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**Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Navy** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development					<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/Electronics Warfare Sys							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	137.776	37.821	27.886	29.977	3.000	32.977	35.936	29.282	25.149	28.119	Continuing	Continuing
2272: Intel Command and Control (C2) Sys	137.776	31.346	14.974	23.388	3.000	26.388	29.209	22.417	18.146	20.976	Continuing	Continuing
3771: Tactical Exploitation of National Capabilities (TENCAP)	0.000	6.475	6.484	6.589	-	6.589	6.727	6.865	7.003	7.143	Continuing	Continuing
9999: Congressional Adds	0.000	0.000	6.428	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.428

**Note**

Beginning in FY20, Intelligence Analysis System (IAS) and Technical Control Analysis Center (TCAC) resources have been realigned from PE 0206625M project 2272 to PE 0305208M project 2268, Distributed Common Ground/Surface Systems. Transition into the DCGS portfolio is necessary to concentrate investments in an integrated architecture thereby improving DCGS Enterprise alignment and more effectively leveraging the rapid integration of new technology.

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

This Program Element (PE) for Intelligence Command and Control (C2) includes Military Intelligence Program (MIP) funds for Marine Corps Intelligence capabilities necessary to support the employment of intelligence, reconnaissance, surveillance (ISR), and target acquisition resources integral to delivering decision advantage at the speed of operational relevance outlined in the 2018 National Defense Strategy. Marine Corps intelligence capabilities are divided into three functional areas organized along intelligence processes: Sensing (Persistent ISR), Analysis (Distributed Common Ground/Surface System Marine Corps (DCGS-MC)), and Dissemination (Intelligence Dissemination and Utilization (IDU)). This PE funds the Sensing and Dissemination portfolios while the Analysis portfolio is budgeted under DCGS-MC PE 0305208M.

**B. Program Change Summary (\$ in Millions)**

	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
Previous President's Budget	37.821	21.458	22.338	-	22.338
Current President's Budget	37.821	27.886	29.977	3.000	32.977
Total Adjustments	0.000	6.428	7.639	3.000	10.639
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	6.428	-	-	6.428
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	-	-	-	-	-
• SBIR/STTR Transfer	-	-	-	-	-
• Program Adjustments	0.000	0.000	10.860	-	10.860

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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0206625M I <i>USMC Intelligence/Electronics Warfare Sys</i>
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• Rate/Misc Adjustments	0.000	0.000	-3.221	3.000	-0.221
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**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 9999: *Congressional Adds*

Congressional Add: *Advanced electronic warfare digital payload*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2019	FY 2020
Congressional Add Subtotals for Project: 9999	0.000	6.428
Congressional Add Totals for all Projects	0.000	6.428

**Change Summary Explanation**

The FY 2021 funding request was reduced by \$8.843 million to account for the availability of prior year execution balances.

The FY20 to FY21 Baseline increase of \$2.091M is primarily attributed to IBR procurement of transceiver capability test articles in support of developmental testing; TSCS initiation of test activities in support of Artificial Intelligence/Machine Learning (AI/ML) algorithm development; and Terrestrial Collection development and integration of Artificial Intelligence/Machine Learning hardware and software within Sensor Family of Systems which will provide object detection capabilities resulting in decreased time required to conduct Indications and Warnings (I&W).

The FY20 to FY21 OCO increase of \$3.000M supports initiation of procurement of technical surveillance countermeasures (TSCM) prototype components to address a discovered threat resulting in a capability gap. The prototypes will enable TSCM operators to test out mitigations to the known threat to current OCONUS operations.

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<b>Appropriation/Budget Activity</b> 1319 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys				<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
2272: Intel Command and Control (C2) Sys	137.776	31.346	14.974	23.388	3.000	26.388	29.209	22.417	18.146	20.976	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**Note**

Beginning in FY20, Intelligence Analysis System (IAS) and Technical Control Analysis Center (TCAC) resources have been realigned from PE 0206625M project 2272 to PE 0305208M project 2268, Distributed Common Ground/Surface Systems. Transition into the DCGS portfolio is necessary to concentrate investments in an integrated architecture thereby improving DCGS Enterprise alignment and more effectively leveraging the rapid integration of new technology.

The FY2021 funding request was reduced by \$3.843M to account for the availability of prior year execution balances.

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

The FY20 to FY21 Baseline increase of \$8.414M is largely due to the following efforts initiating in FY21: Intelligence Broadcast Receiver (IBR) transceiver capability research, test and development, Tactical Signals Intelligence (SIGINT) Collection System (TSCS0 test activities in support Artificial Intelligence/Machine Learning (AI/ML) algorithm development; Terrestrial Collection development and integration of Artificial Intelligence/Machine Learning hardware and software within Sensor Family of Systems.

INTELLIGENCE COMMAND AND CONTROL (C2) includes Military Intelligence Program (MIP) funds for Marine Corps Intelligence capabilities necessary to support the employment of intelligence, reconnaissance, surveillance (ISR), and target acquisition resources integral to delivering decision advantage at the speed of operational relevance outlined in the 2018 National Defense Strategy. Marine Corps intelligence capabilities are divided into three functional areas organized along intelligence processes: Sensing (Persistent ISR), Analysis (Distributed Common Ground/Surface System Marine Corps (DCGS-MC)), and Dissemination (Intelligence Dissemination and Utilization (IDU)). This project funds the Sensing and Dissemination portfolios while the Analysis portfolio is budgeted under the DCGS-MC PE.

PERSISTENT INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE (PISR) GROUND SYSTEMS: PISR is a comprehensive strategy that synchronizes organic and external ISR assets in support of MAGTF operations. This capability involves sensing the operational environment through a variety of systems, from satellites overhead to reconnaissance Marines on the ground. PISR incorporates terrestrial sensing capability from the following ground collection systems.

TERRESTRIAL COLLECTION provides a tactical ground sensor Family of Systems (FoS) that are organic to the MAGTF and facilitate near-real time PISR sensing to MAGTF decision-makers and users. Sensors are networked to the maximum extent possible to enable the sharing of standard data and information to support all six Marine Corps warfighting functions (C2, Intelligence, Operations, Protection, Fires, and Maneuver) with both targeting and battlespace awareness. An array of sensor delivery methods, and a variety of sensor characteristics enable the MAGTF to sense air (low altitude), land (surface, underground), sea (surface and subsurface), environmental effects (weather), and man-made objects (e.g. inside buildings) to determine threat location, disposition, movement and direction. The Terrestrial Collection portfolio includes, but not limited to, Ground Based Operational Surveillance System (GBOSS), MAGTF Secondary Imagery Dissemination System (MSIDS),

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<p>and Tactical Remote Sensor System (TRSS). GBOSS is an expeditionary, ground-based, self-contained, multi-spectral sensor-oriented, persistent surveillance system used to observe, collect, detect, identify, classify, track, and report on contacts, objects of interest, and assessed threats twenty-four hours a day utilizing a fused video and sensor data display. MSIDS provides organic tactical digital imagery collection, transmission and receiving capability to the MAGTF Commander. TRSS provides all-weather direction, location determination, targeting, and tactical indications and warning of enemy activity in the MAGTF Commander's Area of Interest.</p> <p>COUNTER INTELLIGENCE AND HUMAN INTELLIGENCE (CI/HUMINT) Equipment Program (CIHEP) provides each Marine CI/HUMINT Company within the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) with an integrated, standardized, and interoperable suite of information and communication systems. The CIHEP program provides specialized equipment that is lightweight, modular, and tailorable, in deployable packages to conduct full spectrum, tactical CI and HUMINT activities, to include Technical Surveillance Countermeasures (TSCM) operations. TSCM operations use techniques to detect, neutralize, and exploit hostile technical surveillance technologies and hazards that permit the unauthorized access to or removal of information. CI/HUMINT elements are generally task-organized in support of a MAGTF or other supported commanders, providing them the capability to rapidly collect, process, and disseminate counterintelligence and human intelligence information in support of military planning and operations. CIHEP is comprised of ten modules of commercial and government off the-shelf equipment. Different components are selected for refresh each year in order to maintain current capabilities and ensure interoperability and standardization with related systems. This results in an equipment suite that enhances the operating force's CI/HUMINT capabilities, while maintaining interoperability within the USMC and joint CI/HUMINT communities. The modularity of the CIHEP program allows Marines to perform a variety of missions in support of commanders, while carrying only those items necessary to accomplish the mission. CIHEP provides state- of-the-art mission critical information protection capabilities, as well as the ability to detect, identify, and locate specific technical threats.</p> <p>TACTICAL SIGNALS INTELLIGENCE (SIGINT) Collection System (TSCS) provides rapidly deployable capability that is the only tactical signals collection capability in the Marine Air-Ground Task Force (MAGTF) in both man packable and vehicular configurations, and provides collections capabilities needed to develop intelligence. The TSCS Family of Systems (FoS) incorporates the Radio Reconnaissance Equipment Program (RREP) and Team Portable Collection Systems - Multi-Platform Capable (TPCS-MPC) programs into a single program, providing a modular and scalable suite of equipment that exploits information from more technically advanced target sets. The TSCS FoS has an incremental acquisition strategy, providing technical refresh for legacy TPCS-MPC and RREP systems as the systems become obsolete and/or require technology insertions to maintain pace with our adversaries. The prioritization of capabilities included in each increment is based on obsolescence and required capability upgrades against advanced target sets. Fluctuations within the funding profile is due to different components being refreshed each year.</p> <p>COMMUNICATION EMITTER SENSING and ATTACKING SYSTEM (CESAS) is the sole USMC high power, man-packable, and ground mobile electronic attack (EA) asset. CESAS supports the MAGTF commander in the execution of his electronic warfare (EW) operations and information operations, by detecting, denying, and disrupting hostile communication emitters across a broad range of communication frequencies. CESAS covers the high frequency (HF), very high frequency (VHF), and ultra high frequency (UHF) frequency ranges against enemy emitters using modern modulation schemes. CESAS allows flexible employment to conduct EA while on the move or in a stationary position, thus optimizing the commander's ability to employ this asset for the greatest success of the mission. CESAS uses an incremental acquisition strategy, providing technical refresh for legacy systems as the systems become obsolete and/or require technology insertions to maintain pace with our adversaries. The Constructive Electromagnetic Operational Environment System (CEMOES) development previsouly planned in FY20 was curtailed by the Marine</p>		

