Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy											Date: April 2022	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0206313M *I Marine Corps Comms Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	1,642.342	75.014	108.695	114.305	-	114.305	123.424	115.094	107.680	109.469	Continuing	Continuing
2270: *Exp Indirect Fire Gen Supt Wpn Sys*	360.603	25.107	27.414	32.586	-	32.586	43.136	39.982	38.116	38.771	Continuing	Continuing
2273: *Air Ops Cmd & Control (C2) Sys*	459.849	6.478	7.093	12.087	-	12.087	11.598	11.433	8.299	8.443	Continuing	Continuing
2274: *Command & Control Warfare Sys*	79.013	8.324	22.325	29.643	-	29.643	24.938	23.904	23.912	24.290	Continuing	Continuing
2275: *Marine Corps Tactical Radio Systems*	106.749	13.232	15.064	17.566	-	17.566	16.492	12.745	11.281	11.452	Continuing	Continuing
2276: *Comms Switching and Control Sys*	49.840	4.640	1.536	2.122	-	2.122	2.338	2.128	1.674	1.705	Continuing	Continuing
2277: *System Engineering and Integration*	44.831	2.575	1.909	4.767	-	4.767	7.269	6.677	6.274	6.376	Continuing	Continuing
2510: *MAGTF CSSE & SE*	289.782	0.943	0.943	0.991	-	0.991	1.013	1.032	1.053	1.070	Continuing	Continuing
3099: *Radar System*	227.657	1.405	1.134	1.059	-	1.059	2.018	1.730	1.530	1.556	Continuing	Continuing
3772: *Information Related Capabilities (IRC)*	8.637	3.073	3.230	5.510	-	5.510	5.663	6.453	6.570	6.683	Continuing	Continuing
3773: *Fire Coordination and Sensors*	15.381	9.237	8.047	7.974	-	7.974	8.959	9.010	8.971	9.123	Continuing	Continuing
9999: *Congressional Adds*	0.000	0.000	20.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	20.000

A. Mission Description and Budget Item Justification

This program element provides funding to develop the command and control (C2) support and information infrastructures for the Fleet Marine Force and supporting establishment. Doctrinally, the C2 support system and the information infrastructure form two parts of a triad of capabilities which permits command and control systems to be transformed into a complete operating system. The third element of the triad is command and control organization and is not covered in this program element. USMC command and control is divided into seven functional areas and one supporting functional area as follows: intelligence C2, fire support C2, air operations C2, radio systems C2, combat service support C2, warfare C2, radar systems C2, and C2 support (information processing and communications).

Within this program element, subprojects have been grouped by C2 functional area for more efficient planning. Air defense weapons systems have been added to facilitate planning and a separate project is used for systems assigned to the supporting establishment. Subprojects which support the Commander's decision processes

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy	Date: April 2022
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have been collected into the Command Post Systems project since these systems must work in close cooperation to ensure effective C2 of Marine Air Ground Task Forces.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	76.610	89.897	0.000	-	0.000
Current President's Budget	75.014	108.695	114.305	-	114.305
Total Adjustments	-1.596	18.798	114.305	-	114.305
• Congressional General Reductions	-	-0.202			
• Congressional Directed Reductions	-	-1.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	20.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.546	0.000			
• SBIR/STTR Transfer	-2.142	0.000			
• Program Adjustments	0.000	0.000	0.000	-	0.000
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000
• Adjustments to Budget Year	-	-	114.305	-	114.305

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2021	FY 2022
Project: 9999: *Congressional Adds*		
Congressional Add: *Multi-function electronic warfare*	0.000	20.000
Congressional Add Subtotals for Project: 9999	0.000	20.000
Congressional Add Totals for all Projects	0.000	20.000

Change Summary Explanation

The net increase of $5.610M between FY 2022 and FY 2023 is primarily due to Command & Control Warfare Sys increase of $7.318M. Funds support initiation of the following efforts: development of the MEGFoS mounted variants and development of advanced techniques to counter emerging threats.

The FY 2023 funding request was adjusted by $2.785M to account for the availability of prior year execution balances.

FY 2023 funding increase reflects the fact that the FY 2022 President’s Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
2270: *Exp Indirect Fire Gen Supt Wpn Sys*	360.603	25.107	27.414	32.586	-	32.586	43.136	39.982	38.116	38.771	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Secure Expeditionary Resilient Positioning, Navigation and Timing (SERPNT) (formerly REPNT) - This is a critical Marine Corps Force Design program. Program efforts are focused on increasing the resiliency and assurance of Positioning, Navigation, and Timing (PNT) capabilities across the enterprise, which enable Marine Air-Ground Task Force (MAGTF) Commanders to know and trust position, effectively navigate, and receive precise and accurate timing for users, platforms, and systems across warfighting functions. Current SERPNT efforts will enable the Marine Corps to transition to the smaller form factor of military GPS signal (M-Code) receiver card through participation in Space Force-led Increment II technology maturation efforts. Program Office will research, assess, and integrate resilient and assured PNT alternative capabilities which will mitigate threats from peer and near peer adversaries to meet Force Design 2030, EABO, and JADC2 construct.

Marine Air-Ground Task Force (MAGTF) Command and Control (C2) Systems (MAGTF C2) - MAGTF C2 Tactical Service Oriented Architecture (TSOA) is an ACAT IV(M) program of record (POR). TSOA was created in order to achieve agility and greater cost reduction across the USMC Command and Control (C2) Enterprise. This POR has been identified by the USMC Combat Development and Integration (CD&I) as the USMC's Service Oriented Infrastructure (SOI) designed to support the Objective Network as defined by the Headquarters Marine Corps, Deputy Commandant for Information Network Modernization Plan. The USMC seeks to rectify its current C2 architecture, which is composed of disparate and duplicative legacy systems through TSOA. TSOA will enable a collapse of this disparate C2 construct and create a Net-Centric environment where Marines employ user-centered applications that access required information across Authoritative Data Sources (ADS). This will be achieved through the CD&I directed TSOA compliance effort in order to reduce duplicative product development and enable a divestiture of legacy disparate systems. This requires additional effort to ensure other ADSs are compliant with the TSOA product line.

TSOA's purpose is to ensure that Marines receive the right information, from trusted and accurate sources, when and where it is needed. This enables decisions "in context" for USMC operations across the Range of Military Operations and in support of the Unified Command Plan. TSOA's four capabilities include: Infrastructure and Services (I&S) which is the capability of authorized users to subscribe and publish required information from ADS with the use of software connectors; Agile Application Development (A2D) which is the capability to develop, accredit, and provide easy-to-learn, user-defined software applications that meet emergent Marine needs; Modular Software Architecture (MSA) which is virtualized, hardware agnostic, and scalable; Marine Corps Software Resource Center (MCSRC) is the Marine Corps' enterprise "App Store" for developed applications that allows Marines the ability to download, review, rate, and provide feedback.

Joint Battle Command - Platform (JBC-P) Family of Systems (FoS) - JBC-P FoS is an Army led ACAT II program of Joint Requirements Oversight Council (JROC) interest, formerly known as the Blue Force Tracker (BFT) FoS. It is comprised of L-Band SATCOM and is a digital, battle command information FoS that provides integrated, on the move, timely, relevant Command and Control Situational Awareness (C2SA) information to tactical combat, combat support and combat service support commanders, leaders, and key C2 nodes. JBC-P FoS will provide JROC mandated C2SA convergence across Combat Operations Centers (COC), ground vehicles and dismounted personnel.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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Identity Dominance System - Marine Corps (IDS-MC) is a multi-modal (fingerprint, iris, and face) biometric collection system that provides the USMC a reliable and effective capability to collect, share, match, access, verify and store identity information. IDS-MC enables the Marine to collect appropriate biometric, biographical and reference information on an individual and match this locally developed information with pre-existing information available to the expeditionary force. The system displays match results with linkage to the respective individual's biographical and reference information as well as help analyze the response, update records as appropriate, create reports and disseminate updated information. The primary mission of IDS-MC is to provide the Marine Corps with the means to identify persons encountered in the battle space. While IDS-MC is not an intelligence analysis system, it does provide identification information in support of military intelligence by providing positive identification of persons of interest. IDS-MC is an enabler in the areas of detainee management and questioning, base access, counterintelligence screening, border control, displaced persons' management and aiding in humanitarian assistance missions. IDS-MC supports the tactical application of identity dominance and fully supports a forward presence, crisis response and contingency response capability.

