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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2020 United States Special Operations Command **Date:** March 2019

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| <b>Appropriation/Budget Activity</b><br>0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> / BA 7: <i>Operational Systems Development</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 1160483BB / <i>Maritime Systems</i> |
|--|--|

| COST (\$ in Millions)            | Prior Years | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total | FY 2021 | FY 2022 | FY 2023 | FY 2024 | Cost To Complete | Total Cost |
|----------------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element            | 402.384     | 66.280  | 42.471  | 72.626       | -           | 72.626        | 61.921  | 54.438  | 73.393  | 78.581  | Continuing       | Continuing |
| S0417: <i>Underwater Systems</i> | 369.317     | 58.229  | 26.897  | 45.205       | -           | 45.205        | 50.475  | 48.369  | 64.259  | 69.234  | Continuing       | Continuing |
| S1684: <i>Surface Craft</i>      | 33.067      | 8.051   | 15.574  | 27.421       | -           | 27.421        | 11.446  | 6.069   | 9.134   | 9.347   | Continuing       | Continuing |

## A. Mission Description and Budget Item Justification

This program element provides for engineering and manufacturing development (EMD) of Special Operations Forces (SOF) Surface and Undersea Mobility platforms. This program element also provides for pre-acquisition activities to quickly respond to new requirements for SOF surface and undersea mobility, looking at multiple alternatives to include cross-platform technical solutions, service-common solutions, Commercial-Off-The-Shelf technologies, and new development efforts. Middle-Tier Acquisition (2016 NDAA, Section 804) to accommodate rapid prototyping, may be utilized.

The Underwater Systems project provides for EMD of combat submersibles, SOF operator diving systems, underwater support systems, and underwater equipment. This project also provides for pre-acquisition activities (material solutions analysis, advanced component, prototype development, and exploitation of emerging technology opportunities to deliver enhanced capabilities) to respond to emergent requirements. These submersibles, equipment, and diving systems are used by SOF in the conduct of infiltration/extraction, personnel/material recovery, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems, diving systems, and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions.

The Surface Craft project provides for EMD of medium and heavy surface combatant craft, combatant craft mission equipment, and pre-planned product improvement and technology insertion engineering changes to meet the unique requirements of SOF. This project element also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to quickly respond to new requirements for maritime craft and subsystems. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct operations associated with SOF maritime missions.

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| Appropriation/Budget Activity<br>0400: Research, Development, Test & Evaluation, Defense-Wide / BA 7:<br>Operational Systems Development   |  | R-1 Program Element (Number/Name)<br>PE 1160483BB / Maritime Systems |         |                  |             |               |
| B. Program Change Summary (\$ in Millions)   |  | FY 2018  | FY 2019 | FY 2020 Base     | FY 2020 OCO | FY 2020 Total |
| Previous President's Budget  |  | 42.315   | 42.471  | 31.865           | -           | 31.865        |
| Current President's Budget   |  | 66.280   | 42.471  | 72.626           | -           | 72.626        |
| Total Adjustments  |  | 23.965   | 0.000   | 40.761           | -           | 40.761        |
| • Congressional General Reductions   |  | -  | -       |                  |             |               |
| • Congressional Directed Reductions  |  | -  | -       |                  |             |               |
| • Congressional Rescissions  |  | -  | -       |                  |             |               |
| • Congressional Adds   |  | 14.100   | -       |                  |             |               |
| • Congressional Directed Transfers   |  | 12.800   | -       |                  |             |               |
| • Reprogrammings   |  | -0.402   | -       |                  |             |               |
| • SBIR/STTR Transfer   |  | -2.533   | -       |                  |             |               |
| • Other Adjustments  |  | -  | -       | 40.761           | -           | 40.761        |
| Change Summary Explanation   |  |  |         |                  |             |               |
| Funding:   |  |  |         |                  |             |               |
| FY2018: Net increase of \$23.965 million is due to Congressional Add of \$14.100 million for the Dry Combat Submersible Program (DCS) depressurization pump, signature management, modeling and simulation, and submarine interoperability risk mitigation efforts, an increase of \$12.800 million for the congressional requested transfer into DCS for the completion of manufacturing and acceptance testing of DCS 1 vessel and development of Mid-Water Column Lock-In/Lock-out (MWC LI/LO). A decrease of -\$2.533 million to Small Business Innovation Research/Small Business Technology Transfer Programs, and a decrease of -\$0.402 million for higher command priorities.               |  |  |         |                  |             |               |
| FY 2019: None.   |  |  |         |                  |             |               |
| FY2020: Net Increase of \$40.761 million due to an increase of \$17.163 million to commence the Undersea Craft Mission Equipment (UCME), which supports Technology Insertion Roadmaps including technology development to support Assured Access and undersea clandestine insertion. An increase of \$5.350 million to support active ride control and digital radar for Combatant Craft Mission Equipment (CCME), an increase of \$13.537 million to continue the development, design, and integration of Maritime Precision Engagement (MPE), an increase of \$2.986 million for development of DCS Next, and an increase of \$1.725 million for development across undersea and surface programs. |  |  |         |                  |             |               |
| Schedule: None.  |  |  |         |                  |             |               |
| Technical: None.   |  |  |         |                  |             |               |

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| Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command   |             |         |         |              |  |               |         |         |   | Date: March 2019 |                  |            |
| Appropriation/Budget Activity<br>0400 / 7   |             |         |         |              | R-1 Program Element (Number/Name)<br>PE 1160483BB / Maritime Systems |               |         |         | Project (Number/Name)<br>S0417 / Underwater Systems |                  |                  |            |
| COST (\$ in Millions)   | Prior Years | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO  | FY 2020 Total | FY 2021 | FY 2022 | FY 2023   | FY 2024          | Cost To Complete | Total Cost |
| S0417: Underwater Systems   | 369.317     | 58.229  | 26.897  | 45.205       | -  | 45.205        | 50.475  | 48.369  | 64.259  | 69.234           | Continuing       | Continuing |
| Quantity of RDT&E Articles  | -           | -       | -       | -            | -  | -             | -       | -       | -   | -                |                  |            |
| A. Mission Description and Budget Item Justification  |             |         |         |              |  |               |         |         |   |                  |                  |            |
| This project provides for engineering and manufacturing development of combat underwater submersibles, Special Operations Forces (SOF) operator diving systems, underwater support systems, and underwater equipment. This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to respond to emergent requirements. Middle-Tier acquisitions to accommodate rapid prototyping may be utilized. These submersibles, equipment, and diving systems are used by SOF in the conduct of infiltration/extraction, personnel/material recovery, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems, diving systems, and unique equipment provides small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions. |             |         |         |              |  |               |         |         |   |                  |                  |            |
| B. Accomplishments/Planned Programs (\$ in Millions)  |             |         |         |              |  |               |         |         | FY 2018   | FY 2019          | FY 2020          |            |
| Title: Shallow Water Combat Submersible (SWCS)  |             |         |         |              |  |               |         |         | 1.378   | 1.247            | 1.395            |            |
| Description: This sub-project provides for the design, development, test, manufacturing and sustainment of one Engineering Development Model (EDM) and ten production units to replace the legacy MK 8 MOD 1 Seal Delivery Vehicle (SDV) system. SWCS is a free-flooding combat submersible mobility platform suitable for transporting and deploying SOF and their payloads for a variety of SOF missions. SWCS will be deployable from a Dry Deck Shelter (DDS), surface ships, and land. The SWCS system includes the SWCS vehicle and SWCS support Equipment, comprised of Mission Support Equipment (MSE), Pack-Up Kit (PUK), and Transportation and Handling (T&H). It also includes integration efforts with the current Dry Deck Shelter (DDS) and development of product improvements accomplished throughout the lifecycle of the system.   |             |         |         |              |  |               |         |         |   |                  |                  |            |
| FY 2019 Plans:<br>Continue pre-planned product improvements (P3I) and complete Initial Operation Test and Evaluation (IOT&E) and commence Follow-on Operational Test & Evaluation (FOT&E). P3I enhancements include, but are not limited to, Chase Boat Situational Awareness (CBSA), diver thermal, and Hydro-Acoustic Information Link (HAIL) II.   |             |         |         |              |  |               |         |         |   |                  |                  |            |
| FY 2020 Plans:<br>Continues P3I. P3I enhancements include, but are not limited to, Acoustic and Radio Frequency indicators & warning capabilities, Electro-Optical (EO)/Infrared (IR) capability, and Self recovery.  |             |         |         |              |  |               |         |         |   |                  |                  |            |
| FY 2019 to FY 2020 Increase/Decrease Statement:<br>Increase of \$0.148 million is for additional enhancements.  |             |         |         |              |  |               |         |         |   |                  |                  |            |
| Title: Dry Combat Submersible (DCS)   |             |         |         |              |  |               |         |         | 40.309  | 15.024           | 19.209           |            |

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| <b>Appropriation/Budget Activity</b><br>0400 / 7  |  | <b>R-1 Program Element (Number/Name)</b><br>PE 1160483BB / <i>Maritime Systems</i> |                         | <b>Project (Number/Name)</b><br>S0417 / <i>Underwater Systems</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   |  |  | <b>FY 2018</b>          | <b>FY 2019</b>  | <b>FY 2020</b> |
| <p><b>Description:</b> This sub-project provides for the advanced development, engineering, manufacturing, and testing efforts for a surface-launched, dry, diver lock-in/lock-out vessel capable of inserting and extracting SOF and/or payloads into denied areas. USSOCOM awarded an Engineering and Manufacturing Development (EMD) contract in FY 2016 to produce one production representative vessel, with options to produce two additional vessels. USSOCOM is testing one submersible prototype to validate test methodologies, commercial classification, and SOCOM safety certification processes and will continue to use the prototype to evaluate capability enhancing technologies and reduce risk in the DCS program. This project includes funding for enhanced warfighter capabilities such as Mid-Water Column Lock-In/Lock-Out, depressurization pump, and submarine interoperability. Funding begins in FY 2020 for an EMD effort for submarine interoperable DCS-Next vessel. This program was increased by FY 2018 congressional add.</p> <p><b>FY 2019 Plans:</b><br/>Continue the incorporation of engineering changes to increase the operational capability of DCS. Complete government acceptance testing and initiate developmental testing and operational testing on DCS #1.</p> <p><b>FY 2020 Plans:</b><br/>Continues the incorporation of engineering changes to increase the operational capability of DCS. Complete operational testing on DCS #1. Begin DCS-Next EMD efforts.</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>Increase of \$4.185 million is due to DCS-Next development (\$2.986 million) and execution of DCS #1 operational testing (\$1.199 million).</p> |  |  |                         |   |                |
| <p><b>Title:</b> Dry Deck Shelter (DDS) Modernization</p> <p><b>Description:</b> This sub-project provides for the pre-planned product improvements, testing, and integration of specialized underwater systems to meet the unique requirements of SOF, and compatibility with the submarine fleet. The current DDS is a certified diving system which attaches to modified host submarines that provides for insertion of SOF forces and platforms. Funding supports product improvements to the current DDS, as well as associated diver equipment for in-service submarine support systems, unmanned underwater vehicles, and follow on development efforts for future SOF payloads.</p> <p><b>FY 2019 Plans:</b><br/>Continue product improvements necessary to extend useful life of the DDS, transitions from Submarine Ship Guided Missile Nuclear (SSGN) to Virginia Class host platform, and increases capacity to carry larger payloads.</p> <p><b>FY 2020 Plans:</b></p>   |  |  | 12.800                  | 8.564   | 5.278          |