**UNCLASSIFIED**

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<p>Corps to revalidate the requirement. The Joint Light Tactical Vehicle (JLTV) Platform Integration Kit (PIK) development previously planned in FY20 is deferred to FY21 due to cross team coordination.</p> <p>PROCESSING, EXPLOITATION, ANALYSIS AND PRODUCTION SYSTEMS: Processing, exploitation, analysis and production actions of the Intelligence process enables Marines to understand the all-source information/data revealed by PISR. The Distributed Common Ground System - Marine Corps (DCGS-MC) Enterprise (BLI 4767) will serve as the Marine Corps ISR Enterprise (MCISRE) backbone, migrating select capabilities into a single, integrated, net-centric baseline via clearly defined capability drops. The Intelligence Analysis System (IAS) FoS (All-Source) and the Technical Control Analysis Center (TCAC) FoS (Signal Intelligence (SIGINT)) transition to Project 2268 DCGS-MC beginning FY20.</p> <p>INTELLIGENCE DISSEMINATION AND UTILIZATION (IDU) SYSTEMS: The IDU capability set performs the dissemination and integration functions of the Intelligence process. Dissemination connects the Intelligence product to the Commander who "operationalizes" these products through informed decisions.</p> <p>The INTELLIGENCE BROADCAST RECEIVER (IBR) acquisition program is a family of terminals that conform to the Department of Defense (DoD) Integrated Broadcast Service (IBS) objectives of interoperability and commonality to receive and process near-real time multi-intelligence data. The IBR family of terminals provide MAGTF commanders with the only direct access to IBS data via UHF satellite communications (SATCOM) broadcast channels. The IBR program is an evolving, multi-service architecture designed to keep pace with commanders' targeting and information requirements and conforms to the DoD IBS objectives of interoperability and commonality, which is currently accomplished using the universal serial bus (USB) Embedded National Tactical Receiver (ENTR). The ENTR Version 4 (V4) will supplement and replace the USB ENTR which is no longer in production. The ENTR V4 provides a 50% weight reduction and doubles the life expectancy of the battery compared to the USB ENTR. Additionally, the IBR program is researching technology to meet the existing transceiver requirement identified in the Joint Tactical Terminal Joint Operational Requirements Document (JORD). The IBR family of terminals receive Blue Force Tracker data, which is a key element in developing and maintaining situational awareness as it relates to the common threat/common operating picture. The IBR provides NRT strategic, theater, and tactical sensor-to-shooter connectivity as well as near-real time (NRT) Theater Missile Defense indications and warnings. Additionally, the IBR provides connectivity to IBS Common Interactive Broadcast and IBS Alternative Path.</p> <p>JOINT WORLDWIDE INTELLIGENCE COMMUNICATIONS SYSTEM (JWICS) is the Top Secret Sensitive Compartmented Information (TS/SCI) portion of the Defense Information System Network. It incorporates advanced networking technologies that permit point-to-point or multi-point information exchange involving voice, text, graphics, data and video teleconferencing within the DoD Intelligence Community. JWICS provides Marine Forces with special intelligence that significantly enhances the detail and quality of intelligence support that intelligence organizations provide to operating forces.</p> <p>SENSITIVE COMPARTMENTED INFORMATION COMMUNICATIONS (SCI COMMS) is a Super-High Frequency multi-band satellite communications Family of Systems (FoS), that provides a tactical capability at the Top Secret (TS)/SCI and Secret Collateral levels to USMC intelligence units. The SCI COMMS FoS is the only deployable communications system that is dedicated for TS/SCI data and voice communications that can receive, transmit and disseminate bulk data and imagery products to and from national tactical intelligence sources. The FoS consists of palletized, team level, and man-packable systems - High Bandwidth Special Intelligence-Palletized Terminal (HBSI-PT), and Sensitive Compartmented Intelligence Kit (SCIK) - which provide USMC tactical commanders with high-capacity, near-real-time</p>		



**UNCLASSIFIED**

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<p><b>FY 2020 Plans:</b> - Continue efforts to develop new test assets, such as netflow network packages to support network obsolescence, and man-packable system test assets to support size, weight, and power (SWaP) efforts, and security-based product improvements and engineering change proposals (ECPs).</p> <p><b>FY 2021 Base Plans:</b> - Initiate procurement of radio frequency antenna upgrade test assets to support development of the Marine Corps Wideband Satellite Communications (MC-WSATCOM) terminals.</p> <p><b>FY 2021 OCO Plans:</b> N/A</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase of \$0.041M from FY 2020 to FY 2021 supports development of MC-WSATCOM terminals.</p>					
<p><b>Title:</b> *SCI COMMS: Support</p> <p align="right"><b>Articles:</b></p>	0.106 -	0.113 -	0.021 -	0.000 -	0.021 -
<p><b>FY 2020 Plans:</b> - Continue development support of ECPs for end-of-life/end-of-sale equipment and modernization efforts for security-based products.</p> <p><b>FY 2021 Base Plans:</b> - Completes support for end-of-life/end-of-sale equipment and modernization efforts for security-based products.</p> <p><b>FY 2021 OCO Plans:</b> N/A</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Decrease of \$0.092M from FY 2020 to FY 2021 supports alignment of resources for product development of Marine Corps Wideband Satellite Communications (MC-WSATCOM); and increased test and evaluation efforts.</p>					
<p><b>Title:</b> *SCI COMMS: Test and Evaluation</p> <p align="right"><b>Articles:</b></p>	0.256 -	0.148 -	0.182 -	0.000 -	0.182 -
<p><b>FY 2020 Plans:</b></p>					

**UNCLASSIFIED**

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<p>- Continue test and evaluation efforts which support engineering change proposals (ECPs) such as network package and man-packable test assets.</p> <p><b>FY 2021 Base Plans:</b></p> <p>- Initiates testing to validate Marine Corps Wideband Satellite Communications (MC-WSATCOM) requirements for the antenna upgrades.</p> <p><b>FY 2021 OCO Plans:</b></p> <p>N/A</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b></p> <p>Increase of \$0.034M from FY 2020 to FY 2021 supports initiation of test and evaluation efforts for the MC-WSATCOM.</p>					
<p><b>Title:</b> *Tactical Signal Intelligence (SIGINT) Collection System (TSCS): Product Development</p> <p align="right"><b>Articles:</b></p>	5.045	5.520	5.192	0.000	5.192
<p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue development and integration of Advanced Signal Processor (ASP) (formerly advanced digital payload/electronic warfare technology) (Increment 4).</li> <li>- Continue development of a Niche Antenna Kit.</li> <li>- Complete required hardware modifications to legacy TPCS LAV-EW and High Mobility Multipurpose Wheeled Vehicle (HMMWV) PIKs to meet TSCS SWaP requirements.</li> <li>- Initiate development of the TSCS Body Worn System to replace legacy RREP system which are approaching obsolescence.</li> <li>- Initiate market research for the next generation TSCS workstation.</li> <li>- Continue development of required software capability to the TSCS baseline in order to counter emerging near peer asymmetric adversary threats.</li> </ul> <p><b>FY 2021 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue development and integration of Advanced Signal Processor (ASP) (Formerly advanced digital payload/electronic warfare technology) (Increment 4).</li> <li>- Complete development of Niche Antenna Kit.</li> <li>- Complete development of TSCS Body Worn System to replace legacy RREP system which are approaching obsolesces.</li> <li>- Continue market research for the next generation TSCS workstation.</li> </ul>	-	-	-	-	-