Forensics Dominance System - Marine Corps (FDS-MC) (formerly Expeditionary Forensic Exploitation Capability (EFEC) is a multi-modal (fingerprint, DNA, document, cellular, media, chemical, and fire arm) forensic collection system that provides the United States Marine Corps (USMC) a reliable and effective capability to recognize, protect, collect, analyze, store and share forensic information. This organic Marine Corps forensic capability supports deployed Marine Forces with agile, ruggedized, and scalable expeditionary forensics that are compatible and fully integrated with joint, other service, and interagency laboratories, yet also tailored to the unique operating requirements of the maritime domain. Maritime applications include the ability to support Marine Expeditionary Units with an at sea forensic exploitation capability to conduct vessel boarding and ship search operations. FDS_MC supports the Information Environment through sensitive forensic testing and analysis that positively identifies personnel and trace chemicals/elements; forensically exploits document and media; and scientifically links identities and networks to places, events, and activities. FDS-MC provides a transformative capability that integrates Artificial Intelligence and Machine Learning to enable intelligence operations, force protection, intelligence, and targeting.

Handheld Command and Control (H2C2) - The H2C2 portfolio consists of two specific capabilities - secure wireless access to multiple networks and handheld communication platforms. The handheld capability provides low cost (commercially available) platforms (smartphones and tablets) for use on tactical networks, up to SECRET, regardless of the operational environment. The secure wireless capability enables Marines burdened by wired implementations an option to leverage wireless mediums. This capability provides wireless communication between a variety of devices.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: MAGTF C2: Product Development	12.029	11.889	15.651	0.000	15.651
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue harvesting cloud data which enables higher fidelity Machine Learning models. This will enable future Cognitive Assistants. - Continue Marine Corps Software Resource Center (MCSRC) support for USCMC Common Handheld devices for lightweight applications.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue improvements to the federation and data correlation services to support Common Operational Picture (COP)/Common Tactical Picture (CTP) across the Marine Air-Ground Task Force (MAGTF)/Joint Task Force (JTF). ***FY 2023 Base Plans:*** - Establish initial Development, Security, and Operations (DEVSECOPS) environment for development and delivery of TSOA. - Continue harvesting cloud data, which enables higher fidelity Machine Learning models. This will enable future Cognitive Assistants. - Continue Marine Corps Software Resource Center (MCSRC) support for USCMC Common Handheld devices for lightweight applications. - Continue improvements to the federation and data correlation services to support Common Operational Picture (COP)/ Common Tactical Picture (CTP) across the Marine Air-Ground Task Force (MAGTF)/Joint Task Force (JTF). -Initiate requirements for the addition of operation within a Development, Security, and Operations (DevSecOps) environment which is a cultural approach to automates the integration of security at every phase of the software development lifecycle, from initial design through integration, testing, deployment, and software delivery. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The $3.762M increase from FY 2022 to FY 2023 is due to the addition of operation within a Development, Security, and Operations (DevSecOps) environment for development and delivery of TSOA.					
Title: MAGTF C2: Support Costs	1.387	1.387	1.543	0.000	1.543
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue system engineering support for system integration, configuration management, and technical assessments of TSOA software products. ***FY 2023 Base Plans:*** - Continue system engineering support for system integration, configuration management, and technical assessments of TSOA software products.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
-Initiate requirements for the addition of operation within a Development, Security, and Operations (DevSecOps) environment which is a cultural approach to automates the integration of security at every phase of the software development lifecycle, from initial design through integration, testing, deployment, and software delivery. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The $0.156M increase from FY 2022 to FY 2023 is due to the addition of operation within a Development, Security, and Operations (DevSecOps) environment requirements and system engineering support.					
Title: MAGTF C2: Test and Evaluation	2.081	2.100	2.789	0.000	2.789
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue TSOA compliance testing with USMC Tactical Data Systems (TDS). - Continue to participate in technical working groups in support of test and engineering. - Continue to provide technical assistance to other programs supported by Marine Corps Tactical Systems Support Activity (MCTSSA) that involve the use of these systems as well as through the Operating Forces Tactical Systems Support Center (OFTSSC) trouble calls. ***FY 2023 Base Plans:*** - Establish test and evaluation procedures for operations within a Development, Security, and Operations (DevSecOps) environment for TSOA. - Continue to participate in technical working groups in support of test and engineering. - Continue to provide technical assistance to other programs supported by Marine Corps Tactical Systems Support Activity (MCTSSA) that involve the use of these systems as well as through the Operating Forces Tactical Systems Support Center (OFTSSC) trouble calls. -Initiate requirements for the addition of operation within a Development, Security, and Operations (DevSecOps) environment which is a cultural approach to automates the integration of security at every phase of the software development lifecycle, from initial design through integration, testing, deployment, and software delivery. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
The $0.689M increase from FY 2022 to FY 2023 due to the addition of operation within a Development, Security, and Operations (DevSecOps) environment as well as continued funding for test, engineering, and technical assistance support.					
Title: MAGTF C2: Management Services ***Articles:*** ***FY 2022 Plans:*** - Continue to receive software engineering support to provide appropriate government direction in design and development of software, conduct of source code reviews, and prime vendor oversight from Federally Funded Research and Development Center (FFRDC). - Continue the examination and prototyping of Artificial Intelligence (AI) applications for USMC tactical commanders. ***FY 2023 Base Plans:*** - Continue to receive software engineering support to provide appropriate government direction in design and development of software, conduct of source code reviews, and prime vendor oversight from Federally Funded Research and Development Center (FFRDC). - Continue the examination and prototyping of Artificial Intelligence (AI) applications for USMC tactical commanders. - Initiate requirements for the addition of operation within a Development, Security, and Operations (DevSecOps) environment which is a cultural approach to automates the integration of security at every phase of the software development lifecycle, from initial design through integration, testing, deployment, and software delivery. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The $0.461M increase from FY 2022 to FY 2023 is due to the addition of operation within a Development, Security, and Operations (DevSecOps) environment, engineering support, as well as examination and prototyping of Artificial Intelligence (AI) applications.	1.296 -	1.296 -	1.757 -	0.000 -	1.757 -
Title: IDS-MC: Product Development ***Articles:*** ***FY 2022 Plans:***	0.450 -	0.483 -	0.588 -	0.000 -	0.588 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Conduct software enhancements to collection device and transaction manager functionality. ***FY 2023 Base Plans:*** - Develop/integrate software/hardware enhancements for collection device and interoperability between devices and data systems. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.105M from FY 2022 to FY 2023 supports development and integration of next generation identity collection capability.					
Title: IDS-MC: Support ***Articles:*** ***FY 2022 Plans:*** - Continue software engineering support. - Continue laboratory integration, cybersecurity updates, technical Readiness reviews, and software patching. ***FY 2023 Base Plans:*** - Continue software engineering support. - Initiate integration of enhanced identity collection capabilities in advance of IDS-MC Increment 3. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease of $0.175M from FY 2022 to FY 2023 reflects reduced development and integration support related to enhanced identity collection capability.	0.568 -	0.371 -	0.196 -	0.000 -	0.196 -