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| <b>Appropriation/Budget Activity</b><br>0400 / 7   |  | <b>R-1 Program Element (Number/Name)</b><br>PE 1160483BB / <i>Maritime Systems</i> |                         | <b>Project (Number/Name)</b><br>S0417 / <i>Underwater Systems</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>  |  |  | <b>FY 2018</b>          | <b>FY 2019</b>  | <b>FY 2020</b> |
| Continues product improvements necessary to extend useful life of the DDS, transitions from SSGN to Virginia Class host platform, and increases capacity to carry larger payloads.<br><br><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br>Decrease of \$3.286 million is a result of completing the development of the Modernized DDS first article.   |  |  |                         |   |                |
| <b>Title:</b> SOF Combat Diving<br><br><b>Description:</b> This sub-project is a Middle Tier of Acquisition designated program which provides for the development, testing, and rapid fielding and prototyping of SOF peculiar diving equipment providing the SOF combat diver the ability to engage the enemy and conduct operations. SOF Combat Diving will support the SDV, SWCS, and DCS with the conduct of infiltration/extraction, material recovery, underwater ship attack, beach clearance, and other missions. Technologies include, but are not limited to, commercial and developmental life support, maneuverability and propulsion, diver navigational accuracy and situation awareness, environmental protection, and communications between dive teams as well as between divers and external vessels/craft.<br><br><b>FY 2019 Plans:</b><br>Continue development, to include test and evaluation for environmental protection, navigation, communication, and propulsion.<br><br><b>FY 2020 Plans:</b><br>Continues development, to include test and evaluation for environmental protection, navigation, communication, and propulsion.<br><br><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br>Increase of \$0.098 million is due to miscellaneous adjustments. |  |  | 3.742                   | 2.062   | 2.160          |
| <b>Title:</b> Undersea Craft Mission Equipment (UCME)<br><br><b>Description:</b> UCME provides a rapid response capability to support SOF underwater craft and diver systems, subsystems, and their emerging requirements. UCME provides technology refresh efforts to correct system deficiencies, improve asset life, and enhance mission capability to leverage and exploit emerging technologies within the maritime Special Operations Forces undersea capability portfolio.<br><br><b>FY 2020 Plans:</b><br>Begin development of undersea survivability enhancements; underwater and maritime domain communications; enhanced situational awareness and Intelligence, Surveillance, and Reconnaissance (ISR); unique power and energy capabilities; other capability enhancements and enabling technologies for assured access and Undersea Clandestine Insertion (UCI), which supports the National Defense Strategy (NDS). Throughout FY2019 PEO-M will be identifying appropriate rapid acquisition pathways to include: streamlined Federal Acquisition Regulation (FAR) contracting with existing or planned Indefinite Delivery/Indefinite Quantity (IDIQ), Basic Ordering Agreement, University Affiliated Research Center (UARC), and Federally Funded                         |  |  | 0.000                   | -   | 17.163         |

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| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   | <b>FY 2018</b> | <b>FY 2019</b> | <b>FY 2020</b> |
|---|----------------|----------------|----------------|
| Research and Development Centers (FFRDC) contracts; and use Non-FAR Based Acquisition Authorities and Other Transaction Authority agreements to allow immediate execution of FY20 funds when they become available.   |                |                |                |
| <b><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i></b><br>Increase of \$17.163 million is to support undersea Technology Insertion Roadmaps and development of undersea survivability enhancements; underwater and maritime domain communications; enhanced situational awareness and ISR; unique power and energy capabilities; other capability enhancements and enabling technologies for assured access and UCI, which supports the National Defense Strategy (NDS). |                |                |                |
| <b>Accomplishments/Planned Programs Subtotals</b>   | 58.229         | 26.897         | 45.205         |

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

| <b>Line Item</b>                            | <b>FY 2018</b> | <b>FY 2019</b> | <b>FY 2020<br/>Base</b> | <b>FY 2020<br/>OCO</b> | <b>FY 2020<br/>Total</b> | <b>FY 2021</b> | <b>FY 2022</b> | <b>FY 2023</b> | <b>FY 2024</b> | <b>Cost To<br/>Complete</b> | <b>Total Cost</b> |
|---|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| • PROC/0210US:<br><i>Underwater Systems</i> | 78.831         | 132.023        | 58.991                  | -                      | 58.991                   | 25.897         | 19.245         | 15.496         | 15.844         | Continuing                  | Continuing        |

**Remarks**

**D. Acquisition Strategy**

- Middle-Tier Acquisition to accommodate rapid prototyping, may be utilized.
- SWCS used full and open competition with a down select to a single contractor. The full spectrum of contracting activities are being utilized for any integration and subsystem requirements, using existing contracts where appropriate, government agencies, and new contracts as necessary.
- DCS used full and open competition, resulting in the selection of a single prime contractor. A Fixed Price Incentive Firm Target contract for a production representative system was awarded in FY 2016 with options to procure one vessel in FY 2018 and one in FY 2019. DCS-Next is planned to be a full and open competition beginning in FY 2020 with market research.
- The DDS is currently in sustainment through a maintenance and service contract which was competitively sourced, and awarded for a 5-year period. The modernization and engineering/change efforts for the six DDS in inventory are executed utilizing the existing services contract.
- SOF Combat Diving is designated a Middle-Tier acquisition program which supports rapid prototyping and is executed using existing contracts, government agencies, and new contracts competitively selected as appropriate.

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| <b>Appropriation/Budget Activity</b><br>0400 / 7  | <b>R-1 Program Element (Number/Name)</b><br>PE 1160483BB / <i>Maritime Systems</i> | <b>Project (Number/Name)</b><br>S0417 / <i>Underwater Systems</i> |
| <ul style="list-style-type: none"><li>• UCME will use streamlined FAR contracting with existing or planned IDIQ, Blanket Order Agreement (BOA), UARC, and FFRDC contracts and use Non-FAR Based Acquisition Authorities and Other Transaction Authority (OTA) agreements, where appropriate. UCME focuses on developing specific technology for maturity, marinization and compatibility for transition to SOF undersea craft. Integration and procurement are managed by the individual undersea craft Programs.</li></ul> |  |   |
| <b><u>E. Performance Metrics</u></b><br>N/A   |  |   |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command   |                        |  |             |         |            |  |            |                 |            |   |            | Date: March 2019 |                  |            |                          |
|--|------------------------|--|-------------|---------|------------|--|------------|-----------------|------------|---|------------|------------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity<br>0400 / 7  |                        |  |             |         |            | R-1 Program Element (Number/Name)<br>PE 1160483BB / Maritime Systems |            |                 |            | Project (Number/Name)<br>S0417 / Underwater Systems |            |                  |                  |            |                          |
| Product Development (\$ in Millions)   |                        |  |             | FY 2018 |            | FY 2019  |            | FY 2020<br>Base |            | FY 2020<br>OCO                                      |            | FY 2020<br>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 |
| Shallow Water Combat Submersible (SWCS) Engineering Changes  | C/Various              | Various : Various  | -           | -       |            | 1.047  | Feb 2019   | 1.191           | Feb 2020   | -   |            | 1.191            | Continuing       | Continuing | -                        |
| Dry Combat Submersible (DCS) Technologies Government Furnished Equipment   | C/Various              | Various : Various  | 37.753      | 3.000   | Nov 2017   | 0.100  | Nov 2018   | -               |            | -   |            | -                | Continuing       | Continuing | -                        |
| DCS Engineering & Manufacturing Development  | C/FPIF                 | Lockheed Martin : Riviera Beach, FL                                      | 52.861      | 12.997  | Nov 2017   | 3.107  | Dec 2018   | -               |            | -   |            | -                | 0.000            | 68.965     | -                        |
| DCS Enhancements / P3I Changes   | C/Various              | Various : Various  | 3.135       | 6.283   | Mar 2018   | 1.998  | Nov 2018   | 4.589           | Nov 2019   | -   |            | 4.589            | Continuing       | Continuing | -                        |
| DCS Depressurization Pump/Signature Management/Modeling and Simulation/Risk Mitigation (Congressional add)                                     | C/Various              | Various : Various  | -           | 14.100  | Mar 2018   | -  |            | -               |            | -   |            | -                | 0.000            | 14.100     | -                        |
| DCS Next   | C/Various              | Various : Various  | -           | -       |            | -  |            | 2.986           | Feb 2020   | -   |            | 2.986            | Continuing       | Continuing | -                        |
| Dry Deck Shelter (DDS) Modernization   | C/CPFF                 | Oceaneering International Inc. Marine Services Division : Chesapeake, VA | 14.549      | 12.450  | Jan 2018   | 8.242  | Jan 2019   | 4.950           | Jan 2020   | -   |            | 4.950            | Continuing       | Continuing | -                        |
| SOF Combat Diving-Unique Diving Technologies   | Various                | Various : Various  | 1.870       | 3.072   | Nov 2017   | 1.379  | Nov 2018   | 1.464           | Nov 2019   | -   |            | 1.464            | Continuing       | Continuing | -                        |
| Undersea Craft Mission Equipment (UCME) Survivability, Navigation, C4ISR/SA, Power & Energy enhancements and other assured access technologies | C/Various              | Various : Various  | -           | -       |            | -  |            | 16.360          | Mar 2020   | -   |            | 16.360           | Continuing       | Continuing | -                        |
| Prior Year Funding   | Various                | Various : Various  | 202.681     | -       |            | -  |            | -               |            | -   |            | -                | 0.000            | 202.681    | -                        |