**UNCLASSIFIED**

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<p>- Continue development of required software capability to the TSCS baseline in order to counter emerging near peer asymmetric adversary threats.</p> <p>- Initiate integration of Artificial Intelligence/Machine Learning (AI/ML) software.</p> <p><b>FY 2021 OCO Plans:</b> N/A</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Decrease of \$0.328M from FY 2020 to FY 2021 is due to completion of LAV-EW and HMMWV PIKs modifications.</p>					
<p><b>Title:</b> *Tactical Signal Intelligence (SIGINT) Collection System (TSCS): Test and Evaluation</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>- Complete developmental testing, shock/vibe testing, and environmental testing of the TSCS modular case.</li> <li>- Initiate testing of Advanced Signal Processor (ASP) (Formerly advanced digital payload/electronic warfare technology).</li> <li>- Procure test articles for the body worn system and Niche Antennas.</li> <li>- Continue testing of the TSCS software baseline updates.</li> </ul> <p><b>FY 2021 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue testing of the TSCS software baseline updates.</li> <li>- Continue testing of the Advanced Signal Processor (ASP) (Formerly advanced digital payload/electronic warfare technology).</li> <li>- Initiate testing for Artificial Intelligence/Machine Learning (AI/ML) algorithm development.</li> </ul> <p><b>FY 2021 OCO Plans:</b> N/A</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase of \$0.776M from FY 2020 to FY 2021 supports initiation of AI/ML algorithm development testing.</p>	0.650	1.077	1.853	0.000	1.853
	-	-	-	-	-
<p><b>Title:</b> *Technical Control and Analysis Center (TCAC): Product Development</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2020 Plans:</b></p>	2.505	0.000	0.000	0.000	0.000
	-	-	-	-	-

**UNCLASSIFIED**

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
Refer to PE 0305208M Project: 2268; TCAC is funded in Project 2268 beginning FY20. <b>FY 2021 Base Plans:</b> Refer to PE 0305208M Project: 2268; TCAC is funded in Project 2268 beginning FY20. <b>FY 2021 OCO Plans:</b> N/A					
<b>Title:</b> *Technical Control and Analysis Center (TCAC): Support  <b>Articles:</b>	0.291 -	0.000 -	0.000 -	0.000 -	0.000 -
<b>FY 2020 Plans:</b> Refer to PE 0305208M Project: 2268; TCAC will be funded in 2268 in FY20. <b>FY 2021 Base Plans:</b> N/A <b>FY 2021 OCO Plans:</b> N/A					
<b>Title:</b> *Technical Control and Analysis Center (TCAC): Test and Evaluation  <b>Articles:</b>	0.474 -	0.000 -	0.000 -	0.000 -	0.000 -
<b>FY 2020 Plans:</b> Refer to PE 0305208M Project: 2268; TCAC will be funded in 2268 in FY20. <b>FY 2021 Base Plans:</b> N/A <b>FY 2021 OCO Plans:</b> N/A					
<b>Title:</b> *Joint Worldwide Intel Comms Sys (JWICS): Product Development  <b>Articles:</b>	0.017 -	0.000 -	0.000 -	0.000 -	0.000 -
<b>FY 2020 Plans:</b> N/A <b>FY 2021 Base Plans:</b>					

**UNCLASSIFIED**

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
N/A					
<b>FY 2021 OCO Plans:</b> N/A					
<b>Title:</b> *Terrestrial Collection: Product Development	1.875	1.071	4.379	0.000	4.379
<b>Articles:</b>	-	-	-	-	-
<b>FY 2020 Plans:</b> - Continue development of Imager IIA software and hardware in order to properly receive, parse, and display messages; program, and confirm operational status of end items within the TRSS systems of systems. - Continue development of TRSS Sentinel software changes to properly receive, parse, and display messages from systems with improved radios as well as interface directly with these systems to program them. - Continue development of TRSS laptop software and hardware in order to properly receive, parse, and display messages, program, and confirm operational status of end items within the TRSS systems of systems.					
<b>FY 2021 Base Plans:</b> - Complete development of Imager IIA software and hardware in order to properly receive, parse, and display messages; program, and confirm operational status of end items within the TRSS systems of systems. - Complete development of TRSS Sentinel software changes to properly receive, parse, and display messages from systems with improved radios as well as interface directly with these systems to program them. - Complete development of TRSS laptop software and hardware in order to properly receive, parse, and display messages, program, and confirm operational status of end items within the TRSS systems of systems. - Initiate engineering, integration, and technical support required for planned Terrestrial Collection modernization. - Initiate product development and integration of Artificial Intelligence/Machine Learning hardware and software within Sensor Family of Systems which will provide object detection capabilities resulting in decreased time required to conduct Indications and Warnings (I&W).					
<b>FY 2021 OCO Plans:</b> N/A					
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
Increase of \$3.308M from FY 2020 to FY 2021 reflects funding for development and integration of Artificial Intelligence/Machine Learning hardware and software within Sensor Family of Systems which will provide object detection capabilities resulting in decreased time required to conduct Indications and Warnings (I&W).					
<b>Title:</b> *Terrestrial Collection: Support  <b>FY 2020 Plans:</b> N/A  <b>FY 2021 Base Plans:</b> N/A  <b>FY 2021 OCO Plans:</b> N/A	0.571	0.000	0.000	0.000	0.000
<b>Articles:</b>	-	-	-	-	-
<b>Title:</b> *Terrestrial Collection: Test and Evaluation  <b>FY 2020 Plans:</b> N/A  <b>FY 2021 Base Plans:</b> N/A  <b>FY 2021 OCO Plans:</b> N/A	1.443	0.000	0.000	0.000	0.000
<b>Articles:</b>	-	-	-	-	-
<b>Title:</b> *Counterintel and Human Intel Equip (CIHEP): Test and Evaluation  <b>FY 2020 Plans:</b> - Continue to provide engineering, integration and technical support required for planned CIHEP modernization of the TSCM (Technical Surveillance Countermeasures) equipment and CIHEP Family of Systems (FOS). Acquiring test artifacts to integrate modernized proof of concept equipment.  <b>FY 2021 Base Plans:</b>	1.092	0.338	0.345	3.000	3.345
<b>Articles:</b>	-	-	-	6	6

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<p>- Continue to provide engineering, integration and technical support required for planned CIHEP modernization of the TSCM (Technical Surveillance Countermeasures) equipment and CIHEP Family of Systems (FOS). Acquiring test artifacts to integrate modernized proof of concept equipment.</p> <p><b>FY 2021 OCO Plans:</b></p> <p>- Initiate efforts to procure six technical surveillance countermeasures (TSCM) prototype components, which are used to protect sensitive spaces, including the F-35 areas. Current capability set is insufficient given a discovered threat resulting in a capability gap, classified SECRET. The prototypes will enable TSCM operators to test out mitigations to the known threat to current OCONUS operations.</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b></p> <p>The combined Baseline and OCO increase of \$3.007M from FY2020 to FY2021 primarily supports initiation of procurement of technical surveillance countermeasures (TSCM) prototype components to address a discovered threat resulting in a capability gap, classified SECRET.</p>					
<p><b>Title:</b> *Communication Emitter Sensing and Attacking System (CESAS): Product Development</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> The Constructive Electromagnetic Operational Environment System (CEMOES) development previously planned in FY20 was curtailed by the Marine Corps to revalidate the requirement. The Joint Light Tactical Vehicle (JLTV) Platform Integration Kit (PIK) development previously planned in FY20 is deferred to FY21 due to cross team coordination.</p> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue development of Spectrum Services Framework (SSF)</li> <li>- Continue development efforts related to the Advanced Electronic Warfare Digital Payload (AEWDP) (formerly CESAS Next Generation advanced digital payload/ electronic warfare technology)</li> <li>- Conduct development efforts related to hardware/software modifications via Engineering Change Proposals (ECPs)</li> <li>- Initiate and complete CESAS II Team Portable development to improve transportability and provide capabilities such as high frequency jamming and multichannel tasking.</li> </ul> <p><b>FY 2021 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue development of Spectrum Services Framework (SSF) and CESAS II Family of Systems (FOS)</li> <li>- Continue development efforts related to hardware/software modifications via Engineering Change Proposals (ECPs)</li> </ul>	9.990	5.193	4.255	0.000	4.255
	-	-	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<p>- Complete development of Advanced Electronic Warfare Digital Payload (AEWDP) (formerly CESAS Next Generation advanced digital payload/ electronic warfare technology) prototype.</p> <p>- Initiate development of JLTV PIK.</p> <p><b>FY 2021 OCO Plans:</b> N/A</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Decrease of \$0.938M from FY2020 to FY2021 supports development completion of the Advanced Electronic Warfare Digital Payload (AEWDP) (formerly CESAS Next Generation advanced digital payload/ electronic warfare technology) prototype.</p>					
<p><b>Title:</b> *Communication Emitter Sensing and Attacking System (CESAS): Support</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2020 Plans:</b> - Continue to provide program support for CESAS II FoS, Advanced Electronic Warfare Digital Payload (AEWDP) / and Spectrum Services Framework (SSF).</p> <p><b>FY 2021 Base Plans:</b> - Continue to provide program support for CESAS II FoS, Advanced Electronic Warfare Digital Payload (AEWDP) and Spectrum Services Framework (SSF).</p> <p><b>FY 2021 OCO Plans:</b> N/A</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> No change from FY 2020 to FY 2021.</p>	0.039 -	0.075 -	0.075 -	0.000 -	0.075 -
<p><b>Title:</b> *Communication Emitter Sensing and Attacking System (CESAS): Test and Evaluation</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2020 Plans:</b> - Initiate development and delivery of System Engineering artifacts, system design, test plans and reports, and requirements analysis.</p> <p><b>FY 2021 Base Plans:</b></p>	0.000 -	0.500 -	0.500 -	0.000 -	0.500 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
- Continue development and delivery of System Engineering artifacts, system design, test plans and reports, and requirements analysis. <b>FY 2021 OCO Plans:</b> N/A <b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> No change from FY 2020 to FY 2021.					
<b>Title:</b> *Intelligence Broadcast Receiver (IBR): Product Development  <b>Articles:</b>	0.476	0.480	6.086	0.000	6.086
<b>FY 2020 Plans:</b> - Continue Embedded National Tactical Receiver (ENTR) system integration and test support, common integrated broadcast (CIB) upgrade and system optimization support, and CIB operational testing. - Continue research and development for transceivers identified in the Integrated Broadcast Services (IBS) Enterprise Information Systems - Capability Development Document (IS-CDD). - Initial testing and integration efforts for resilient waveform and cryptographic technologies. <b>FY 2021 Base Plans:</b> - Continue ENTR system integration and test support, common integrated broadcast (CIB) upgrade and system optimization support, and CIB operational testing. - Continue research, testing and development for transceivers identified in the Integrated Broadcast Services (IBS) Enterprise Information Systems - Capability Development Document (IS-CDD). - Continue testing and integration efforts for resilient waveform and cryptographic technologies. - Initiate procurement of test articles for developmental testing of transceiver capability. <b>FY 2021 OCO Plans:</b> N/A <b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase of \$5.606M from FY 2020 to FY 2021 reflects procurement of transceiver capability test articles in support of developmental testing.	-	-	-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	31.346	14.974	23.388	3.000	26.388