Title: Forensics Dominance System - Marine Corps (FDS-MC) (formerly EFEC): Support ***Articles:*** ***FY 2022 Plans:*** - Continue laboratory integration to facilitate network connectivity, cybersecurity updates, Technical Readiness Reviews, and software patching. ***FY 2023 Base Plans:***	0.200 -	0.052 -	0.184 -	0.000 -	0.184 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue laboratory integration to facilitate network connectivity, cybersecurity updates, Technical Readiness Reviews, and software patching. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.132M from FY 2022 to FY 2023 reflects additional development and integration support associated with the FDS system.					
Title: Forensics Dominance System - Marine Corps (FDS-MC) (formerly EFEC): Test and Evaluation ***Articles:*** ***FY 2022 Plans:*** - Initiate risk reduction prototyping with Commercial of the Shelf (COTS) forensic components. ***FY 2023 Base Plans:*** - Continue evaluation of COTS forensics components for risk reduction of the FDS-MC system. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** No significant change from FY 2022 to FY 2023.	0.180 -	0.086 -	0.086 -	0.000 -	0.086 -
Title: Forensics Dominance System - Marine Corps (FDS-MC) (formerly EFEC): Management Services ***Articles:*** ***FY 2022 Plans:*** N/A ***FY 2023 Base Plans:*** N/A ***FY 2023 OCO Plans:*** N/A	0.180 -	0.000 -	0.000 -	0.000 -	0.000 -
Title: H2C2: Product Development ***Articles:*** ***FY 2022 Plans:***	1.433 -	1.722 -	1.480 -	0.000 -	1.480 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
-Continue to develop cybersecurity and vulnerability patches for fielded software. -Continue software development to incorporate cybersecurity patches and software updates to improve interoperability with existing C2 Systems and peripheral devices as part of future Engineering Change Proposals (ECPs). ***FY 2023 Base Plans:*** -Continue to develop cybersecurity and vulnerability patches for fielded software. -Continue software development to incorporate cybersecurity patches and software updates to improve interoperability with existing C2 Systems and peripheral devices as part of future Engineering Change Proposals (ECPs). ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Marine Corps reduced program funding by $0.242M due to the availability of prior year funds.					
Title: H2C2: Support	1.100	1.278	1.100	0.000	1.100
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue integration of additional software applications into the H2C2 end user device hardware platform. - Continue integration of emerging capabilities across the H2C2 portfolio to include: MAGTF Common Handheld (MCH) end user device, software application, peripheral equipment and integration with existing C2 programs of record. ***FY 2023 Base Plans:*** - Continue integration of additional software applications into the H2C2 end user device hardware platform. - Continue integration of emerging capabilities across the H2C2 portfolio to include: MAGTF Common Handheld (MCH) end user device, software application, peripheral equipment and integration with existing C2 programs of record. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Marine Corps reduced program funding by $0.178M due to the availability of prior year funds.					
Title: H2C2: Test and Evaluation	1.016	0.960	1.020	0.000	1.020
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue testing of cybersecurity and vulnerability patches for current MCH software. - Continue interoperability testing between follow on MCH software updates and other existing C2 systems. ***FY 2023 Base Plans:*** - Continue testing of cybersecurity and vulnerability patches for current MCH software. - Continue interoperability testing between follow on MCH software updates and other existing C2 systems. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The $0.060M increase from FY 2022 to FY 2023 is to continues to provide software updates, testing of cybersecurity and vulnerability patches to Command and Control (C2) systems.					
Title: Secure Expeditionary Resilient Positioning, Nav, and Timing (SERPNT) (formerly REPNT): Support	1.645	2.040	2.050	0.000	2.050
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue evaluation of technologies to increase resiliency and assurance of PNT capabilities across the USMC enterprise. - Continue integration support of MGUE receivers into Marine Corps priority platforms. - Conduct analysis of technologies for the Increment II handheld which will replace the DAGR. - Initiate liaison support between Space Force Space and Missile Center Production Corps Unit 1 (SMC PCU1) and Marine Corps PNT Program Office. ***FY 2023 Base Plans:*** - Continue evaluation of technologies to increase resiliency and assurance of PNT capabilities across the USMC enterprise. - Perform system technical integration and testing activities for follow-on technologies - Continue analysis of technologies for the Increment II handheld which will replace the DAGR.					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue liaison support between Space Force Space and Missile Center Production Corps Unit 1 (SMC PCU1) and Marine Corps PNT Program Office. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** No significant change from FY 2022 to FY 2023.					
Title: Secure Expeditionary Resilient Positioning, Nav, and Timing (SERPNT) (formerly REPNT): Test and Evaluation ***Articles:*** ***FY 2022 Plans:*** - Continue efforts to increase resiliency and assurance of PNT capabilities across the USMC enterprise. - Conduct laboratory and field testing of Mounted PNT solutions during M-Code implementation on Marine Corps platforms. ***FY 2023 Base Plans:*** - Continue laboratory analysis and simulations as well as field testing of Mounted PNT solutions during M-Code GPS implementation on Marine Corps focus of effort ground platforms. - Initiate M-Code integration into focus of effort platforms and systems. - Conduct analysis, testing, and evaluation on potential alternative PNT solutions. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.382M from FY 2022 to FY 2023 reflects initiation of M-Code integration into focus of effort platforms and systems as well as expansion of testing efforts to multiple USMC host applications and alternative PNT solutions.	1.372 -	3.050 -	3.432 -	0.000 -	3.432 -
Title: Secure Expeditionary Resilient Positioning, Nav, and Timing (SERPNT) (formerly REPNT): Management Services ***Articles:*** ***FY 2022 Plans:***	0.170 -	0.700 -	0.710 -	0.000 -	0.710 -

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Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue MITRE Engineering support to develop and update Positioning, Navigation, and Timing (PNT) road map and technical studies focused on increasing resiliency and assurance of PNT capabilities across the USMC enterprise. - Conduct research and development of technical strategies to ensure Navigation Warfare (NAVWAR) compliance during the Marine Corps' modernization to Mounted PNT capabilities. ***FY 2023 Base Plans:*** - Continue MITRE Engineering support to develop and update Positioning, Navigation, and Timing (PNT) road map and technical studies focused on increasing resiliency and assurance of PNT capabilities across the USMC enterprise. - Continue research and development of technical strategies to ensure Navigation Warfare (NAVWAR) compliance during the Marine Corps' modernization to M-Code and other assured PNT capabilities. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** No significant change from FY 2022 to FY 2023.					
Accomplishments/Planned Programs Subtotals	25.107	27.414	32.586	0.000	32.586

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PMC/4652-1: *IDS-MC*	1.006	0.167	0.293	-	0.293	0.571	0.872	0.888	0.905	Continuing	Continuing
• PMC/4631AA: *GCCS TCO*	0.753	0.096	0.002	-	0.002	0.002	0.002	0.002	0.002	Continuing	Continuing
• PMC/4633-1: *SERPNT (formerly MGUE)*	0.159	31.350	30.957	-	30.957	19.234	19.821	20.054	20.455	Continuing	Continuing
• PMC/4652-2: *FDS-MC (formerly EFEC)*	4.200	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/4631AB: *H2C2*	0.000	0.000	22.719	-	22.719	9.440	9.440	9.440	9.440	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

D. Acquisition Strategy

SERPNT (formerly REPNT): As the commodities management office, the Marine Corps program office will continue to leverage efforts conducted within the joint environment to assist in informing and implementing the enterprise positioning, navigation, and timing strategy for the Marine Corps. The program office will seek out opportunities to maximize the use of COTS/NDI products in its approach, while identifying opportunities for integration of emerging technologies across a variety of ground platforms.