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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command |                        |   |             |         |            |   |            |                 |            |  |            | Date: March 2019 |                  |            |                          |
|--|------------------------|---|-------------|---------|------------|---|------------|-----------------|------------|--|------------|------------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity<br>0400 / 7  |                        |   |             |         |            | R-1 Program Element (Number/Name)<br>PE 1160483BB / <i>Maritime Systems</i> |            |                 |            | Project (Number/Name)<br>S0417 / <i>Underwater Systems</i> |            |                  |                  |            |                          |
| Product Development (\$ in Millions)   |                        |   |             | FY 2018 |            | FY 2019   |            | FY 2020<br>Base |            | FY 2020<br>OCO   |            | FY 2020<br>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   |                        |   | 312.849     | 51.902  |            | 15.873  |            | 31.540          |            | -  |            | 31.540           | Continuing       | Continuing | N/A                      |
| Support (\$ in Millions)   |                        |   |             | FY 2018 |            | FY 2019   |            | FY 2020<br>Base |            | FY 2020<br>OCO   |            | FY 2020<br>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 |
| Prior Year Funding   | Various                | Various : Various                                 | 9.094       | -       |            | -   |            | -               |            | -  |            | -                | 0.000            | 9.094      | -                        |
| Subtotal   |                        |   | 9.094       | -       |            | -   |            | -               |            | -  |            | -                | 0.000            | 9.094      | N/A                      |
| Test and Evaluation (\$ in Millions)   |                        |   |             | FY 2018 |            | FY 2019   |            | FY 2020<br>Base |            | FY 2020<br>OCO   |            | FY 2020<br>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 |
| SWCS   | Various                | COM OPTEVFOR / JHU-APL : Norfolk, VA / Laurel, MD | 1.814       | 1.378   | Nov 2017   | 0.200   | Nov 2018   | 0.204           | Nov 2019   | -  |            | 0.204            | Continuing       | Continuing | -                        |
| DCS  | C/Various              | NAVSEA / CRANE : Crane, IN                        | 10.306      | 1.525   | Nov 2017   | 7.448   | Nov 2018   | 9.254           | Nov 2019   | -  |            | 9.254            | Continuing       | Continuing | -                        |
| SOF Combat Diving  | Various                | Various : Various                                 | 0.630       | 0.500   | Jun 2018   | 0.510   | Mar 2019   | 0.520           | Oct 2019   | -  |            | 0.520            | Continuing       | Continuing | -                        |
| UCME   | C/Various              | Various : Various                                 | -           | -       |            | -   |            | 0.275           | Jun 2020   | -  |            | 0.275            | Continuing       | Continuing | -                        |
| Prior Year Funding   | Various                | Various : Various                                 | 9.320       | -       |            | -   |            | -               |            | -  |            | -                | 0.000            | 9.320      | -                        |
| Subtotal   |                        |   | 22.070      | 3.403   |            | 8.158   |            | 10.253          |            | -  |            | 10.253           | Continuing       | Continuing | N/A                      |
| Management Services (\$ in Millions)   |                        |   |             | FY 2018 |            | FY 2019   |            | FY 2020<br>Base |            | FY 2020<br>OCO   |            | FY 2020<br>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 |
| DCS  | Various                | Booz Allen Hamilton : Tampa, FL                   | 14.644      | 2.404   | Nov 2017   | 2.371   | Apr 2019   | 2.380           | Apr 2020   | -  |            | 2.380            | Continuing       | Continuing | -                        |
| DDS  | Various                | NAVSEA : Washington, DC                           | 1.329       | 0.350   | Jan 2018   | 0.322   | Jan 2019   | 0.328           | Jan 2020   | -  |            | 0.328            | Continuing       | Continuing | -                        |

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|  |                        |                                 |             |         |            |  |            |                 |            |   |            |                  |                  |            |                          |
|--|------------------------|---------------------------------|-------------|---------|------------|--|------------|-----------------|------------|---|------------|------------------|------------------|------------|--------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command |                        |                                 |             |         |            |  |            |                 |            |   |            | Date: March 2019 |                  |            |                          |
| Appropriation/Budget Activity<br>0400 / 7  |                        |                                 |             |         |            | R-1 Program Element (Number/Name)<br>PE 1160483BB / Maritime Systems |            |                 |            | Project (Number/Name)<br>S0417 / Underwater Systems |            |                  |                  |            |                          |
| Management Services (\$ in Millions)   |                        |                                 |             | FY 2018 |            | FY 2019  |            | FY 2020<br>Base |            | FY 2020<br>OCO                                      |            | FY 2020<br>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 |
| UCME   | C/Various              | Various : Various               | -           | -       |            | -  |            | 0.528           | Apr 2020   | -   |            | 0.528            | Continuing       | Continuing | -                        |
| SOF Combat Diving  | C/Various              | Booz Allen Hamilton : Tampa, FL | -           | 0.170   | Dec 2017   | 0.173  | Dec 2018   | 0.176           | Dec 2019   | -   |            | 0.176            | Continuing       | Continuing | -                        |
| Prior Year Funding   | Various                | Various : Various               | 9.331       | -       |            | -  |            | -               |            | -   |            | -                | 0.000            | 9.331      | -                        |
| Subtotal   |                        |                                 | 25.304      | 2.924   |            | 2.866  |            | 3.412           |            | -   |            | 3.412            | Continuing       | Continuing | N/A                      |
|  |                        |                                 | Prior Years | FY 2018 |            | FY 2019  |            | FY 2020<br>Base |            | FY 2020<br>OCO                                      |            | FY 2020<br>Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals  |                        |                                 | 369.317     | 58.229  |            | 26.897   |            | 45.205          |            | -   |            | 45.205           | Continuing       | Continuing | N/A                      |
| Remarks  |                        |                                 |             |         |            |  |            |                 |            |   |            |                  |                  |            |                          |