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys

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

Line Item	FY 2019	FY 2020	FY 2021	FY 2021	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PMC/474703: TCAC	6.749	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/474761: IAS	9.570	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/700000: IAS SPARES	0.160	0.166	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/474709: CIHEP	6.066	12.974	4.823	10.124	14.947	6.200	6.286	6.414	6.544	Continuing	Continuing
• PMC/474702: TSCS	21.476	17.104	16.301	-	16.301	14.221	10.573	8.461	10.627	Continuing	Continuing
• PMC/474701: CESAS	5.556	5.187	10.217	-	10.217	11.149	16.021	16.301	14.587	Continuing	Continuing
• PMC/474700: SCI COMMS	7.325	5.114	8.634	-	8.634	0.250	5.375	17.244	17.589	Continuing	Continuing
• PMC/474752: IBR	3.472	3.014	1.494	-	1.494	1.509	4.275	3.630	1.601	Continuing	Continuing
• PMC/4747XY: JWICS	6.312	6.861	6.802	-	6.802	8.021	7.585	7.737	7.892	Continuing	Continuing
• PMC/4747TC:	6.442	6.642	2.448	-	2.448	0.892	4.910	4.968	6.223	Continuing	Continuing
<i>TERRESTRIAL COLLECTION</i>											
• PMC/700006: TERRESTRIAL COLLECTION SPARES	0.261	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/476701: TCAC	0.000	4.276	6.461	-	6.461	1.853	2.938	2.997	3.057	Continuing	Continuing
• PMC/476702: IAS	0.000	7.770	8.228	-	8.228	4.871	5.981	9.972	10.147	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

(U) SCI COMMS: SCI COMMS leverages SSC-LANT support for Engineering Change Proposal (ECP) support, and existing Army Communication-Electronic Command (CECOM) Small Business Innovation Research (SBIR) and Defense Logistics Agency (DLA) Special Operations Equipment (SOE) contracts for test asset procurements.

(U) CIHEP: CIHEP makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

(U) IBR: IBR software upgrades are developed at Naval laboratories and integrated into the system. IBR makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

(U) CESAS: CESAS II production will consist of COTS and NDI integration into an existing GOTS architecture. Production efforts will be conducted at Naval laboratories.

(U) TSCS: Software upgrades are developed at Naval laboratories and integrated into the system. TSCS makes maximum use of COTS, GOTS, and NDI with Firm Fixed Price Production.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / <i>USMC Intelligence/ Electronics Warfare Sys</i>	<b>Project (Number/Name)</b> 2272 / <i>Intel Command and Control (C2) Sys</i>

(U) JWICS: JWICS makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

(U) Terrestrial Collection: Tech refresh for sustainability to ensure operational readiness of the assets, assumes required engineering and logistics refresh funded per additional capability initiative. Makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy												Date: February 2020			
Appropriation/Budget Activity 1319 / 7				R-1 Program Element (Number/Name) PE 0206625M / USMC Intelligence/ Electronics Warfare Sys				Project (Number/Name) 2272 / Intel Command and Control (C2) Sys							
Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
CESAS	WR	SPAWAR : CHARLESTON, SC	7.247	1.908	Dec 2018	1.815	Dec 2019	3.545	Dec 2020	-		3.545	Continuing	Continuing	Continuing
CESAS	WR	PT MUGU : PT MUGU, CA	0.000	2.000	Jan 2019	1.500	Jan 2020	0.710	Jan 2021	-		0.710	0.000	4.210	-
CESAS	C/FFP	MSCS : Quantico, VA	0.000	6.082	Feb 2020	1.878	Jul 2020	0.000		-		0.000	0.000	7.960	-
IBR	MIPR	VARIOUS : VARIOUS	0.679	0.476	Dec 2018	0.480	Dec 2019	6.086	Jan 2021	-		6.086	Continuing	Continuing	Continuing
IAS	C/CPFF	SPAWAR A3 : CHARLESTON, SC	3.470	3.905	Feb 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
SCI COMMS	C/FFP	CECOM : ABERDEEN, MD	0.106	0.114	Jul 2019	0.000		0.500	Aug 2021	-		0.500	Continuing	Continuing	Continuing
SCI COMMS	C/IDIQ	DLA-1 : PHILADELPHIA, PA	0.131	0.081	Aug 2019	0.312	Mar 2020	0.000		-		0.000	0.000	0.524	-
SCI COMMS	C/IDIQ	DLA-2 : PHILADELPHIA, PA	0.147	0.149	Aug 2019	0.147	May 2020	0.000		-		0.000	0.000	0.443	-
TCAC	C/CPFF	SPAWAR2 : Charleston, SC	2.142	0.800	Jan 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TCAC	WR	SPAWAR8 : San Diego, CA	13.930	1.705	Jan 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
JWICS	C/CPFF	DTIC-2 : FT. BELVOIR	2.800	0.017	Sep 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Terrestrial Collection	WR	NIWC-LANT : CHARLESTON, SC	0.000	0.699	Jan 2019	1.071	Nov 2019	1.379	Nov 2020	-		1.379	Continuing	Continuing	Continuing
Terrestrial Collection AI/ML	WR	NIWC-LANT : CHARLESTON, SC	0.000	0.000		0.000		3.000	Jan 2021	-		3.000	Continuing	Continuing	Continuing
Terrestrial Collection	WR	NSWC-DNATC : Virginia Beach ,VA	0.000	0.476	May 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Terrestrial Collection	C/CPFF	NSWC-DNA : Virginia Beach ,VA	0.000	0.700	May 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TSCS	WR	SPAWAR : CHARLESTON, SC	9.267	2.373	Dec 2018	0.972	Dec 2019	1.191	Dec 2020	-		1.191	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys
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<b>Product Development (\$ in Millions)</b>				<b>FY 2019</b>		<b>FY 2020</b>		<b>FY 2021 Base</b>		<b>FY 2021 OCO</b>		<b>FY 2021 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
TSCS	C/CPFF	NSMA : BOLLING AFB	0.000	2.322	Dec 2018	0.548	Jun 2020	1.001	Jun 2021	-		1.001	Continuing	Continuing	Continuing
TSCS	C/FFP	MSCS : QUANTICO, VA	0.294	0.000		4.000	Feb 2020	3.000	Feb 2021	-		3.000	Continuing	Continuing	Continuing
TSCS	FFRDC	MITRE : STAFFORD, VA	0.000	0.350	Dec 2018	0.000		0.000		-		0.000	0.000	0.350	-
Prior Years Cumulative Funding	Various	Various : Various	62.377	0.000		0.000		0.000		-		0.000	0.000	62.377	-
<b>Subtotal</b>			102.590	24.157		12.723		20.412		-		20.412	Continuing	Continuing	N/A

**Remarks**

Product Development increase of \$7.689M from FY 2020 to FY 2021 is attributed to IBR procurement of transceiver capability test articles in support of developmental testing as well as Terrestrial Collection development and integration of Artificial Intelligence/Machine Learning hardware and software within Sensor Family of Systems which will provide object detection capabilities resulting in decreased time required to conduct Indications and Warnings (I&W).