MAGTF C2 (TSOA): TSOA program office has developed its Acquisition Strategy/Acquisition Plan (ASAP) to define the TSOA operational mission, business strategy and the detailed acquisition approach relative to cost, schedule and performance drivers. The TSOA program is being developed and managed using an "IT-Box" construct that supports agile development and requirements oversight for information systems." Requirements for TSOA are described in three key documents: the Information System Initial Capabilities Document (IS-ICD), the Requirements Definition Package (RDP), and the Capability Drop (CD).

JBC-P: JBC-P FoS is leveraging the Army's development of the JBC-P. The Marine Corps program is contingent upon the Army's development and acquisition strategy. The Army will fund research and development for JBC-P unless there are Service unique requirements, which the Marine Corps program office will fund.

IDS-MC: The IDS-MC Inc 2 acquisition strategy involved significant market research during FY 2017, resulting in a DoD Rapid Innovation Funding (RIF), Broad Agency Announcement (BAA) for IDS-MC Inc 2 prototyping, to provide a complete prototype identity operations system. Upon completion of the prototype system, the Program Office obtained a successful Milestone C/Full Rate Production (FRP) decision for IDS-MC Inc 2. The Program Office utilized a Justification and Approval to move into a traditional Federal Acquisition Regulations (FAR) based acquisition for both Low-Rate Initial Production and Full Rate Production contracts. For development of the next generation biometric capability, the Program Office will award an OTA in Q4 FY 2022 for a planned prototype delivery in FY 2024.

FDS-MC (formerly EFEC): The FDS-MC acquisition strategy is evolutionary, structured to deliver capabilities incrementally, recognizing the need for future capability improvements. This allows the current capability to be utilized in the field without interruption, while implementing updated components and improved technologies as they evolve. The FDS-MC acquisition strategy leverages market research, user feedback, and technology exploration to deliver a streamlined, efficient capability that can be easily sustainable by the Marine Corps going forward.

Handheld Command and Control (H2C2): H2C2 will use an evolutionary approach for technology insertion. The approach will leverage and mature COTS and NDI technologies to rapidly transition a handheld data capability to other acquisition programs. H2C2 inserts mature technology into existing programs in order to fill capability gaps and requirement shortfalls. These technologies will be inserted at different times along gaining program acquisition cycles. This strategy will apply to available technology at different proposed technology insertion points for each gaining program. Additionally, H2C2 has been tasked to develop a solution that meets the JBC-P dismounted requirements and requires C2SA interoperability with existing C2 programs of record. The current iteration of MCH provides a dismounted C2SA capability at the squad level via a tethered connection to tactical radios. Future iterations will incorporate enhanced software and hardware capabilities based on technological maturity over time in accordance with the evolutionary development approach.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF C2 Product Development	C/CPFF	NIWC-LANT : Charleston, SC	61.145	2.678	Apr 2021	2.889	Apr 2022	4.049	Apr 2023	-		4.049	Continuing	Continuing	Continuing
MAGTF C2	C/CPFF	NIWC-PAC : San Diego, CA	10.555	2.777	May 2021	3.000	May 2022	3.000	May 2023	-		3.000	Continuing	Continuing	Continuing
MAGTF C2	WR	NIWC-LANT : Charleston, SC	12.536	1.200	Feb 2021	0.000		2.602	Feb 2023	-		2.602	0.000	16.338	-
MAGTF C2	WR	NRL : Washington, DC	3.347	1.610	Mar 2021	1.500	Mar 2022	1.500	Mar 2023	-		1.500	Continuing	Continuing	Continuing
MAGTF C2	C/CPFF	ARL : Penn State, PA	1.200	0.000		1.500	Apr 2022	1.500	Apr 2023	-		1.500	0.000	4.200	-
MAGTF C2	C/CPFF	NG : San Diego, CA	4.850	3.764	Dec 2020	3.000	Feb 2022	3.000	Feb 2023	-		3.000	0.000	14.614	-
IDS-MC	C/CPFF	MCSC : Quantico, VA	0.000	0.119	May 2021	0.142	May 2022	0.000		-		0.000	Continuing	Continuing	Continuing
IDS-MC	C/FFP	AFRL/RI : Fairborn, OH	0.000	0.331	May 2021	0.341	Feb 2022	0.000		-		0.000	Continuing	Continuing	Continuing
IDS-MC	WR	NIWC-LANT : Charleston, SC	0.000	0.000		0.000		0.588	Nov 2022	-		0.588	0.000	0.588	-
H2C2	WR	DPSS : China Lake, CA	0.000	1.433	Nov 2020	1.722	Nov 2021	1.480	Nov 2022	-		1.480	0.000	4.635	-
Prior Years Cumulative Funding	Various	Various : Various	170.399	0.000		0.000		0.000		-		0.000	0.000	170.399	-
		Subtotal	264.032	13.912		14.094		17.719		-		17.719	Continuing	Continuing	N/A