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

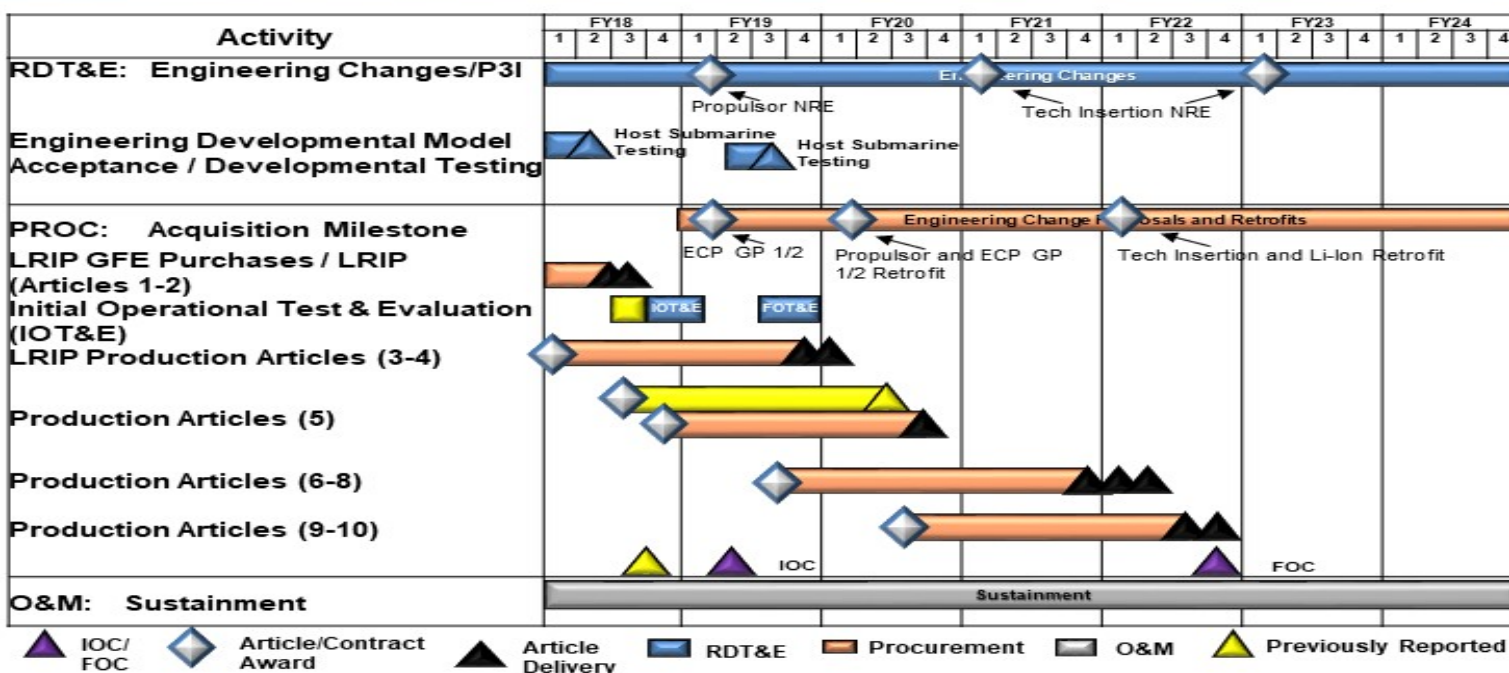
Date: March 2019

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S0417 / Underwater Systems

# Shallow Water Combat Submersible Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

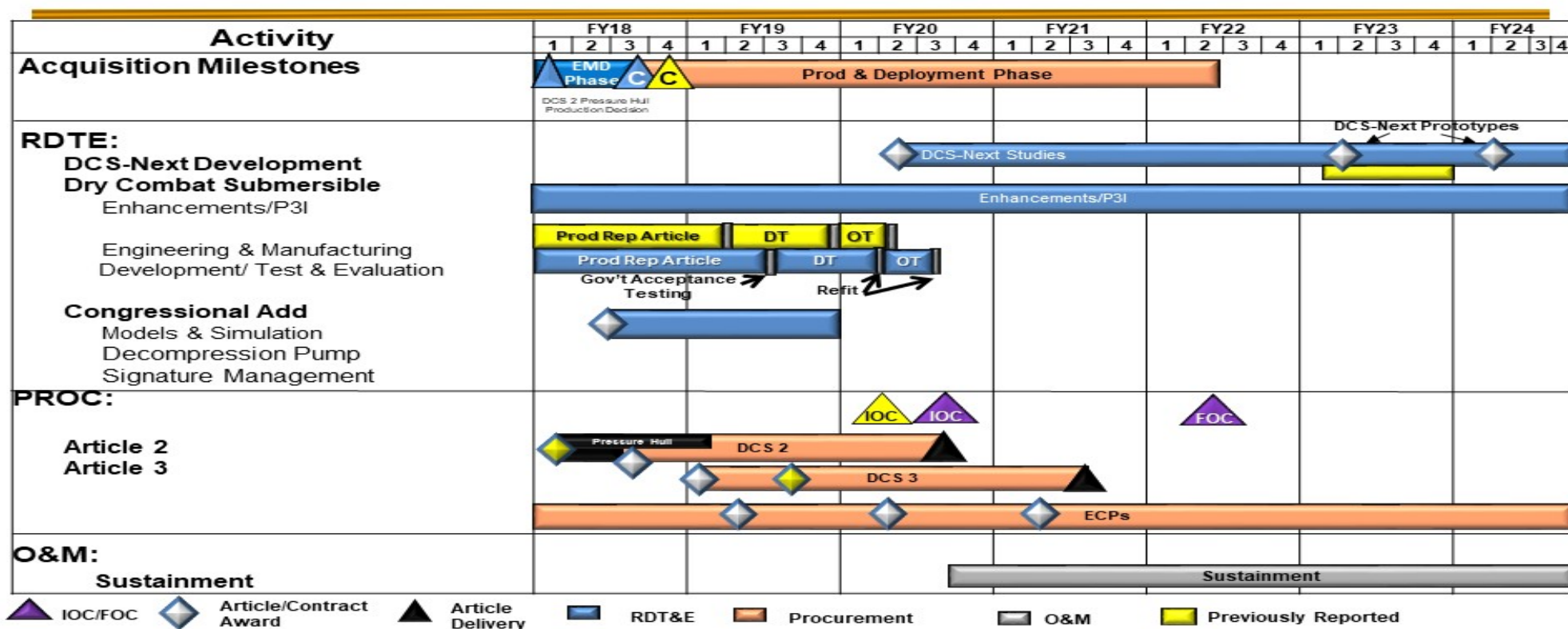
Date: March 2019

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S0417 / Underwater Systems

# Dry Combat Submersible



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

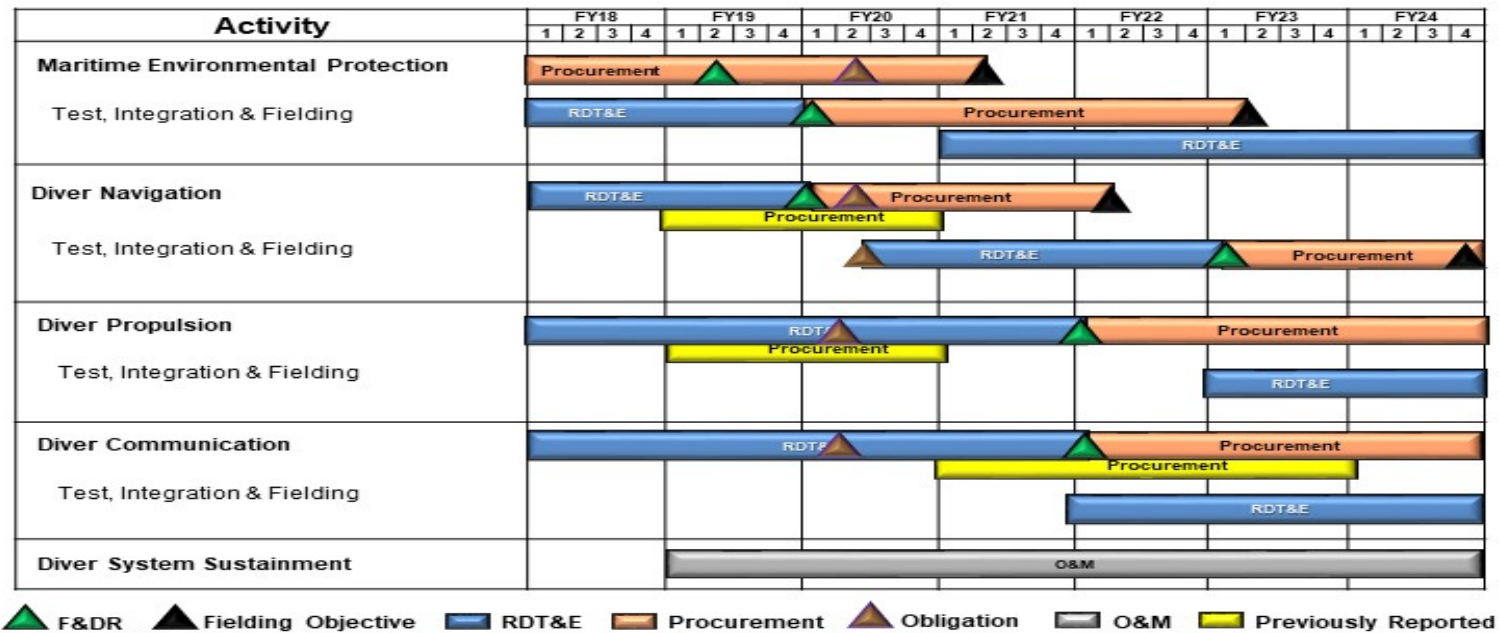
Date: March 2019

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S0417 / Underwater Systems

# SOF Combat Diving Schedule



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**Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command**

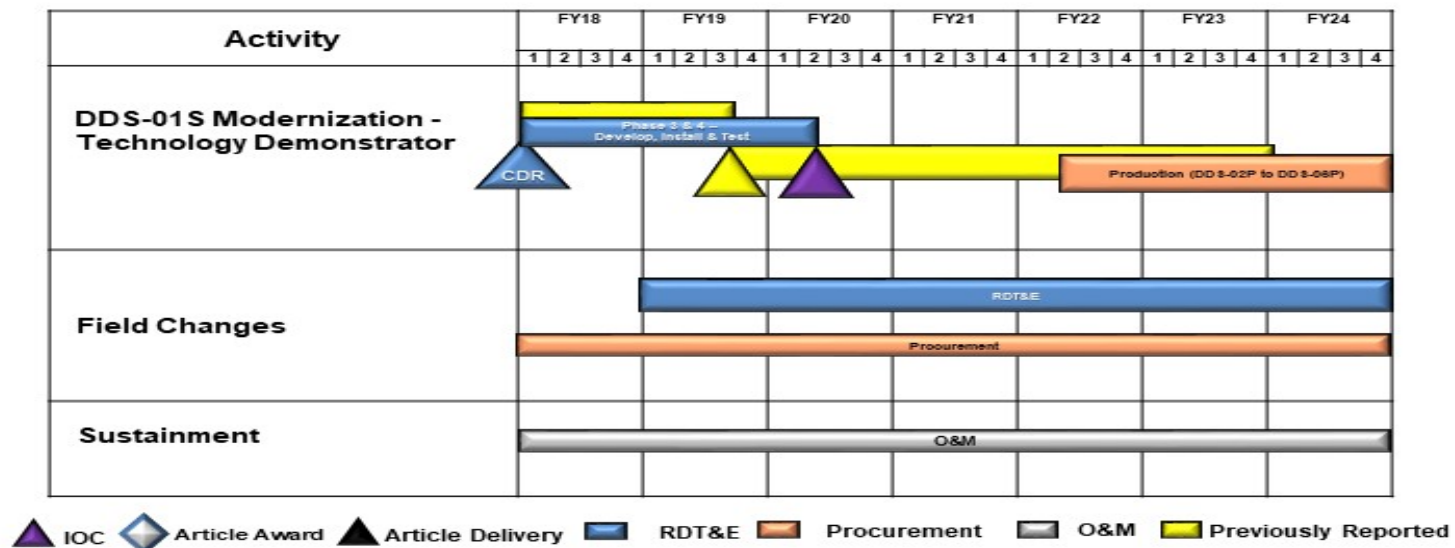
**Date:** March 2019

**Appropriation/Budget Activity**  
0400 / 7

**R-1 Program Element (Number/Name)**  
PE 1160483BB / *Maritime Systems*

**Project (Number/Name)**  
S0417 / *Underwater Systems*

## Dry Deck Shelter Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

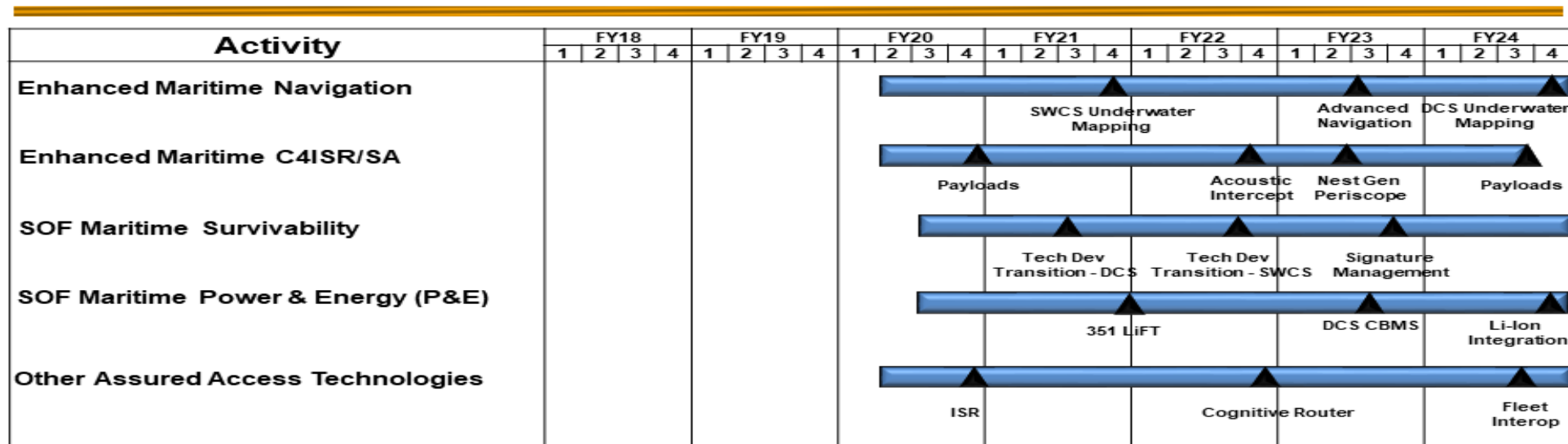
Date: March 2019

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S0417 / Underwater Systems

## UCME Schedule



IOC
 Article Award
 Article Delivery
 RDT&E
 Procurement
 O&M
 Previously Reported
 Transitioned/Completed

NOTE: ALL UCME Procurements will be accomplished in program lines

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|   |  |   |                         |
|---|--|---|-------------------------|
| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 United States Special Operations Command |  |   | <b>Date:</b> March 2019 |
| <b>Appropriation/Budget Activity</b><br>0400 / 7  | <b>R-1 Program Element (Number/Name)</b><br>PE 1160483BB / <i>Maritime Systems</i> | <b>Project (Number/Name)</b><br>S0417 / <i>Underwater Systems</i> |                         |

Schedule Details

| Events by Sub Project  | Start   |      | End     |      |
|--|---------|------|---------|------|
|  | Quarter | Year | Quarter | Year |
| <b><i>Shallow Water Combat Submersible</i></b>                             |         |      |         |      |
| Enhancements/ P3I  | 1       | 2018 | 4       | 2024 |
| Engineering Development Model Acceptance                                   | 1       | 2018 | 2       | 2018 |
| Developmental Test   | 2       | 2019 | 3       | 2019 |
| <b><i>Dry Combat Submersibles</i></b>                                      |         |      |         |      |
| Engineering and Manufacturing Development Phase                            | 1       | 2018 | 3       | 2018 |
| Milestone C  | 3       | 2018 | 3       | 2018 |
| DCS-Next   | 2       | 2020 | 4       | 2024 |
| Enhancements/ P3I  | 1       | 2018 | 4       | 2024 |
| Production Representative Article  | 1       | 2018 | 2       | 2019 |
| Developmental Test and Evaluation  | 2       | 2019 | 1       | 2020 |
| Operational Test and Evaluation  | 1       | 2020 | 3       | 2020 |
| <b><i>Dry Deck Shelter Modernization</i></b>                               |         |      |         |      |
| Phase 3 & 4 Development  | 1       | 2018 | 2       | 2020 |
| Critical Design Review   | 1       | 2018 | 1       | 2018 |
| Field Changes  | 1       | 2019 | 4       | 2024 |
| <b><i>SOF Combat Diving</i></b>  |         |      |         |      |
| Maritime Environmental Protection Rapid Prototyping, Test, and Integration | 1       | 2018 | 4       | 2024 |
| Diver Navigation Rapid Prototyping, Test, and Integration                  | 1       | 2018 | 1       | 2023 |
| Diver Propulsion Rapid Prototyping, Test, and Integration                  | 1       | 2018 | 4       | 2024 |
| Diver Communication Rapid Prototyping, Test, and Integration               | 1       | 2018 | 4       | 2024 |
| <b><i>Maritime Technology Transition &amp; Exploitation (MTTE)</i></b>     |         |      |         |      |
| Enhanced Maritime Navigation   | 2       | 2020 | 4       | 2024 |