<b>Support (\$ in Millions)</b>				<b>FY 2019</b>		<b>FY 2020</b>		<b>FY 2021 Base</b>		<b>FY 2021 OCO</b>		<b>FY 2021 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
CESAS	Various	MCSC : QUANTICO, VA	0.823	0.039	Sep 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
CESAS	WR	NIWC : Charleston, SC	0.000	0.000		0.075	Nov 2019	0.075	Dec 2020	-		0.075	0.000	0.150	-
IAS	C/CPFF	SPAWAR : Charleston, SC	0.000	0.567	Feb 2019	0.000		0.000		-		0.000	0.000	0.567	-
SCI COMMS	WR	SPAWAR : Charleston, SC	0.172	0.000		0.113	Feb 2020	0.021	Feb 2021	-		0.021	Continuing	Continuing	Continuing
SCI COMMS	MIPR	NRL : Ft. Meade, Maryland	0.000	0.106	Apr 2019	0.000		0.000		-		0.000	0.000	0.106	-
TCAC	WR	SPAWAR-P : San Diego, CA	3.568	0.276	Apr 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2021 Navy</b>											<b>Date:</b> February 2020				
<b>Appropriation/Budget Activity</b> 1319 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys					<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys				

<b>Support (\$ in Millions)</b>				<b>FY 2019</b>		<b>FY 2020</b>		<b>FY 2021 Base</b>		<b>FY 2021 OCO</b>		<b>FY 2021 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
TCAC	Various	MCSC26 : QUANTICO, VA	0.058	0.015	Sep 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Terrestrial Collection	WR	NSWC CRANE : Crane, IN	0.000	0.571	Aug 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	Not Specified : Not Specified	9.043	0.000		0.000		0.000		-		0.000	0.000	9.043	-
<b>Subtotal</b>			13.664	1.574		0.188		0.096		-		0.096	Continuing	Continuing	N/A

**Remarks**

No significant change from FY 2020 to FY 2021.

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2019</b>		<b>FY 2020</b>		<b>FY 2021 Base</b>		<b>FY 2021 OCO</b>		<b>FY 2021 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
CESAS	WR	SPAWAR : CHARLESTON, SC	0.000	0.000		0.500	Dec 2019	0.500	Dec 2020	-		0.500	0.000	1.000	-
SCI COMMS	C/CPIF	MCSC : QUANTICO, VA	0.050	0.000		0.148	Mar 2020	0.000		-		0.000	Continuing	Continuing	Continuing
SCI COMMS	C/FFP	CECOM : ABERDEEN, MD	0.000	0.011	Jun 2019	0.000		0.182	Aug 2021	-		0.182	0.000	0.193	-
SCI COMMS	MIPR	DLA 1 : PHILADELPHIA, PA	0.000	0.050	Nov 2019	0.000		0.000		-		0.000	0.000	0.050	-
SCI COMMS	MIPR	DLA 2 : Philadelphia, PA	0.000	0.195	Aug 2019	0.000		0.000		-		0.000	0.000	0.195	-
IAS	WR	SPAWAR : CHARLESTON, SC	0.461	1.700	Feb 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TCAC	C/CPFF	SPAWAR8 : CHARLESTON, SC	1.717	0.474	Feb 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TCAC	C/CPFF	SPAWAR9 : SAN DIEGO, CA	2.515	0.000	Jan 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy												Date: February 2020			
Appropriation/Budget Activity 1319 / 7				R-1 Program Element (Number/Name) PE 0206625M / USMC Intelligence/ Electronics Warfare Sys				Project (Number/Name) 2272 / Intel Command and Control (C2) Sys							
Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
CIHEP	WR	NIWC-A : CHARLESTON, SC	0.982	0.000		0.338	Nov 2019	0.345	Nov 2020	-		0.345	Continuing	Continuing	Continuing
CIHEP	WR	NSWC-DNA1 : VIRGINIA BEACH, VA	0.575	0.332	Nov 2018	0.000		0.000		-		0.000	0.000	0.907	-
CIHEP	C/FFP	PNNL : RICHLAND, WA	0.000	0.000		0.000		0.000		3.000	Feb 2021	3.000	0.000	3.000	-
CIHEP	WR	NSWC-Dahlgren : DAHLGREN, VA	0.000	0.760	Dec 2019	0.000		0.000		-		0.000	0.000	0.760	-
Terrestrial Collection	C/CPFF	NSWC CRANETC0 : CRANE, IN	0.000	0.169	Mar 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Terrestrial Collection	WR	NSWC CRANETC : CRANE, IN	0.000	0.797	Mar 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Terrestrial Collection	C/CPFF	DLA : Philadelphia, PA	0.000	0.302	Jun 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Terrestrial Collection	C/FFP	DTIC : FT. BELVOIR, VA	0.000	0.175	Jul 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TSCS	WR	SPAWAR : CHARLESTON, SC	3.965	0.400	Dec 2018	0.827	Dec 2019	1.248	Dec 2020	-		1.248	Continuing	Continuing	Continuing
TSCS	C/IDIQ	NSMA : BOLLING AFB	0.000	0.250	Jun 2019	0.250	Jun 2020	0.255	Dec 2020	-		0.255	0.000	0.755	-
TSCS	C/FFP	DTIC : FT BELVOIR, VA	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
TSCS	C/CPFF	MCSC : Quantico, VA	0.000	0.000		0.000		0.350	Jul 2021	-		0.350	0.000	0.350	-
Prior Years Cumulative Funding	Various	Various : Various	11.257	0.000		0.000		0.000		-		0.000	0.000	11.257	-
<b>Subtotal</b>			21.522	5.615		2.063		2.880		3.000		5.880	Continuing	Continuing	N/A
<b>Remarks</b>															
Test and Evaluation Baseline increase of \$0.817M from FY 2020 to FY 2021 is due to initiation of TSCS test activities in support of Artificial Intelligence/Machine Learning (AI/ML) algorithm development.															



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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy

Date: February 2020

Appropriation/Budget Activity  
1319 / 7

R-1 Program Element (Number/Name)  
PE 0206625M / USMC Intelligence/  
Electronics Warfare Sys

Project (Number/Name)  
2272 / Intel Command and Control (C2) Sys



Program Schedule – SCI COMMS



SCI Comms FoS Program Schedule June 2019	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<b>Acquisition / Milestone Events</b>	▲ Win10 ImpD	▲ NP ImpD	▲ NP ImpD		▲ M&P Case Upgrade PD		▲ EODU PD	▲ M&P Case Upgrade ImpD	▲ EODU ImpD					▲ Antenna Refresh PD	▲ Antenna Refresh ImpD													▲ MP AAO Inc Imp	
<b>Major Contract Events</b>	★ NP DOE	★ EODU Test DO			★ M&P Test DO	★ M&P DO		★ AAO Increase DO	★ EODU Procurement Award	★ EODU DO	★ CN DO		★ Antenna Refresh Proc DO (First 1/3)	★ Antenna Refresh Test DO						★ Antenna Refresh Proc DO (Second 1/3)							★ MP AAO Increase DO	★ OTM Proc DO	
<b>Logistics</b>		■ I MEF NP Fielding	■ MEF & MARCENT NP Fielding	■ III MEF NP Fielding	■ III MEF NP Fielding (Okinawa)			■ I MEF (1st RD BN) AAO Increase Fielding	■ II MEF (2nd RD BN) AAO Increase Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding	■ I MEF NP Fielding
<b>Test &amp; Evaluation</b>	■ Battery DT				■ M&P DT	■ EODU DT			■ CN DT	■ MP DT			■ Antenna DT														■ MP AAO Inc DT	■ OTM DT	

**Legend**

- ▲ SCIK Events
- ▲ HBSI-PT Event
- ▲ Manpack
- ▲ Coalition Network

**Legend**

- ★ MDA Decision Approval (non-MS)
- ◆ Review
- Documentation
- ▲ Milestone / Key Acquisition Event
- ▼ Assessments, Proposals

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	Project (Number/Name) 2272 / Intel Command and Control (C2) Sys