Remarks

Product Development increase of $3.625M from FY 2022 to FY 2023 is largely attributed to the addition of MAGTF C2 operation within a Development, Security, and Operations (DevSecOps) environment for development and delivery of TSOA.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF C2	WR	NIWC-P : San Diego, CA	9.866	1.387	Feb 2021	1.387	Feb 2022	1.543	Feb 2023	-		1.543	Continuing	Continuing	Continuing
IDS-MC	WR	NIWC LANT : Charleston, SC	1.925	0.413	Dec 2020	0.035	Dec 2021	0.196	Oct 2022	-		0.196	Continuing	Continuing	Continuing
IDS-MC	C/CPFF	AFRL/RI : Fairborn, OH	0.000	0.155	May 2021	0.336	Feb 2022	0.000		-		0.000	Continuing	Continuing	Continuing
FDS-MC	C/BA	NIWC LANT : Charleston, SC	0.000	0.066	Dec 2020	0.027	Dec 2021	0.184	Oct 2022	-		0.184	Continuing	Continuing	Continuing
FDS-MC	C/BA	AFRL/RI : Fairborn, OH	0.000	0.134	May 2021	0.025	Feb 2022	0.000		-		0.000	Continuing	Continuing	Continuing
H2C2 Integration Eng	C/BA	NIWC LANT 1 : Charleston, SC	5.094	0.220	Dec 2020	0.100	Dec 2021	0.100	Dec 2022	-		0.100	0.000	5.514	-
H2C2 Integration Eng	C/BA	NIWC LANT : Charleston, SC	2.116	0.440	Dec 2020	0.000		0.286	Dec 2022	-		0.286	0.000	2.842	-
H2C2 Integration Eng	C/BA	NSWC Crane : Crane, IN	3.090	0.440	Dec 2020	0.000		0.558	Dec 2022	-		0.558	0.000	4.088	-
H2C2 Integration Eng	C/BA	NSWC China Lake : China Lake, CA	5.137	0.000		0.678	Dec 2021	0.000		-		0.000	0.000	5.815	-
H2C2 Integration Eng	C/BA	MCSC : Quantico, VA	0.844	0.000		0.200	Dec 2021	0.000		-		0.000	0.000	1.044	-
H2C2 Integration Eng	C/BA	NSWC Crane2 : Crane, IN	0.360	0.000		0.000		0.156	Dec 2022	-		0.156	0.000	0.516	-
H2C2 Integration Eng	C/BA	MCTSSA : Camp Pendleton, CA	0.000	0.000		0.300	Dec 2021	0.000		-		0.000	0.000	0.300	-
SERPNT	C/BA	NIWC LANT : Charleston, SC	0.000	1.645	Feb 2021	1.490	Oct 2021	1.475	Oct 2022	-		1.475	0.000	4.610	-
SERPNT	C/BA	NSWC Corona : Norco, CA	0.000	0.000		0.550	Oct 2021	0.575	Oct 2022	-		0.575	0.000	1.125	-
Prior Years Cumulative Funding	Various	Various : Various	2.292	0.000		0.000		0.000		-		0.000	0.000	2.292	-
		Subtotal	30.724	4.900		5.128		5.073		-		5.073	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Decrease of $0.055M reflects reduced IDS development and integration support related to enhancement of identity collection capability.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF C2	C/ FFPLOE	MCTSSA : Camp Pendleton, CA	7.450	2.081	Apr 2021	2.100	Apr 2022	2.789	Apr 2023	-		2.789	Continuing	Continuing	Continuing
FDS-MC	WR	NIWC LANT : Charleston, SC	1.120	0.046	Nov 2020	0.043	Nov 2021	0.086	Oct 2022	-		0.086	Continuing	Continuing	Continuing
FDS-MC	C/FFP	ARL/RI : Fairborn, OH	0.000	0.134	May 2021	0.043	Nov 2021	0.000		-		0.000	Continuing	Continuing	Continuing
H2C2 1	WR	NIWC LANT : Charleston, SC	4.044	0.151	Dec 2020	0.100	Dec 2021	0.523	Dec 2022	-		0.523	0.000	4.818	-
H2C2	WR	MCOTEA : Quantico, VA	1.785	0.400	Dec 2020	0.000		0.000		-		0.000	0.000	2.185	-
H2C2 2	C/FFP	NIWC LANT : Charleston, SC	1.358	0.225	Dec 2020	0.100	Dec 2021	0.387	Dec 2022	-		0.387	0.000	2.070	-
H2C2	C/FFP	MCTSSA : Camp Pendleton, CA	1.744	0.240	Mar 2021	0.760	Dec 2021	0.110	May 2023	-		0.110	0.000	2.854	-
SERPNT Test & Eval	WR	NIWC LANT : Charleston, SC	0.000	0.000		1.050	Dec 2021	1.080	Oct 2022	-		1.080	0.000	2.130	-
SERPNT	C/CPFF	NIWC LANT : Charleston, SC	0.000	1.372	Feb 2021	2.000	Feb 2022	1.980	Mar 2023	-		1.980	0.000	5.352	-
JBCP	WR	MCSC : Quantico, VA	0.012	0.000		0.000		0.000		-		0.000	0.000	0.012	-
SERPNT HAE T&E	C/CPFF	MCSC : Quantico, VA	0.000	0.000		0.000		0.372	Feb 2023	-		0.372	0.000	0.372	-
Prior Year Cumulative Funding	Various	Various : Various	32.273	0.000		0.000		0.000		-		0.000	0.000	32.273	-
		Subtotal	49.786	4.649		6.196		7.327		-		7.327	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Increase of $1.131M from FY 2022 to FY 2023 is primarily attributed to MAGTF C2 addition of operation within a DEVSECOPS environment, test and engineering, and technical assistance support as well as initiation of SERPNT M-Code integration into lead platforms and systems as well as expansion of testing efforts to multiple USMC host applications and alternative PNT solutions.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF C2	C/CPFF	CECOM/MITRE : Ft. Monouth, NJ	11.420	1.296	Jun 2021	1.296	Jun 2022	1.757	Jun 2023	-		1.757	Continuing	Continuing	Continuing
FDS-MC	C/CPFF	CECOM/MITRE : Ft. Monouth, NJ	0.000	0.180	Jan 2021	0.000		0.000		-		0.000	0.000	0.180	-
SERPNT	C/CPFF	CECOM/MITRE : Ft. Monouth, NJ	0.000	0.170	Feb 2021	0.700	Feb 2022	0.710	Dec 2022	-		0.710	0.000	1.580	-
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	4.641	0.000		0.000		0.000		-		0.000	0.000	4.641	-
		Subtotal	16.061	1.646		1.996		2.467		-		2.467	Continuing	Continuing	N/A

Remarks

Increase of $0.471M from FY 2022 to FY 2023 is primarily attributed to MAGTF C2 addition of operation within a DEVSECOPS environment, engineering support, and prototyping of Artificial Intelligence (AI) applications.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	360.603	25.107		27.414		32.586		-		32.586	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