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|--|--|---|------------------|
| Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command |  |   | Date: March 2019 |
| Appropriation/Budget Activity<br>0400 / 7  | R-1 Program Element (Number/Name)<br>PE 1160483BB / Maritime Systems | Project (Number/Name)<br>S0417 / Underwater Systems |                  |

| Events by Sub Project             | Start   |      | End     |      |
|-----------------------------------|---------|------|---------|------|
|                                   | Quarter | Year | Quarter | Year |
| Enhanced Maritime C4ISR/SA        | 2       | 2020 | 3       | 2024 |
| SOF Maritime Survivability        | 3       | 2020 | 4       | 2024 |
| SOF Maritime Power & Energy (P&E) | 3       | 2020 | 4       | 2024 |
| Other Assured Access Technologies | 2       | 2020 | 4       | 2024 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command |             |         |         |              |  |               |         |         |  | Date: March 2019 |                  |            |
|---|-------------|---------|---------|--------------|--|---------------|---------|---------|--|------------------|------------------|------------|
| Appropriation/Budget Activity<br>0400 / 7   |             |         |         |              | R-1 Program Element (Number/Name)<br>PE 1160483BB / Maritime Systems |               |         |         | Project (Number/Name)<br>S1684 / Surface Craft |                  |                  |            |
| COST (\$ in Millions)   | Prior Years | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO  | FY 2020 Total | FY 2021 | FY 2022 | FY 2023  | FY 2024          | Cost To Complete | Total Cost |
| S1684: Surface Craft  | 33.067      | 8.051   | 15.574  | 27.421       | -  | 27.421        | 11.446  | 6.069   | 9.134  | 9.347            | Continuing       | Continuing |
| Quantity of RDT&E Articles  | -           | -       | -       | -            | -  | -             | -       | -       | -  | -                |                  |            |

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

This project provides for engineering and manufacturing development of medium and heavy surface combatant craft, combatant craft mission equipment, and pre-planned product improvement (P3I) and technology insertion engineering changes to meet the unique requirements of Special Operations Forces (SOF). This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to quickly respond to new requirements for maritime craft and subsystems Middle-Tier acquisition to accommodate rapid prototyping, may be utilized. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct operations associated with SOF maritime missions.

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

|   | <b>FY 2018</b> | <b>FY 2019</b> | <b>FY 2020</b> |
|---|----------------|----------------|----------------|
| <b>Title:</b> Combatant Craft Medium (CCM) Mk 1<br><br><b>Description:</b> This sub-project is a semi-enclosed multi-mission combatant craft for platoon-size maritime mobility in maritime denied environments. It is multi-mission capable, including Maritime Interdiction, Insert / Extract, and Visit, Board, Search, and Seizure (VBSS) Operations. CCM is Naval Special Warfare's (NSW) craft-of-choice for long-range, high-payload SOF mobility operations in denied environments up to high threat. CCM has NSW's best Iron Triangle: 40 knot (kt) speed; 4 crew + 19 passengers (pax) / 10,000 pound (lb) payload; and 600 nautical miles (nm) range. CCM Mk 1 payload capacity enables inclusion of shock mitigating seats, which is critical for ride quality, operator tactical readiness, and operator health. At 60 feet long, CCM is C-17 / C5 transportable and can launch/recover by well deck or shore based trailer.<br><br><b>FY 2019 Plans:</b><br>Continue integration of Combatant Craft Forward Looking Infrared (CCFLIR2), Tactical Operations Center Intercommunications System (TOCNET) Intercommunications System and Joint Threat Warning System (JTWS). Begins integration of Threat Awareness System (TAS).<br><br><b>FY 2020 Plans:</b><br>Continues integration of TAS. Begin survivability enhancements, MK 50 integration, and Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance (C5ISR) upgrades.<br><br><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br>Increase of \$2.129 million was transferred to more accurately reflect execution plan and continue integration of TAS. | 2.749          | 0.788          | 2.917          |
| <b>Title:</b> Combatant Craft Heavy (CCH)<br><br><b>Description:</b> This sub-project represents a family of solutions that provides platoon-size maritime surface mobility. The current CCH is the Sea, Air, Land Insertion, Observation, and Neutralization (SEALION) craft. SEALION is a fully-enclosed, climate-  | 1.260          | 0.885          | 3.956          |

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|--|--|--|-------------------------|--|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 United States Special Operations Command   |  |  | <b>Date:</b> March 2019 |  |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 7   |  | <b>R-1 Program Element (Number/Name)</b><br>PE 1160483BB / <i>Maritime Systems</i> |                         | <b>Project (Number/Name)</b><br>S1684 / <i>Surface Craft</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>  |  |  | <b>FY 2018</b>          | <b>FY 2019</b>   | <b>FY 2020</b> |
| <p>controlled, semi-submersible craft that operates in denied environments up to high-threat. SEALION is NSW's most versatile and survivable combatant craft and the craft-of-choice for sensitive maritime intelligence, surveillance, and reconnaissance missions. Iron Triangle: 40 kt speed; 7 crew + 12 pax / 3,300 lb payload; and 400 nm range. SEALION payload capacity enables inclusion of shock mitigating seats, which is critical for ride quality, operator tactical readiness, and operator health. At 77+ feet long, SEALION is C-17/C-5 transportable and can launch/recover by well deck or shore based mobile travel lift or crane.</p> <p><b>FY 2019 Plans:</b><br/>Complete CCFLIR2 integration, continues development and integration of upgraded satellite communication (SATCOM) antennas, development of CCH MK2, and integration of TAS.</p> <p><b>FY 2020 Plans:</b><br/>Continues development and integration of upgraded SATCOM antennas and begin design and development of tech data package for CCH MK2.</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br/>Increase of \$3.071 million was transferred to more accurately reflect execution plan and begin design and development of tech data package for CCH MK2</p>   |  |  |                         |  |                |
| <p><b>Title:</b> Combatant Craft Mission Equipment (CCME)</p> <p><b>Description:</b> This sub-project provides a rapid response capability to support SOF combatant craft systems, subsystems, and their emerging requirements. CCME provides technology refresh efforts to correct system deficiencies, improve asset life, and enhance mission capability. Demonstrations and modifications may be made to support emerging capability enhancements such as, but not limited to, conformal antennas, identification friend-or-foe capabilities, enhanced communications, weapon integration, software refresh, and navigation subsystems in support of future missions. Solutions to these emerging requirements may be commercial-off-the-shelf leveraged from other government agencies, or new solutions.</p> <p><b>FY 2019 Plans:</b><br/>Continue evaluation of candidate solutions for technology development including shock mitigation, family of antennas, situational awareness, and Tactical Mission Networking. Begin evaluation of candidate solutions for enhanced Global Positioning System. Transitions Maritime Precision Engagement. Complete Link 16 Test and Integration.</p> <p><b>FY 2020 Plans:</b><br/>Continues evaluation of candidate solutions for technology development including shock mitigation, family of antennas, situational awareness, Tactical Mission Networking, and enhanced Global Positioning System. Begins evaluation of candidate</p> |  |  | 0.592                   | 1.125  | 6.490          |

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|--|--|--|-------------------------|--|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 United States Special Operations Command   |  |  | <b>Date:</b> March 2019 |  |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 7   |  | <b>R-1 Program Element (Number/Name)</b><br>PE 1160483BB / <i>Maritime Systems</i> |                         | <b>Project (Number/Name)</b><br>S1684 / <i>Surface Craft</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>  |  |  | <b>FY 2018</b>          | <b>FY 2019</b>   | <b>FY 2020</b> |
| solutions for Digital Radar. Expands investment in enhanced survivability, navigation, Computers, Intelligence, Surveillance, and Reconnaissance Systems (C4ISR)/Situational Awareness (SA), power & energy, and other assured access technologies.  |  |  |                         |  |                |
| <b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br>Increase of \$5.365 million is due to increased investment in enhanced survivability, navigation, C4ISR/SA, power & energy, and other assured access technologies.   |  |  |                         |  |                |
| <b>Title:</b> Combatant Craft Assault (CCA)  |  |  | 0.668                   | 0.515  | 0.521          |
| <b>Description:</b> This sub-project is a combatant craft for squad-size maritime mobility operations in maritime denied environments. CCA is NSW's best craft for VBSS in maritime denied environments up to and including medium threat. It is the craft-of-choice for maritime interdiction and boarding operations because of the open deck space, maneuverability, and interoperability with an Afloat Forward Staging Base. Iron Triangle: 40 kt speed; 3 crew + 12 pax / 5,000 lb payload; and 300 nm range. At 41 feet long, CCA is air transportable by C-130 / C-17 / C-5 and can launch/recover by crane, davit, well deck, or shore based trailer. |  |  |                         |  |                |
| <b>FY 2019 Plans:</b><br>Continue integration and testing of CCFLIR2 mast design and SSN-8 Tactical Computer System.   |  |  |                         |  |                |
| <b>FY 2020 Plans:</b><br>Continues integration and testing of CCFLIR2 mast design and SSN-8 Tactical Computer System.  |  |  |                         |  |                |
| <b>FY 2019 to FY 2020 Increase/Decrease Statement:</b><br>Increase of \$0.006 million is due to minor adjustments  |  |  |                         |  |                |
| <b>Title:</b> Threat Awareness System (TAS)  |  |  | 2.782                   | 2.261  | 0.000          |
| <b>Articles:</b>   |  |  | -                       | 1  | -              |
| <b>Description:</b> This sub-project provides SOF with an Electronic Intelligence capability for enhanced force protection of SOF in Maritime denied environments by allowing them to identify and avoid enemy detection capabilities. TAS will utilize technological advancements to gain significant improvements in capability such as miniaturization and marinization to enable seamless craft integration.   |  |  |                         |  |                |
| <b>FY 2019 Plans:</b><br>Continue development and testing of TAS.  |  |  |                         |  |                |
| <b>FY 2020 Plans:</b><br>Re-phasing into platforms for integration of TAS.   |  |  |                         |  |                |
| <b>FY 2019 to FY 2020 Increase/Decrease Statement:</b>   |  |  |                         |  |                |