CIHEP Combined Program Schedule

Fiscal Year	2019				2020				2021				2022				2023				2024				2025			
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Acquisition/Milestone Events	▲ CSCS Ant DD				CIHEP Surv./CI Event Kit PD ▲				CHSCS PD ▲				▲ CIHEP Surv./CI Event Kit DD CIHEP EOM PD ▲				▲ CIHEP EOM FD				▲ CIHEP EOM FD							
	◇ TSCM IOC				▽ APB, Revision 3 ▽ SAMP								CHSCS DD ▲				▽ CIHEP Tech Refresh FOC											
Supporting PoPS Gate Template									6.4 ○				6.4				TSCM 6.5 ○											
Capabilities/Requirements	CDD Development				▽ CDD																							
Systems Engineering	CIHEP Surv./CI Event Kit NIR ◇				CIHEP Surv Kit FCA ◇				CIHEP Surv./CI Event Kit SVR ◇				CIHEP EOM SVR ◇				CIHEP Tech Refresh PIR				CIHEP EOM PIR							
	CSCS Basket PCA ◇				CI Event Kit FCA ◇				CIHEP EOM NIR ◇				CIHEP EOM SVR ◇				CIHEP ECM SVR ◇				CIHEP ECM SVR ◇							
	◇ CSCS Case Redesign FCA/SVR				CHSCS COA				CHSCS NIR ◇				CHSCS SVR ◇				CIHEP ECM NIR ◇				CIHEP ECM SVR ◇							
	CHSCS Market Research				CHSCS Prototype Delivery				CHSCS SVR ◇				TSCM PIR				CIHEP ECM PIR				CIHEP ECM PIR							
	Prelim. R&D				Critical Design				TSCM PIR				TSCM PIR				CIHEP ECM PIR				CIHEP ECM PIR							
Logistics	▽ TSCM LCSP				CSCS Refresh Delivery				CIHEP Surv./CI Event Kit Fldg LA				CHSCS LA				CHSCS Del. & NET				CIHEP ECM LA							
					CIHEP Surv./CI Event Kit Del. & NET				CHSCS LA				CHSCS Del. & NET				CIHEP ECM LA				CIHEP ECM Fldg ILA							
					CIHEP EOM LA				CIHEP EOM Fldg ILA				CIHEP EOM Fldg/NET				CIHEP EOM Fielding/NET				CIHEP ECM Fielding/NET							
	TSCM Delivery				TSCM Delivery				TSCM Delivery				TSCM Delivery				CIHEP Tech Refresh Sustainment LA											
Major Contracting Events	★ CSCS Basket Award				★ CIHEP Surv./CI Event Kit Award				★ CHSCS Refresh Award				★ CIHEP EOM Award				★ CIHEP ECM Award				★ TSCM Award							
	TSCM Awards (FY19)				TSCM Awards (FY20)				TSCM Awards (FY21)				TSCM Award (FY23)				TSCM Award (FY24)				TSCM Award (FY25)							
Test & Evaluation	CIHEP Surv. Kit TRR ◇				CI Event Kit TRR ◇				CIHEP EOM TRR ◇				CIHEP ECM TRR ◇				CIHEP ECM TRR ◇											
	CSCS Basket TRR ◇				CHSCS TRR ◇				CHSCS TRR ◇				CIHEP EOM TRR ◇				CIHEP ECM TRR ◇											
Cost					▽ LCCE																							
Cyber Security	◇ MEDEX ATO				◇ CIHEP ATO (RMF)				◇ TSCM ATO				◇ MEDEX ATO (RMF)				◇ CIHEP ATO				◇ TSCM ATO							
	◇ TSCM ATO extension				◇ CIHEP ATO (RMF)				◇ TSCM ATO				◇ MEDEX ATO (RMF)				◇ CIHEP ATO				◇ TSCM ATO							
	◇ TSCM ATO (RMF)																											

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2021 Navy</b>		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys

**Terrestrial Collection Schedule**

Fiscal Year	2019				2020				2021				2022				2023				2024				2025			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Acquisition/Milestone Events</b>	TRSS HHPM-II PD ▲ TRSS 6.1 Sus Dec ▲				GBOSS Advanced Network Components PD ▲ TRSS SDR PD ▲ TRSS SREO Camera DD ▲ TRSS CSR component SDR, HHPM, DD ▲ MSIDS FOC ▲ MSIDS Sus Dec ▲				GBOSS DD ▲ GBOSS TR Sustainment Decision ▲ MSIDS PD ▲				TC Common Communications ▲ TC AI/ML PD ▲ MSIDS DSCS-TC PD ▲ MSIDS DD ▲				Architecture Refresh ▲ TC AI/ML IOC ▲ TC AI/ML DD ▲ TRSS Next Gen PIK & MK ▲ MSIDS DSCS-TC DD ▲											
<b>Supporting PoPS Gate Template</b>					TRSS 6.5 ○ MSIDS 6.5 ○ TC CDD ◇																							
<b>Capabilities/Requirements</b>																												
<b>Systems Engineering</b>					TC AI/ML Mkt Research █ TRSS 6.2 NIR █ TRSS 6.2 SVR █ MSIDS PIR ◇				GBOSS FCA ◇ GBOSS SVR ◇ GBOSS PCA ◇ TC AI/ML Prototype Integ █ TRSS 6.2 PCA ◇ GBOSS CDS Mkt Research █																			
<b>Logistics</b>					GBOSS Field III MEF █ GBOSS Field I MEF █ GBOSS LRFS █ TRSS SREO LA ▼ TRSS HHPM-II LA ▼				GBOSS Field II MEF █ GBOSS LA ▼ TRSS 6.2 SoS ILA ▼				GBOSS Field I MEF █ GBOSS Field III MEF █ GBOSS Tech Refresh Sustainment █				TC AI/ML Field █											
<b>Major Contracting Events</b>	NSWC GTO ▲ GBOSS PTP Award ☆ GBOSS FOP Contract Award ☆ GBOSS Server/Client Award ☆ NIWC-A GTO ▲ TRSS HHPM-II Award ☆				NSWC GTO ▲ GBOSS POP Award ☆ NIWC-A GTO ▲ TRSS SDR Award ☆				NSWC GTO ▲ NIWC-A GTO ▲				NSWC GTO ▲ TC AI/ML Award ☆ MSIDS Award ☆ NIWC-A GTO ▲				NSWC GTO ▲ MSIDS DSCS-TC Award ☆ NIWC-A GTO ▲				NSWC GTO ▲ NIWC-A GTO ▲							
<b>Test &amp; Evaluation</b>	TRSS 6.2 EMI/Env TRR ◇ TRSS FVT-I   TRSS FVT-II   TRSS FVT-III   TRSS 6.2 Pre-SoS Testing █ TRSS 6.2 SoS Test TRR ◇ TRSS 6.2 EMI/Env Testing █				GBOSS Phase 1 Testing █ GBOSS Phase 2 Testing █				TC AI/ML DT2 ◇ TC AI/ML DT1 ◇ TC AI/ML Env/EMI █																			
<b>Cost</b>	GBOSS LCCE ▼ MSIDS CARD █ TRSS LCCE █				TRSS LCCE Update █				GBOSS LCCE ▼ TRSS LCCE Update █				GBOSS LCCE ▼ TRSS LCCE Update █															
<b>Cyber Security</b>	TRSS ATO ◇ GBOSS IV&V █ GBOSS ATO ◇												GBOSS ATO ◇ TRSS ATO ◇								GBOSS ATO ◇ TRSS ATO ◇							

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy

Date: February 2020

Appropriation/Budget Activity  
1319 / 7

R-1 Program Element (Number/Name)  
PE 0206625M / USMC Intelligence/  
Electronics Warfare Sys

Project (Number/Name)  
2272 / Intel Command and Control (C2) Sys

## TSCS FoS Program Schedule

Fiscal Year	2019				2020				2021				2022				2023				2024				2025				
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<b>Acquisition/Milestone Events</b>			▲ MS C/Inc I FRP						Inc II PD ▲ GPR FD ▲ IOC ◆				Inc III PD ▲ SPR/ANS/HF FD ▲ WS/BW/AK FD ▲								Inc IV PD ▲ PGL/MV-22 PIK FD ▲								ASP FD ▲
<b>Capabilities/Requirements</b>					CDD																								
<b>Supporting PoPS Gate Template</b>	6.3	●	●	6.4					6.4					6.4					6.4										
<b>Systems Engineering</b>		◆ Inc I SVR							Inc II SVR ◆ Inc I PIR ◆				Inc III SVR ◆ Inc II PIR ◆				Inc IV SVR ◆ Inc III PIR ◆								Inc III PIR ◆				Inc IV PIR ◆
<b>Logistics</b>					GPR Fldg ILA ▼				GPR Fldg/NET ▲ SPR/ANS/HF LA ▼ SPR/ANS/HF Fldg/NET ▲				SAS/Mods Case/LAV-EW/Mini PIK Fldg ILA ▼ SAS/Mods Case/LAV-EW/Mini PIK Fldg/NET ▲ WS/BW/AK Fldg ILA ▼				PGL/MV-22 PIK Fldg ILA ▼ PGL/MV-22 PIK Fldg/NET ▲ ASP Fldg ILA ▼ ASP Lot 1 Fldg/NET ▲								ASP Lot 2 Fldg/NET ▲				
<b>Major Contracting Events</b>			★ GPR		★ ASP OTA				Mini PIK ★ LAV-EW PIK ★ SAS 260 ★ Mods Case ★				★ B/W Kit ★ W/S ★ A/K				PGL ★ MV-22 PIK Award ★ ASP Lot 1 ★								ASP Lot 2 ★				
<b>Test &amp; Evaluation</b>	◆ Core Rec. TRR								Inc II TRR ◆ ASP Phase I Test ▲				Inc II DT Inc III TRR ◆ ASP Phase II Test ▲				ASP TRR ◆ Inc III DT PGL TRR ◆								ASP DT PGL DT				
<b>Cyber/IA</b>	◆ Core Rec. IATT								Inc II IATT ◆				Inc III IATT ◆				Inc IV IATT ◆												