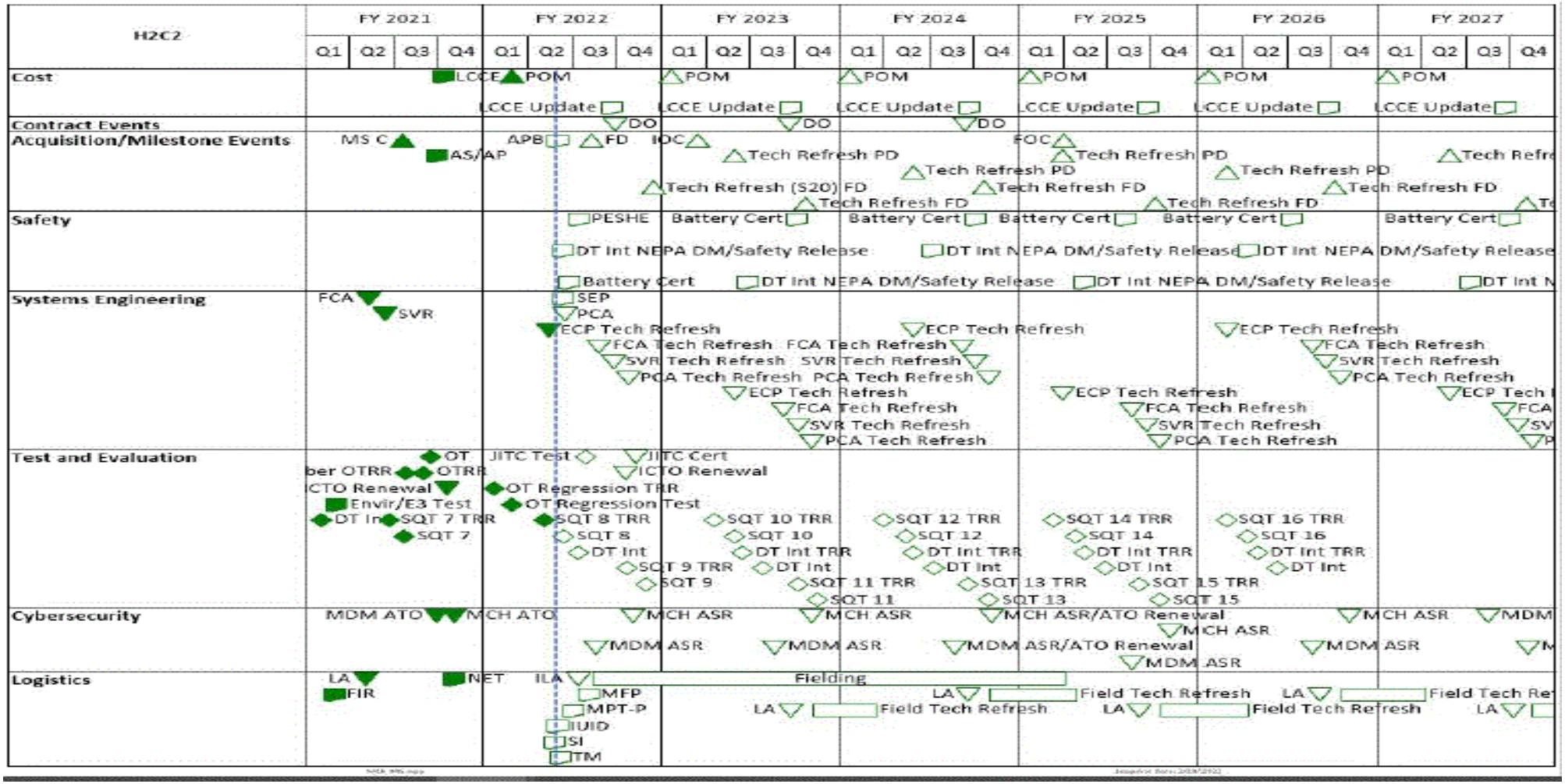

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

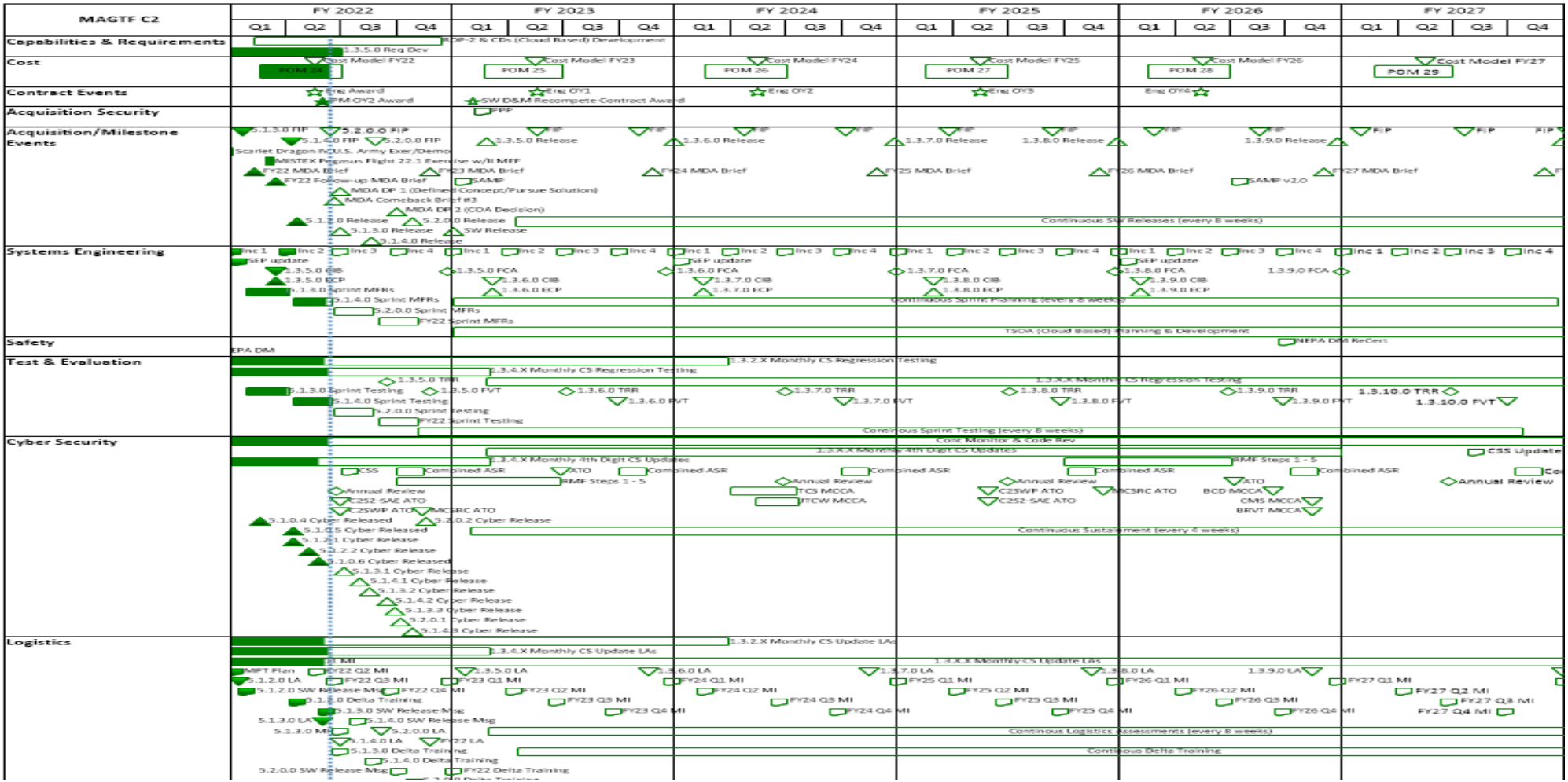

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

FDS Schedule

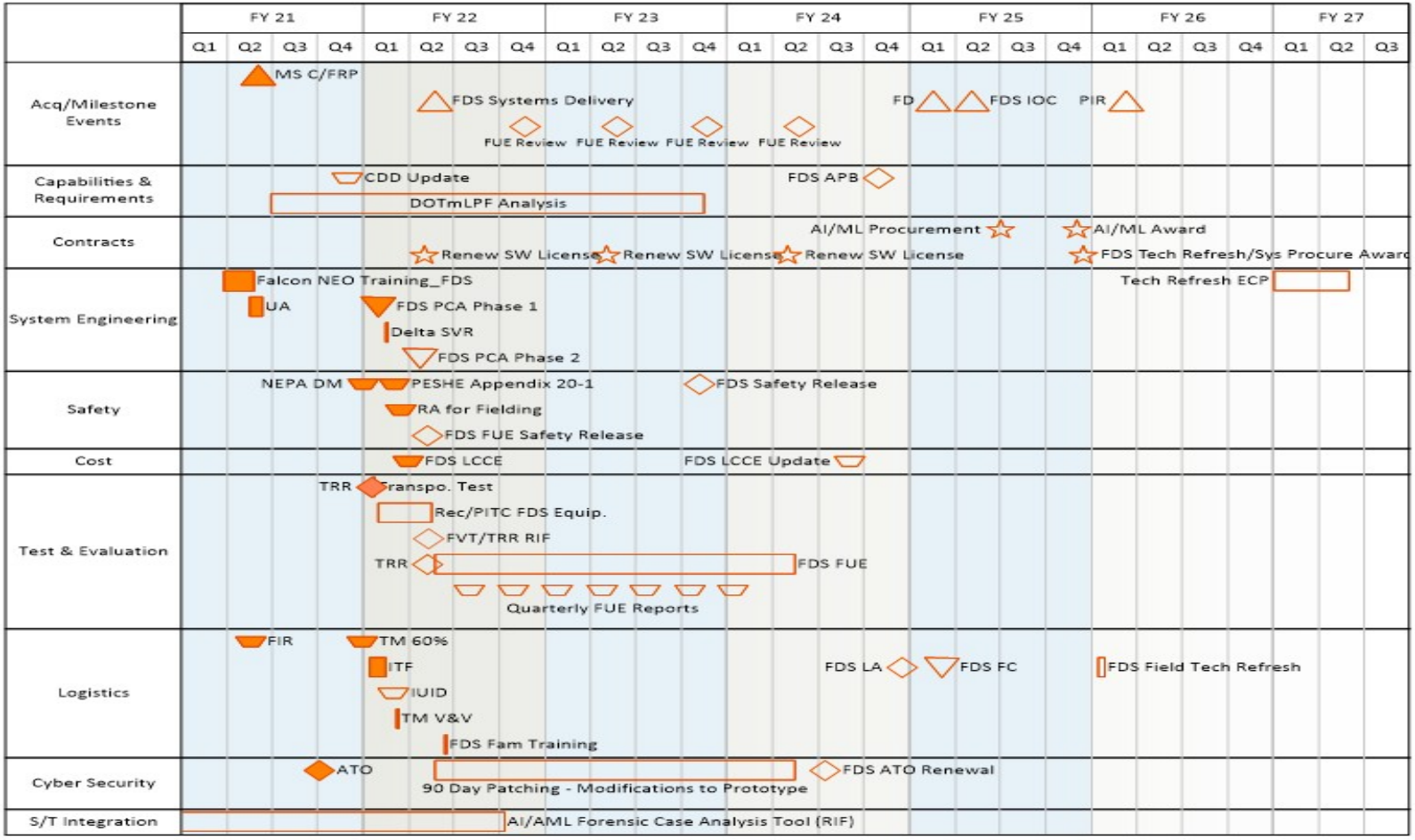

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

IDS Schedule

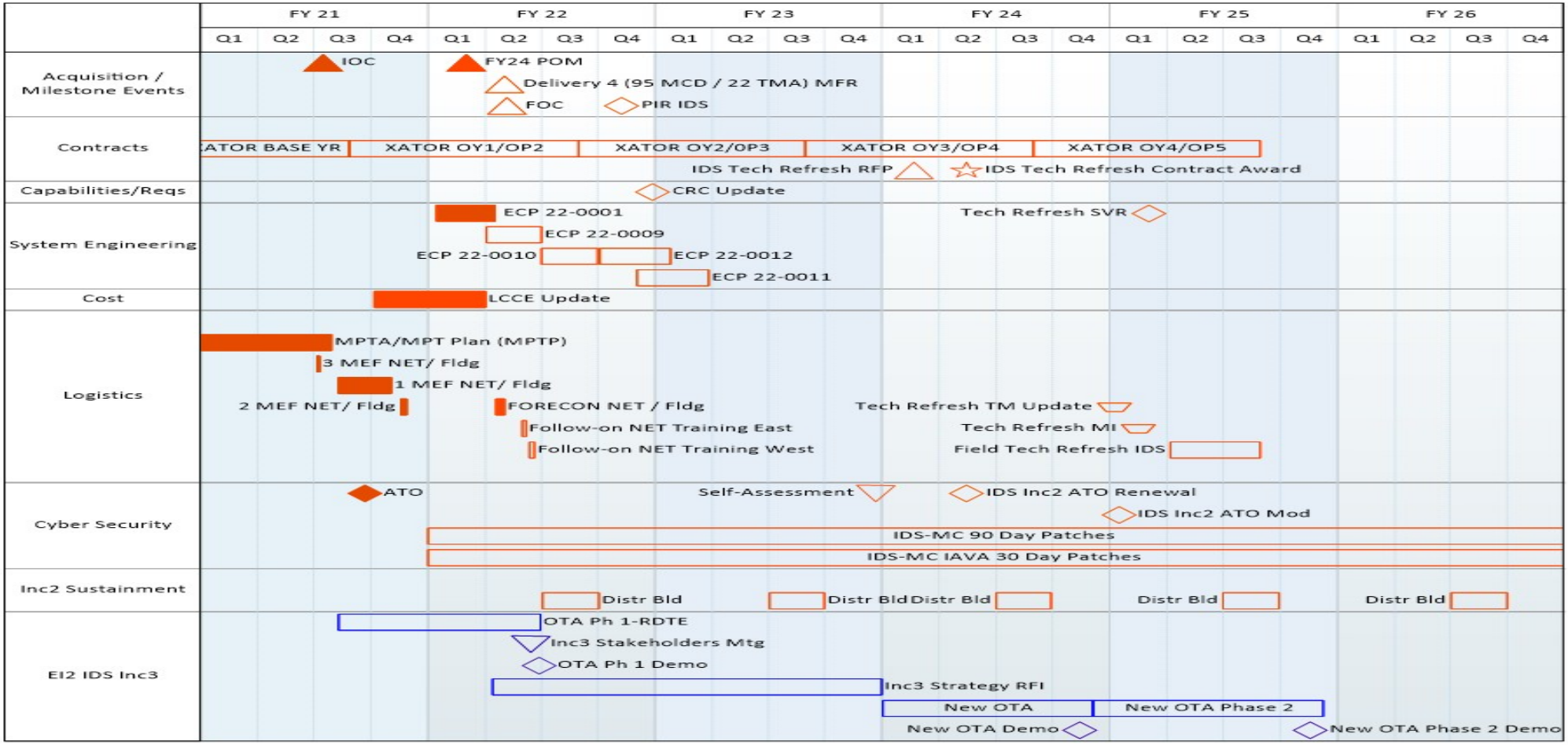

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

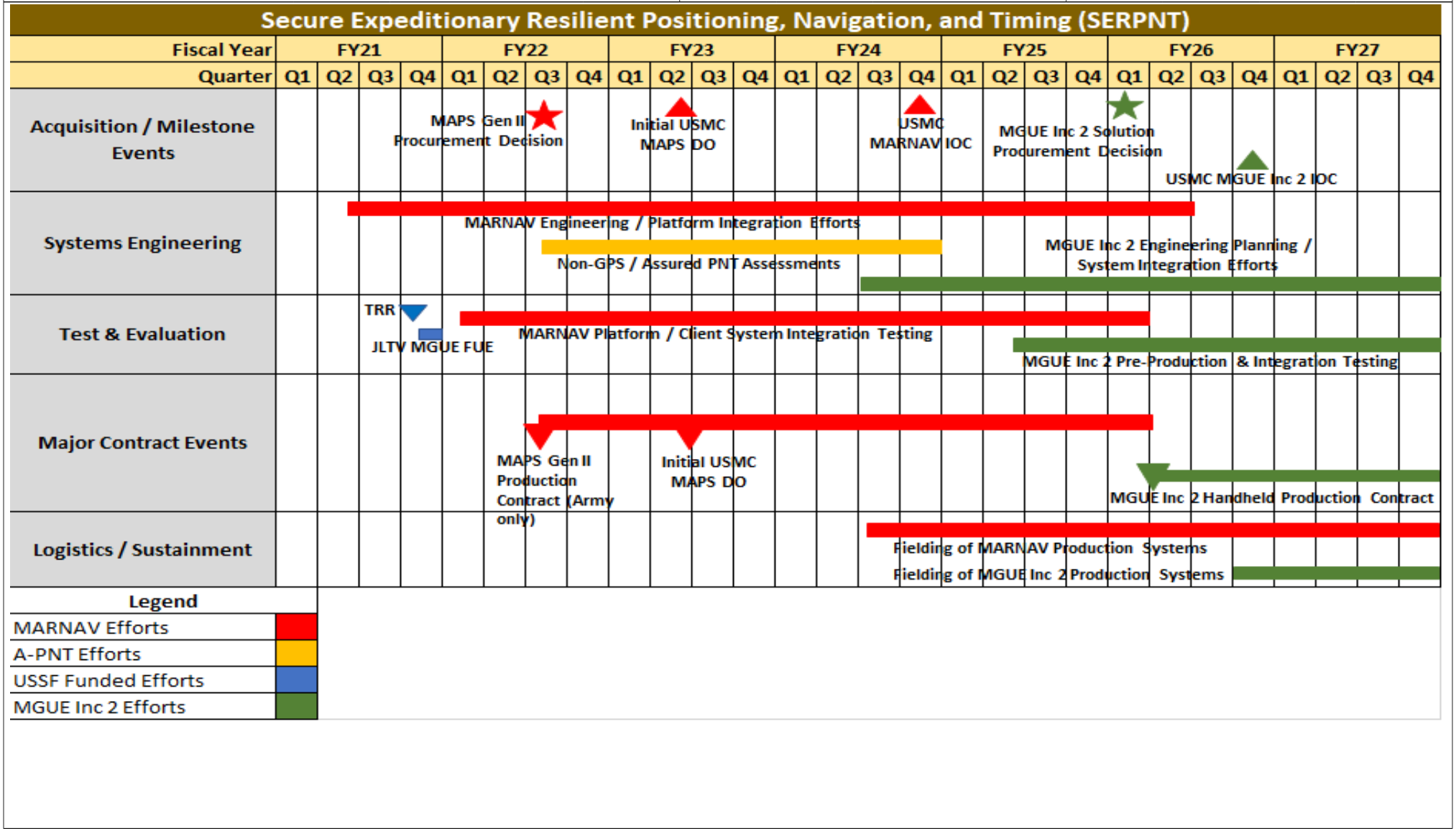

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2270				
MAGTF C2 1.3.4.0 FCA	1	2021	1	2021
MAGTF C2 5.1.0.0 SVR	1	2021	1	2021
MAGTF C2 5.1.0.0 TRR	2	2021	2	2021
MAGTF C2 5.1.0.0 SIT	2	2021	2	2021
MAGTF C2 5.1.1.0 Sprint testing	3	2021	3	2021
MAGTF C2 5.1.2.0 Sprint testing	3	2021	4	2021
MAGTF C2 5.1.0.0 Delta training	4	2021	4	2021
MAGTF C2 5.1.3.0 FIP	1	2022	1	2022
MAGTF C2 5.1.2.0 Release	2	2022	2	2022
MAGTF C2 Eng Award	2	2022	2	2022
MAGTF C2 5.1.3.0 Release	2	2022	2	2022
MAGTF C2 5.1.4.0 Release	3	2022	3	2022
MAGTF C2 1.3.5.0 TRR	3	2022	3	2022
MAGTF C2 5.2.0.0 Release	4	2022	4	2022
MAGTF C2 1.3.5.0 FVT	4	2022	4	2022
MAGTF C2 1.3.5.0 Release	1	2023	1	2023
MAGTF C2 1.3.6.0 CIB	1	2023	1	2023
MAGTF C2 1.3.6.0 ECP	1	2023	1	2023
MAGTF C2 FIP	2	2023	2	2023
MAGTF C2 ENG OY1 AWARD	2	2023	2	2023
IDS-MC Tech Refresh Contract Award	2	2024	2	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
IDS-MC OTA Demo	3	2022	3	2022
IDS-MC New OTA Demo	4	2024	4	2024
FDS-MC FUE	2	2022	2	2022
FDS-MC MS C	2	2021	2	2021
FDS-MC IOC	2	2025	2	2025
H2C2 MS C	2	2021	2	2021
H2C2 IOC	2	2022	2	2022
H2C2 FOC	2	2025	2	2025
MGUE Inc 1 MARNAV (MAPS) Procurement Decision	3	2022	3	2022
MGUE Inc 1 MARNAV (MAPS) Production Contract Award	2	2023	2	2023
MARNAV IOC	4	2024	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2273 / *Air Ops Cmd & Control (C2) Sys*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
2273: *Air Ops Cmd & Control (C2) Sys*	459.849	6.478	7.093	12.087	-	12.087	11.598	11.433	8.299	8.443	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Composite Tracking Network (CTN) - The Composite Tracking Network (CTN) is a Commandant of the Marine Corps (CMC) Force Design (FD) program which distributes composite tracking data to Command and Control (C2) and weapon systems participating in the US Navy's Cooperative Engagement Capability (CEC) network, which is a sensor network with integrated fire control capability that improves battle force