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|---|---------|---------|-----------------|--|------------------|---------|---------|--|------------------|---------------------|------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command   |         |         |                 |  |                  |         |         |  | Date: March 2019 |                     |            |
| Appropriation/Budget Activity<br>0400 / 7   |         |         |                 | R-1 Program Element (Number/Name)<br>PE 1160483BB / Maritime Systems |                  |         |         | Project (Number/Name)<br>S1684 / Surface Craft |                  |                     |            |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)  |         |         |                 |  |                  |         |         |  | FY 2018          | FY 2019             | FY 2020    |
| Decrease of \$2.261 million is due to the transfer of funds into the applicable platforms and will transfer to JTWS program office.   |         |         |                 |  |                  |         |         |  |                  |                     |            |
| Title: Maritime Precision Engagement (MPE)  |         |         |                 |  |                  |         |         |  | -                | 10.000              | 13.537     |
| Description: This sub-project is a family of standoff, loitering, man-in-the-loop weapons systems deployed on combatant craft and capable of targeting individuals, groups, vehicles, high value targets, and small oceangoing craft with low collateral damage. The program consists of combatant craft alterations, launcher systems, and munitions.  |         |         |                 |  |                  |         |         |  |                  |                     |            |
| FY 2019 Plans:<br>Begin design and development of the production representative article.  |         |         |                 |  |                  |         |         |  |                  |                     |            |
| FY 2020 Plans:<br>Continues design and development of craft modifications, launcher systems production representative article, and operator control system. Efforts will include the final design, integration and testing of the MPE Engineering Design Module (EDM). This includes initial launcher system and munitions prototypes into the combatant craft medium. Additional work will be performed in the design and subsequent integration of similar MPE launcher capabilities into the Combatant Craft Heavy platform. |         |         |                 |  |                  |         |         |  |                  |                     |            |
| FY 2019 to FY 2020 Increase/Decrease Statement:<br>Increase of \$3.537 million is due to the continuation of craft modifications, launcher systems production representative article, and operator control system on CCM and adding additional designs for CCH.   |         |         |                 |  |                  |         |         |  |                  |                     |            |
| Accomplishments/Planned Programs Subtotals  |         |         |                 |  |                  |         |         |  | 8.051            | 15.574              | 27.421     |
| C. Other Program Funding Summary (\$ in Millions)   |         |         |                 |  |                  |         |         |  |                  |                     |            |
| Line Item   | FY 2018 | FY 2019 | FY 2020<br>Base | FY 2020<br>OCO   | FY 2020<br>Total | FY 2021 | FY 2022 | FY 2023  | FY 2024          | Cost To<br>Complete | Total Cost |
| • PROC/0204SCCS:<br>Combatant Craft Systems   | 40.772  | 15.913  | 33.088          | -  | 33.088           | 31.202  | 43.349  | 68.641   | 64.242           | Continuing          | Continuing |
| Remarks   |         |         |                 |  |                  |         |         |  |                  |                     |            |
| N/A   |         |         |                 |  |                  |         |         |  |                  |                     |            |
| D. Acquisition Strategy   |         |         |                 |  |                  |         |         |  |                  |                     |            |
| • Middle-Tier acquisition to accommodate rapid prototyping, may be utilized   |         |         |                 |  |                  |         |         |  |                  |                     |            |
| • CCM was a two-phase source selection process. Phase I involved a Small Business Set-Aside competition for two vendors to design, build and deliver test articles. Phase II selected a single vendor to provide a fully integrated baseline craft system for test and evaluation with options for production, engineering support, and contractor logistic support.  |         |         |                 |  |                  |         |         |  |                  |                     |            |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 United States Special Operations Command  |  | <b>Date:</b> March 2019                                      |
| <b>Appropriation/Budget Activity</b><br>0400 / 7  | <b>R-1 Program Element (Number/Name)</b><br>PE 1160483BB / <i>Maritime Systems</i> | <b>Project (Number/Name)</b><br>S1684 / <i>Surface Craft</i> |
| <ul style="list-style-type: none"> <li>• CCH SEALION I &amp; II were transitioned from United States Navy advanced technology demonstrator craft to USSOCOM. Sustainment for SEALION I &amp; II is conducted via Special Operations Forces Support Activity. SEALION III is Sole Source to the Original Equipment Manufacturer (OEM) in order to take advantage of previous Government investments in manufacturing infrastructure for SEALION I &amp; II.</li> <li>• CCME emphasizes on spearheading Technology Readiness Level (TRL) 6 technology for successful transition into SOF Combatant Craft. CCME accomplishes this by employing the full spectrum of contracting services, using existing contracts where appropriate, and leveraging from other Government agencies to include the Services and USSOCOM SOF AT&amp;L Science &amp; Technology Directorate. CCME focuses on developing the technology for maturity, marinization and compatibility, finally transitioning to the craft. Integration and procurement are managed by the individual Combatant Craft Programs.</li> <li>• CCA will perform market research to determine the most effective procurement strategy to achieve a common configuration across the CCA fleet.</li> <li>• TAS PM JTWS conducted a competitive Broad Agency Announcement (BAA) and selected the most viable candidate for a development effort in FY 2018/2019 to mature existing technologies. PM-SS will transfered funds to support integration across the family of Combatant Craft.</li> <li>• MPE will employ Government engineering expertise and lessons learned to develop a common launch system for Naval Special Warfare combatant craft. Munitions selection will be a full and open competition to meet program requirements.</li> </ul> |  |  |
| <b><u>E. Performance Metrics</u></b>  |  |  |
| N/A   |  |  |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command |                        |                                |             |         |            |   |            |                 |            |   |            | Date: March 2019 |                  |            |                          |
|--|------------------------|--------------------------------|-------------|---------|------------|---|------------|-----------------|------------|---|------------|------------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity<br>0400 / 7  |                        |                                |             |         |            | R-1 Program Element (Number/Name)<br>PE 1160483BB / <i>Maritime Systems</i> |            |                 |            | Project (Number/Name)<br>S1684 / <i>Surface Craft</i> |            |                  |                  |            |                          |
| Product Development (\$ in Millions)   |                        |                                |             | FY 2018 |            | FY 2019   |            | FY 2020<br>Base |            | FY 2020<br>OCO  |            | FY 2020<br>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 |
| Combat Craft Medium (CCM)  | C/Various              | Various : Various              | 12.291      | 2.749   | Nov 2017   | 0.788   | Nov 2018   | 2.917           | Nov 2019   | -   |            | 2.917            | Continuing       | Continuing | -                        |
| Combatant Craft Heavy (CCH)  | C/Various              | Various : Various              | 4.934       | 1.260   | Jan 2018   | 0.885   | Jan 2019   | 3.956           | Jan 2020   | -   |            | 3.956            | Continuing       | Continuing | -                        |
| Combatant Craft Assault  | C/Various              | NSWC-Carderock : Norfolk, VA   | 0.421       | 0.668   | Nov 2017   | 0.515   | Nov 2018   | 0.521           | Nov 2019   | -   |            | 0.521            | Continuing       | Continuing | -                        |
| Combat Craft Mission Equipment (CCME)  | C/Various              | Various : Various              | 4.453       | 0.452   | Nov 2017   | 0.888   | Nov 2018   | 5.701           | Nov 2019   | -   |            | 5.701            | Continuing       | Continuing | -                        |
| Maritime Precision Engagement (MPE)  | C/Various              | NSWC : Dahlgren, VA            | -           | -       |            | 9.800   | Dec 2018   | 13.333          | Dec 2019   | -   |            | 13.333           | Continuing       | Continuing | -                        |
| Threat Awareness System (TAS)  | C/Various              | Various : Crane, IN            | -           | 2.782   | Mar 2018   | 1.661   | Mar 2019   | -               |            | -   |            | -                | 0.000            | 4.443      | -                        |
| Prior Year Costs   | C/Various              | Various : Various              | 3.679       | -       |            | -   |            | -               |            | -   |            | -                | 0.000            | 3.679      | -                        |
| Subtotal   |                        |                                | 25.778      | 7.911   |            | 14.537  |            | 26.428          |            | -   |            | 26.428           | Continuing       | Continuing | N/A                      |
| Test and Evaluation (\$ in Millions)   |                        |                                |             | FY 2018 |            | FY 2019   |            | FY 2020<br>Base |            | FY 2020<br>OCO  |            | FY 2020<br>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 |
| CCME   | C/Various              | Various : Various              | 1.358       | 0.140   | Nov 2017   | 0.237   | Nov 2018   | 0.239           | Nov 2019   | -   |            | 0.239            | Continuing       | Continuing | -                        |
| TAS  | C/Various              | Various : Various              | -           | -       |            | 0.239   | Mar 2019   | -               |            | -   |            | -                | 0.000            | 0.239      | -                        |
| Prior Year Costs   | C/Various              | Various : Various              | 2.395       | -       |            | -   |            | -               |            | -   |            | -                | 0.000            | 2.395      | -                        |
| Subtotal   |                        |                                | 3.753       | 0.140   |            | 0.476   |            | 0.239           |            | -   |            | 0.239            | Continuing       | Continuing | N/A                      |
| Management Services (\$ in Millions)   |                        |                                |             | FY 2018 |            | FY 2019   |            | FY 2020<br>Base |            | FY 2020<br>OCO  |            | FY 2020<br>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 |
| CCME   | C/Various              | Various : Various              | -           | -       |            | -   |            | 0.550           | Nov 2019   | -   |            | 0.550            | Continuing       | Continuing | -                        |
| MPE  | C/Various              | Various : Various              | -           | -       |            | 0.200   | Dec 2018   | 0.204           | Dec 2019   | -   |            | 0.204            | Continuing       | Continuing | -                        |
| TAS  | C/Various              | Various : Various              | -           | -       |            | 0.361   | Mar 2019   | -               |            | -   |            | -                | 0.000            | 0.361      | -                        |

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|  |                        |                                |             |         |            |  |            |                 |            |  |            |                  |                  |            |                          |
|--|------------------------|--------------------------------|-------------|---------|------------|--|------------|-----------------|------------|--|------------|------------------|------------------|------------|--------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command |                        |                                |             |         |            |  |            |                 |            |  |            | Date: March 2019 |                  |            |                          |
| Appropriation/Budget Activity<br>0400 / 7  |                        |                                |             |         |            | R-1 Program Element (Number/Name)<br>PE 1160483BB / Maritime Systems |            |                 |            | Project (Number/Name)<br>S1684 / Surface Craft |            |                  |                  |            |                          |
| Management Services (\$ in Millions)   |                        |                                |             | FY 2018 |            | FY 2019  |            | FY 2020<br>Base |            | FY 2020<br>OCO                                 |            | FY 2020<br>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 |
| Prior Year Costs   | C/Various              | Various : Various              | 3.536       | -       |            | -  |            | -               |            | -  |            | -                | 0.000            | 3.536      | -                        |
| Subtotal   |                        |                                | 3.536       | -       |            | 0.561  |            | 0.754           |            | -  |            | 0.754            | Continuing       | Continuing | N/A                      |
|  |                        |                                | Prior Years | FY 2018 |            | FY 2019  |            | FY 2020<br>Base |            | FY 2020<br>OCO                                 |            | FY 2020<br>Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals  |                        |                                | 33.067      | 8.051   |            | 15.574   |            | 27.421          |            | -  |            | 27.421           | Continuing       | Continuing | N/A                      |
| Remarks  |                        |                                |             |         |            |  |            |                 |            |  |            |                  |                  |            |                          |