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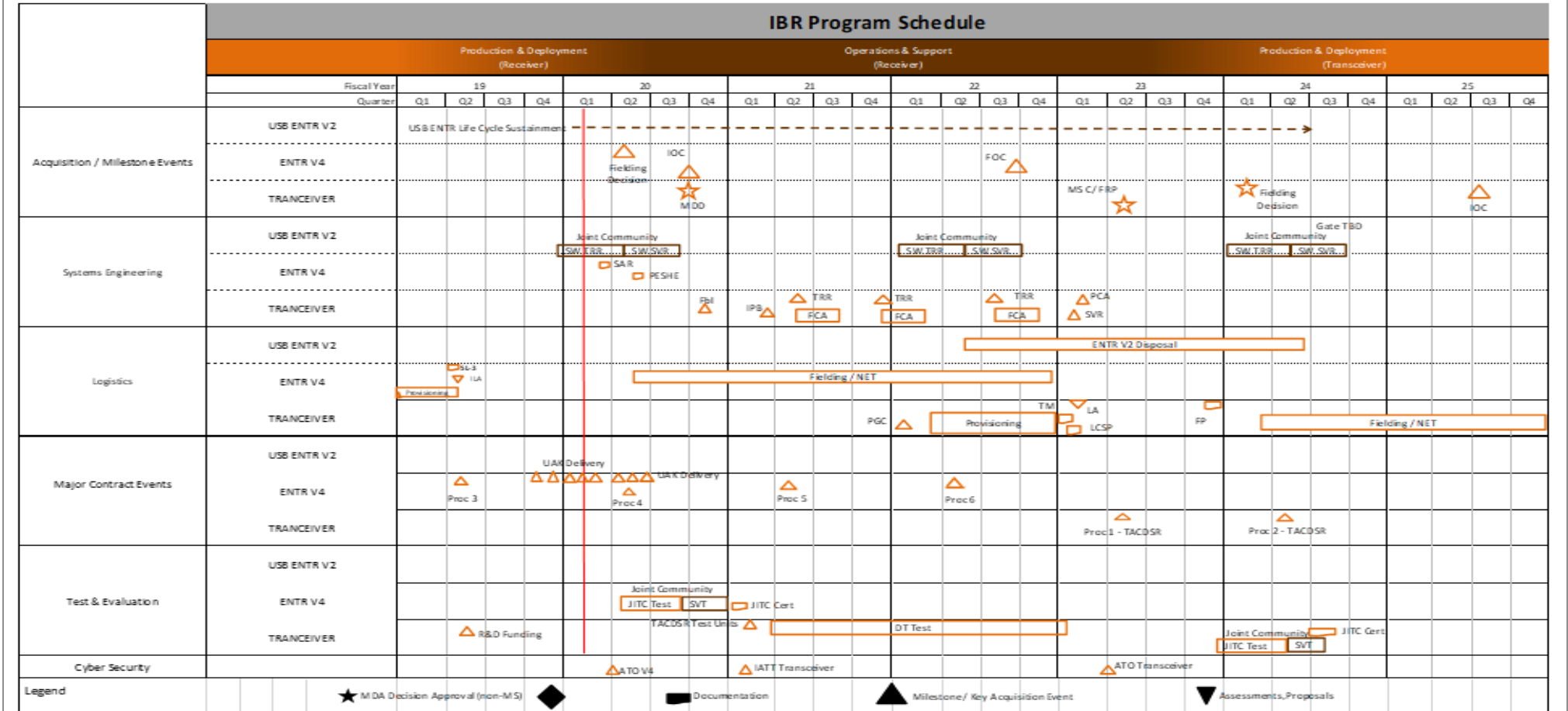
Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy

Date: February 2020

Appropriation/Budget Activity  
1319 / 7

R-1 Program Element (Number/Name)  
PE 0206625M / USMC Intelligence/  
Electronics Warfare Sys

Project (Number/Name)  
2272 / Intel Command and Control (C2) Sys



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2021 Navy</b>		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys

**CESAS MCPC**

Fiscal Year / Quarter	2019				2020				2021				2022				2023				2024				2025							
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Acquisition/Milestone Events	CESAS II FOC				CESAS II Sustainment Review				Inc II IOC				Inc II FOC																			
	CESAS II FoS Inc II AAP Desig.				Inc II Man-Packable FD				Inc II Team Portable FD				Inc II Enhanced EW FD																			
	CESAS II FoS Inc II MDD				Inc II Team Portable PD				Inc II Enhanced EW PD																							
	Inc II Man-Packable PD				AEWDP MDD				AEWDP MS C				AEWDP Fielding Decision				AEWDP IOC															
Capabilities/Requirements					Inc II JLTV PIK Development				SSF Development																							
					AEWDP Development																											
Systems Engineering	Inc II Man-Packable NIR				Inc II Team Portable NIR				AEWDP Documentation/Assessments																							
	Inc II Man-Packable SVR				Inc II Enhanced EW NIR				Inc II Team Portable SVR				Inc II Enhanced EW SVR																			
	CESAS II Veh. Fielding				Inc II Man-Packable Fielding				Inc II Team Portable Fielding Events																							
					AEWDP Documentation/Events																											
Major Contracting Events	Inc II Contract Award				AEWDP Contract Award				Inc II Contract Awards				Inc II Contract Awards				AEWDP Procurement				AEWDP Procurement				AEWDP Procurement				AEWDP Procurement			
Test & Evaluation	Inc II Man-Packable TRR				Inc II Team Portable TRR				Inc II Enhanced EW TRR																							
	Inc II Team Portable DT				Inc II Team Portable GAT				Inc II Enhanced EW DT				Inc II Enhanced EW GAT																			
	Inc II Man-Packable GAT				AEWDP Documentation/Events																											
	Inc II Man-Packable DT																															
Cyber Security	CESAS II ATO				CESAS II ASR				CESAS II ASR				CESAS II ATO				CESAS II ASR				CESAS II ASR				CESAS ATO							
					Inc II ATO				Inc II ASR				Inc II ASR				Inc II ASR				Inc II ATO Renewal				Inc II ASR							
																	AEWDP ATO				AEWDP ASR											

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 2272 / Intel Command and Control (C2) Sys

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 2272</b>				
SCI COMMS Man-Packable Test Asset Procurement	4	2020	4	2020
SCI COMMS HBSI-PT procurement	3	2020	3	2020
SCI COMMS Modem Procurement	3	2020	3	2020
SCI COMM Coalition Network Procurement	1	2021	1	2021
SCI COMM Man-Packable Procurement	3	2021	3	2021
SCI COMM HBSI-PT Next Generation RF Procurement	4	2021	4	2021
CIHEP Commercial Satellite Comm Set (CSCS) Antenna Delivery Decision	1	2019	1	2019
CIHEP Surveillance/CI Event Kit Procurement Decision	2	2021	2	2021
IBR Fielding Decision (ENTR)	2	2020	2	2020
IBR Transceiver MDD	3	2020	3	2020
IBR Initial Operational Capability (IOC) (ENTR)	3	2020	3	2020
Terrestrial Collection: G-BOSS Advanced Networking Components Procurement Decision	2	2019	2	2019
Terrestrial Collection: TRSS Short Range Electro Optical (SREO) Delivery Decision	3	2019	3	2019
Terrestrial Collection: TRSS Signature Data Recorder (SDR) Procurement Decision	4	2019	4	2019
Terrestrial Collection: TRSS Hand Held Programmable Monitor (HHPM) Procurement Decision	4	2019	4	2019
Terrestrial Collection: TRSS Hand Held Programmable Monitor (HHPM) Delivery Decision	4	2020	4	2020
Terrestrial Collection: MSIDS FoS FOC	4	2020	4	2020
Terrestrial Collection: TRSS Common Sensor Radio Component,Signature Data Recorder (SDR)/Hand Held Programmable Monitor (HHPM) Delivery Decision	4	2020	4	2020

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2021 Navy</b>		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / <i>USMC Intelligence/ Electronics Warfare Sys</i>	<b>Project (Number/Name)</b> 2272 / <i>Intel Command and Control (C2) Sys</i>

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
Terrestrial Collection: GBOSS Advanced Networking Components Delivery Decision	4	2021	4	2021
CESAS Man-Packable Procurement Decision	3	2019	3	2019
CESAS Team Portable Procurement Decision	3	2020	3	2020
CESAS Man-Packable Fielding Decision	1	2021	1	2021
CESAS Electronic Warfare (EW) (JLTV PIK) Procurement Decision	3	2021	3	2021
CESAS AEWDP MDD	4	2020	4	2020
TPCS-MPC Delivery Decision (Tactical Server Sleeve)	2	2019	2	2019
TSCS Procurement Decision (Increment 1)	3	2019	3	2019
TSCS Production Contract Award (Increment 1)	4	2019	4	2019
TSCS Developmental Test (Increment 2)	3	2020	3	2020
TSCS Fielding Decision (Increment 1)	1	2021	1	2021
TSCS Procurement Decision (Increment 2)	4	2021	4	2021
TSCM IOC	2	2019	2	2019

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy										<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 1319 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys				<b>Project (Number/Name)</b> 3771 / Tactical Exploitation of National Capabilities (TENCAP)			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
3771: Tactical Exploitation of National Capabilities (TENCAP)	0.000	6.475	6.484	6.589	-	6.589	6.727	6.865	7.003	7.143	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**Note**

TENCAP funding has been realigned from project 2272 to 3771, Tactical Exploitation of National Capabilities. Realignment of efforts to new LIs in FY 2019 and beyond reflects USMC Program Management Office (PMO) reorganization to improve support of USMC OPFOR.