air and missile defense capabilities by combining data from multiple battle force air search sensors on CEC-equipped units into a single, real-time, composite track picture. CTN greatly enhances fleet air defense working in concert with CEC by significantly contributing to real-time situational awareness. The program received ACAT III designation in Nov 2001 and is an instantiation of the USN CEC Program. The program is USMC led with US Navy and US Army cooperation. The 12 April 1995 Mission Need Statement (MNS) No. AAS 48 for the Common Aviation Command and Control System (CAC2S) established the Marine Corps' need to upgrade its existing air defense architecture with capabilities to support improved situational awareness (SA) and advanced engagement concepts. The Composite Tracking Network (CTN) program was initiated to address this capability gap. The CTN system (AN/MSQ-143A(V)1) is an integration effort consisting of an AN/USG-4B (the USMC CEC CTN platform) and other US Marine-unique components. The CTN system interfaces with the AN/TPS-80 Ground/Air Task Oriented Radar (G/ATOR) and the Common Aviation Command and Control System (CAC2S) to provide the Marine Air-Ground Task Force (MAGTF) and Joint Task Force Commanders a real-time, line of sight, high data-rate sensor and engagement data distribution network that combines all distributed sensor data, including G/ATOR measurements, into a fire control quality track picture which is the same for all CEC network nodes. CEC data combined with G/ATOR contributions, will effectively increase Situational Awareness by providing accurate, composite, and real-time surveillance tracks, reduce ground-to-air and air-to-air fratricide, enable air and surface Naval Integrated Fire Control-Counter Air (NIFC-CA), and extend the air defensive capability of forces in the littorals. Through integration & fielding of CEC Increment II capabilities, CTN shall integrate new sensor types and track data sources into the network, such as surface search radars and passive detection sensors, as well as relevant data from other networks. CTN shall accommodate more CUs and provide a more complete, robust, and resilient situational awareness picture, composite identification, and Integrated Fire Control (IFC), with assured communications for Integrated Air and Missile Defense (IAMD), surface warfare, and electronic mission warfare domains.