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

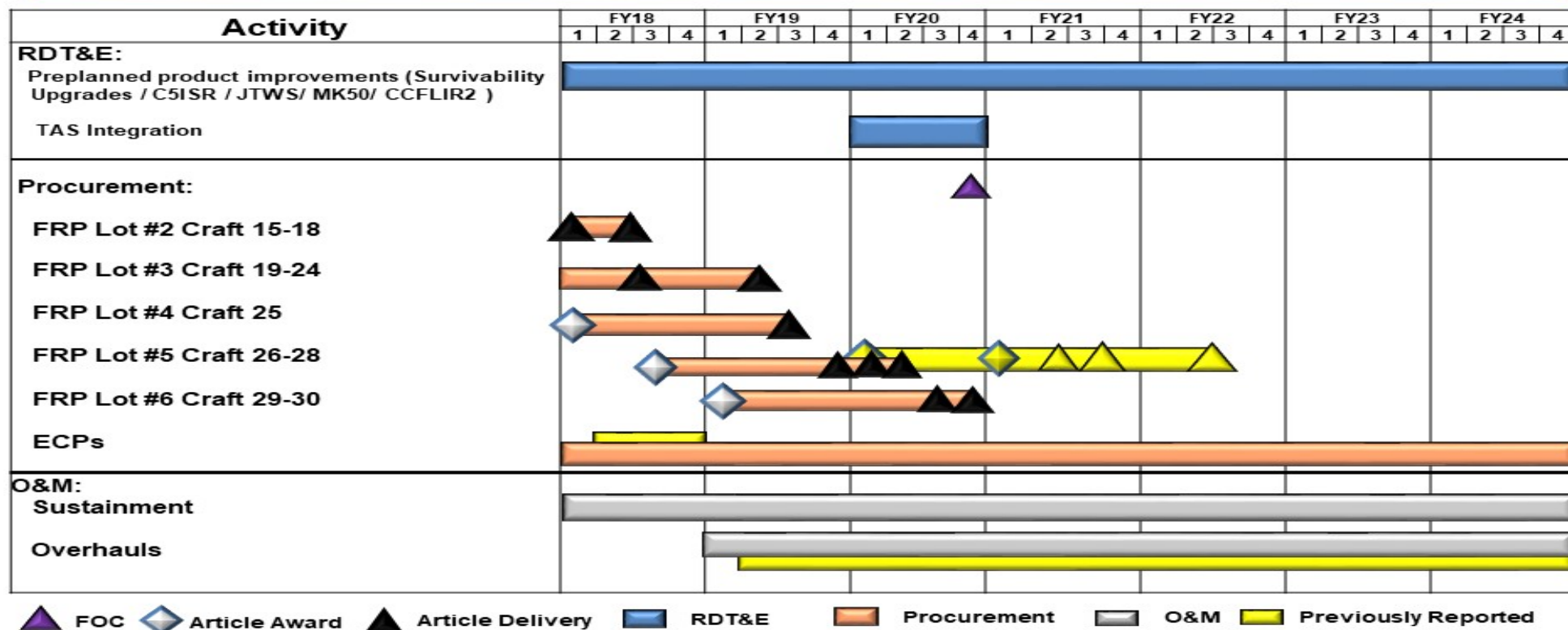
Date: March 2019

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

# Combatant Craft Medium Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

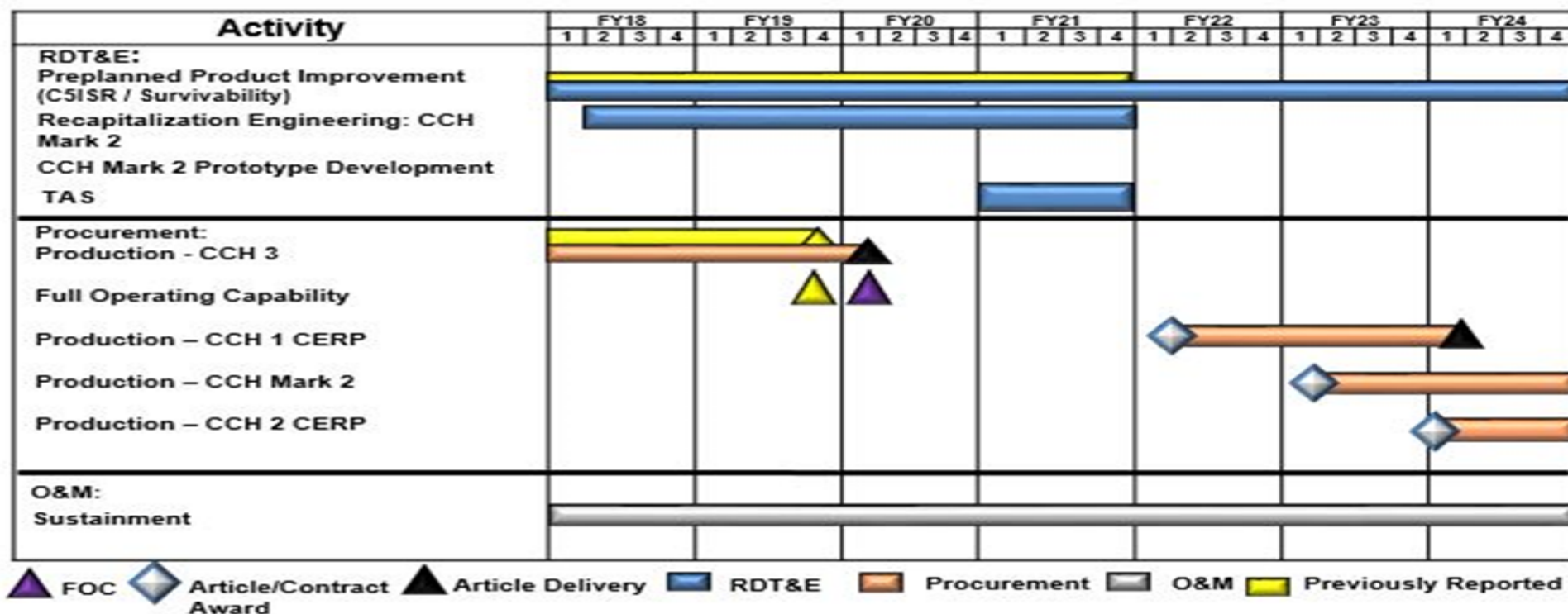
Date: March 2019

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

# Combatant Craft Heavy Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

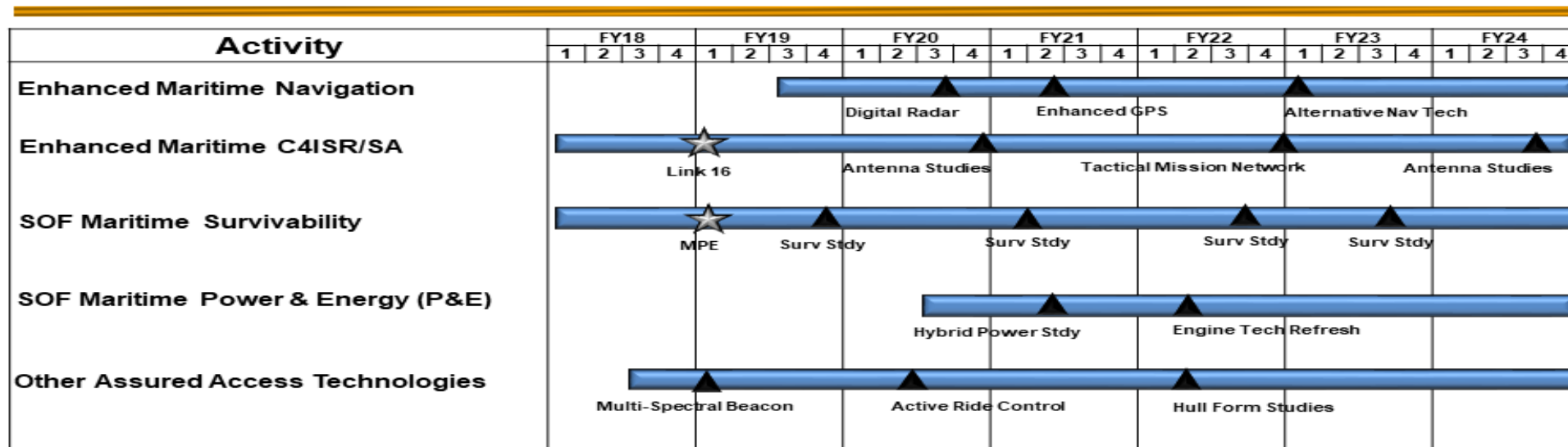
Date: March 2019

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

# CCME Schedule



IOC 
 Article Award 
 Article Delivery 
 RDT&E 
 Procurement 
 O&M 
 Previously Reported 
 Transitioned/Completed

NOTE: ALL CCME Procurements accomplished in program lines

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

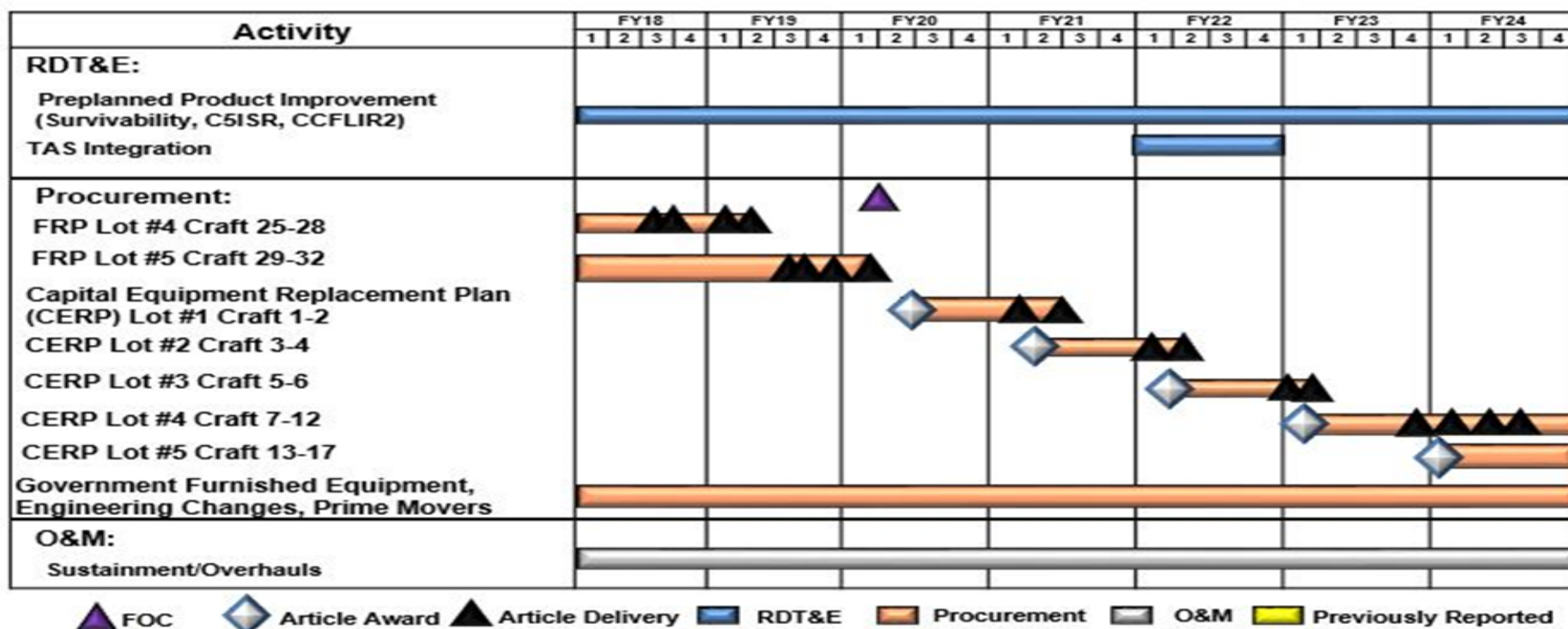
Date: March 2019

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

# Combatant Craft Assault Schedule



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**Exhibit R-4, RDT&E Schedule Profile:** PB 2020 United States Special Operations Command

