Number/Name)**<br>PE 0603382N / *Advanced Combat Systems Tech* | **Project (Number/Name)**<br>9999 / *Congressional Adds* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Events by Sub Project** | **Quarter** | **Year** | **Quarter** | **Year** |
| ***Minotaur data dissemination and interoperability*** | | | | |
| Minotaur data dissemination and interoperability: Minotaur data dissemination and interoperability advanced component development: Component development and demonstration | 4 | 2022 | 4 | 2022 |