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

The Tactical Exploitation of National Capabilities (TENCAP) programs provides the innovation and adaptability necessary for the Marine Corps Intelligence Enterprise to support MAGTF operations in increasingly complex environments against technologically savvy adversaries. TENCAP exploits current national reconnaissance systems and programs by examining both technical and operational capabilities, implementing training, and sponsoring concept demonstrations to directly support Marine Corps operating forces. The goal is to pursue technologies which exploit data from national systems to enhance intelligence support to the Marine Air-Ground Task Force (MAGTF) and/or the supported Joint Task Force commander. Additionally, TENCAP supports a persistent, distributed, development, test, and certification environment that addresses critical tactical intelligence capability gaps and delivers sustainable solutions to the operating forces and Marine Corps Systems Command (MSCS) through rapid delivery of emerging technologies.

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

	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<b>Title:</b> Tactical Exploitation of National Capabilities (TENCAP): Product Development & Technical Assessments	6.475	6.484	6.589	0.000	6.589
<b>Articles:</b>	-	-	-	-	-
<b>FY 2020 Plans:</b>					
- Continue to conduct research and development, advanced technology demonstrations, and integration of emerging technologies into the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE).					
- Continue to support the Congressionally mandated TENCAP office and all associated ongoing activities, to include the coordination with national agencies, the intelligence community, research laboratories, private industry, and academia, for exploration of collaborative Science and Technology (S&T)/R&D efforts to bring evolutionary intelligence capabilities to the operating forces.					
- Continue to provide technical assessments and field utility evaluations for the integration of current and emerging intelligence capabilities into the tactical decision making process.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / <i>USMC Intelligence/ Electronics Warfare Sys</i>	<b>Project (Number/Name)</b> 3771 / <i>Tactical Exploitation of National Capabilities (TENCAP)</i>

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

	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<ul style="list-style-type: none"> <li>- Continue to support operational planning and enhance operating force capabilities through the identification and development of advanced technologies for the MCISRE architecture.</li> <li>- Continue training and education efforts by providing the operating forces with supported simulation, visualization, and improved mission planning capabilities.</li> <li>- Continue efforts to provide transition support to Rapid Reliable Targeting (RRT).</li> <li>- Continue development, integration, and FUE of innovative national data receipts and dissemination capabilities from insertion into MCISRE.</li> </ul> <p><b>FY 2021 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue to conduct research and development, advanced technology demonstrations, and integration of emerging technologies into the Marine Corps Information Environment Enterprise (MCIEE).</li> <li>- Continue to support the Congressionally mandated TENCAP office and all associated ongoing activities, to include the coordination with national agencies, the intelligence community, research laboratories, private industry, and academia, for exploration of collaborative Research and Development (R&amp;D) efforts to bring evolutionary MCIEE capabilities to the operating forces.</li> <li>- Continue to provide technical assessments and field utility evaluations for the integration of current and emerging capabilities into the tactical decision making process.</li> <li>- Continue to support operational planning and enhance operating force capabilities through the identification and development of advanced technologies for the MCIEE architecture.</li> <li>- Continue training and education efforts by providing the operating forces with supported simulation, visualization, and improved mission planning capabilities.</li> <li>- Continue efforts to provide transition support to Rapid Reliable Targeting (RRT) capability within the Marine Corps. RRT provides the first, near real-time SIGINT queueing from a Tier I UAS system with NGA certified CAT I/CAT II targeting capability.</li> <li>- Continue development, integration, and FUE of innovative national data receive and dissemination capabilities for insertion into MCIEE.</li> </ul> <p><b>FY 2021 OCO Plans:</b> N/A</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b></p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 3771 / Tactical Exploitation of National Capabilities (TENCAP)

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
No significant change from FY20 to FY21.					
<b>Accomplishments/Planned Programs Subtotals</b>	6.475	6.484	6.589	0.000	6.589

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

N/A

**Remarks**

**D. Acquisition Strategy**

(U) TENCAP: All work will be led in-house and necessary contractor support will be acquired using existing contracts. Research, test and integrate new technology and conduct advanced technology demonstrations to identify the most appropriate, mature programs for the integration of emerging technologies into the Marine Corps Information Environment Enterprise (MCIEE).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy												Date: February 2020			
Appropriation/Budget Activity 1319 / 7				R-1 Program Element (Number/Name) PE 0206625M / USMC Intelligence/ Electronics Warfare Sys				Project (Number/Name) 3771 / Tactical Exploitation of National Capabilities (TENCAP)							
Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
TENCAP	C/CPFF	DTIC : FT BELVOIR, VA	0.000	6.025	Nov 2018	5.351	Jan 2020	5.539	Jan 2021	-		5.539	Continuing	Continuing	Continuing
TENCAP	WR	SSCLANT : CHARLESTON, SC	0.000	0.450	Oct 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	6.475		5.351		5.539		-		5.539	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
TENCAP	TBD	US ARMY CECOM : ABERDEEN PROVING GROUND, MD	0.000	0.000		1.133	Jan 2020	1.050	Jan 2021	-		1.050	0.000	2.183	-
<b>Subtotal</b>			0.000	0.000		1.133		1.050		-		1.050	0.000	2.183	N/A
<b>Project Cost Totals</b>			0.000	6.475		6.484		6.589		-		6.589	Continuing	Continuing	N/A
<b>Remarks</b>															

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**Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 3771 / Tactical Exploitation of National Capabilities (TENCAP)
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<b>Proj 3771</b>	<b>FY 2018</b>				<b>FY 2019</b>				<b>FY 2020</b>				<b>FY 2021</b>				<b>FY 2022</b>				<b>FY 2023</b>				<b>FY 2024</b>						
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q			
	TENCAP Product Development																														
Empty grid for data entry																															

2020OSD - 0206625M - 3771

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / <i>USMC Intelligence/ Electronics Warfare Sys</i>	<b>Project (Number/Name)</b> 3771 / <i>Tactical Exploitation of National Capabilities (TENCAP)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3771</b>				
Continued RD TEN of new and emerging tech into MCIEE	1	2020	4	2024

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**Exhibit R-2A, RDT&E Project Justification:** PB 2021 Navy **Date:** February 2020

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 9999 / Congressional Adds
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
9999: Congressional Adds	0.000	0.000	6.428	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.428
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

Hardware and Software development of Advanced Electronic Warfare Digital Payload (AEWDP) system to enable the Marine Air-Ground Task Force (MAGTF) to exploit and disrupt enemy command and control, intelligence surveillance reconnaissance (ISR), and anti-access/area denial systems. AEWDP will provide in-band full duplex frequency operations; an advanced electronic warfare (EW) transceiver with open hardware; and a broadband, high power and low distortion radio frequency amplifier set.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2019	FY 2020
<b>Congressional Add:</b> Advanced electronic warfare digital payload	0.000	6.428
<b>FY 2019 Accomplishments:</b> N/A		
<b>FY 2020 Plans:</b> - Development of the Advanced Electronic Warfare digital payload (AEWDP) EMD systems.		
<b>Congressional Adds Subtotals</b>	0.000	6.428

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

Line Item	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
• RDTE/0206625M/2272: CESAS	10.029	12.196	4.830	-	4.830	11.777	10.299	8.816	9.087	Continuing	Continuing
• PMC/4747: CESAS	5.556	5.187	10.217	-	10.217	11.149	16.021	16.301	14.587	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

The AEWDP Program Office awarded a 20-month research and development contract 1Q FY20 to enable post-transition development of the Future Naval Capability-delivered prototype technology to an operationally deployable system. FY20 \$6.428M will support the development of three AEWDP Engineering Manufacturing Development (EMD) systems. The Contractor shall develop and show traceability to the requirement, develop a draft performance specification, integrate the ONR transitioned technology with additional required AEWDP hardware and software, and conduct appropriate testing.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys	<b>Project (Number/Name)</b> 9999 / Congressional Adds
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Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AEWDP	C/FFP	Consortium Management Group : Washington, DC	0.000	0.000		6.428	Mar 2020	0.000		-		0.000	0.000	6.428	-
<b>Subtotal</b>			0.000	0.000		6.428		0.000		-		0.000	0.000	6.428	N/A

**Remarks**  
FY20 efforts support Advanced Electronic Warfare digital payload EMD systems which is a one year congressional add.

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	0.000	0.000	6.428	0.000	-	0.000	0.000	6.428	N/A

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2021 Navy</b>															<b>Date:</b> February 2020				
<b>Appropriation/Budget Activity</b> 1319 / 7										<b>R-1 Program Element (Number/Name)</b> PE 0206625M / USMC Intelligence/ Electronics Warfare Sys					<b>Project (Number/Name)</b> 9999 / Congressional Adds				

Proj 9999	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025											
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q								
AEWDP					AEWDP Development																															

2021PB - 0206625M - 9999

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0206625M / <i>USMC Intelligence/ Electronics Warfare Sys</i>	<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 9999</b>				
AEWDP: AEWDP Development	2	2020	4	2021