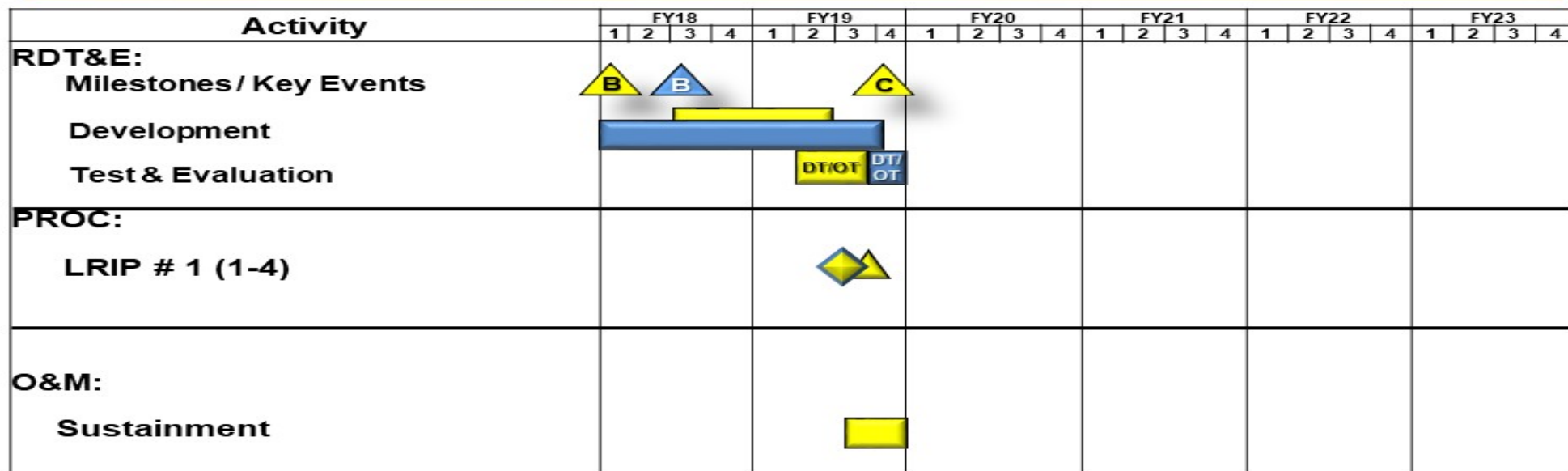
**Date:** March 2019

**Appropriation/Budget Activity**  
0400 / 7

**R-1 Program Element (Number/Name)**  
PE 1160483BB / *Maritime Systems*

**Project (Number/Name)**  
S1684 / *Surface Craft*

# Threat Awareness System Schedule



IOC   
 Article Award   
 Article Delivery   
 RDT&E   
 Procurement   
 O&M   
 Previously Reported

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

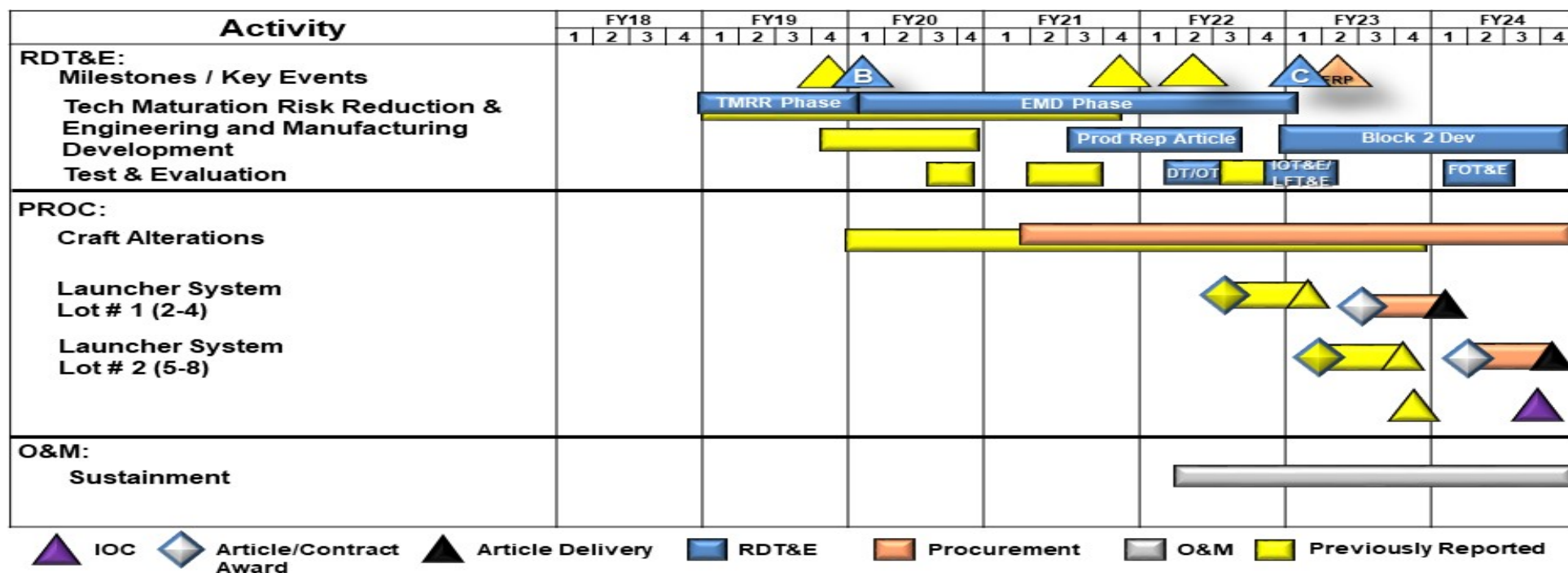
Date: March 2019

Appropriation/Budget Activity  
0400 / 7

R-1 Program Element (Number/Name)  
PE 1160483BB / Maritime Systems

Project (Number/Name)  
S1684 / Surface Craft

# Maritime Precision Engagement Schedule



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|   |  |  |                         |
|---|--|--|-------------------------|
| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 United States Special Operations Command |  |  | <b>Date:</b> March 2019 |
| <b>Appropriation/Budget Activity</b><br>0400 / 7  | <b>R-1 Program Element (Number/Name)</b><br>PE 1160483BB / <i>Maritime Systems</i> | <b>Project (Number/Name)</b><br>S1684 / <i>Surface Craft</i> |                         |

Schedule Details

| Events by Sub Project   | Start   |      | End     |      |
|---|---------|------|---------|------|
|   | Quarter | Year | Quarter | Year |
| <b>Combatant Craft Medium</b>   |         |      |         |      |
| Weapons, Survivability, C5ISR, Combatant Craft Forward Looking Infrared (CCFLIR2), Joint Threat Warning System (JTWS), and MK50 | 1       | 2018 | 4       | 2024 |
| Threat Awareness System (TAS)   | 1       | 2020 | 4       | 2020 |
| <b>Combatant Craft Heavy</b>  |         |      |         |      |
| Preplanned Product Improvement (Weapons / C5ISR / Survivability)  | 1       | 2018 | 4       | 2024 |
| Recapitalization Engineering: CCH MK2   | 2       | 2018 | 4       | 2021 |
| TAS   | 1       | 2021 | 4       | 2021 |
| <b>Combatant Craft Mission Equipment</b>  |         |      |         |      |
| Shock Enhancements/Active Ride Control  | 2       | 2018 | 3       | 2020 |
| Situational Awareness Sensors/Antennas  | 2       | 2018 | 4       | 2020 |
| Survivability Enhancement/Craft Paint Study   | 1       | 2018 | 4       | 2022 |
| Threat Analysis   | 2       | 2021 | 4       | 2022 |
| Obsolescence Analysis and Test (Tech Refresh)   | 1       | 2018 | 4       | 2024 |
| Airborne Mission Network - Maritime   | 1       | 2019 | 4       | 2022 |
| Survivability Studies   | 1       | 2018 | 3       | 2024 |
| Link 16   | 1       | 2018 | 1       | 2019 |
| Maritime Precision Engagement   | 1       | 2018 | 1       | 2019 |
| Digital Radar   | 1       | 2020 | 4       | 2021 |
| Enhanced Global Positioning System (GPS)  | 3       | 2019 | 2       | 2021 |
| <b>Combatant Craft Assault</b>  |         |      |         |      |
| Preplanned Product Improvement (Survivability, Weapons, C5ISR, CCFLIR2)   | 1       | 2018 | 4       | 2024 |
| TAS   | 1       | 2022 | 4       | 2022 |

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|   |                         |
|---|-------------------------|
| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 United States Special Operations Command | <b>Date:</b> March 2019 |
|---|-------------------------|

|  |  |  |
|--|--|--|
| <b>Appropriation/Budget Activity</b><br>0400 / 7 | <b>R-1 Program Element (Number/Name)</b><br>PE 1160483BB / <i>Maritime Systems</i> | <b>Project (Number/Name)</b><br>S1684 / <i>Surface Craft</i> |
|--|--|--|

| Events by Sub Project                           | Start   |      | End     |      |
|---|---------|------|---------|------|
|   | Quarter | Year | Quarter | Year |
| <b><i>Threat Awareness System</i></b>           |         |      |         |      |
| Milestone B                                     | 3       | 2018 | 3       | 2018 |
| Development                                     | 1       | 2018 | 4       | 2019 |
| Test and Evaluation                             | 4       | 2019 | 1       | 2021 |
| <b><i>Maritime Precision Engagement</i></b>     |         |      |         |      |
| Technology Maturation and Risk Reduction (TMRR) | 1       | 2019 | 1       | 2020 |
| Milestone B                                     | 1       | 2020 | 1       | 2020 |
| Milestone C                                     | 1       | 2023 | 1       | 2023 |
| Engineering and Manufacturing Development       | 1       | 2020 | 1       | 2023 |
| Production Representative Article               | 3       | 2021 | 3       | 2022 |
| Block 2 Dev                                     | 4       | 2022 | 4       | 2024 |
| Test and Evaluation                             | 1       | 2022 | 2       | 2023 |
| FOT&E   | 1       | 2024 | 3       | 2024 |