Air Battle Management (ABM) - ABM is a Commandant of the Marine Corps (CMC) Force Design (FD) program which contains the Theater Battle Management Core Systems-Marine Corps (TBMCS-MC). TBMCS-MC is the joint mandated air war planning tool for generation, dissemination, and execution of Air Tasking Orders (ATO) and Airspace Control Orders (ACO). TBMCS-MC is a core C2 system in the Marine aviation combat element for the tools required to conduct Situational Awareness and Assessment, Airspace De-confliction, Mission Planning/Execution/Re-planning, and Assault Support Processing. The Marine Corps derives, develops, and sustains the core TBMCS software suite in joint cooperation with the United States Air Force (USAF) and maintains its configuration of TBMCS-MC while continually improving its cybersecurity posture in accordance with relevant DoD and Marine Corps requirements and timelines. The Marine Corps maintains the responsibility to ensure the system meets Marine air C2 requirements and its operational relevant employment in a joint theater of operations while maintain interoperability with numerous Joint, Marine Corps, Navy and Air Force command and control systems.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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Remote Video Viewing Terminal (RVVT) - Consists of Commercial Off-The-Shelf (COTS) Video Down-Link (VDL) products such as the VideoScout Mobile Configuration 2 (VS-MC/2), VideoScout Mobile Configuration 3 (VS-MC/3), and Man Portable Video Down-Link (MPVDL) that allow for the viewing and exploitation of Full Motion Video (FMV) from Intelligence, Surveillance and Reconnaissance (ISR) assets. VDL systems are mission critical for coordination of direct and indirect fires and the prevention of fratricide. These systems provide the Fleet Marine "Forces" with critical video and metadata from all USMC manned and unmanned aircraft to include, but not limited to Raven B, Puma, Micro-UAS, Shadow, Predator, Fire Scout, and Litening Pod on P-3, AV8-B, F/A-18, and F35. These products ensure critical data is displayed to Forward Air Controllers (FACs), Forward Observers (FOs), Fire Support Teams (FSTs), Firepower Control Teams (FCTs), Tactical Air Control Parties (TACPs) and Reconnaissance Teams.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Composite Tracking Network (CTN): Support and Management Services	0.352	0.015	0.026	0.000	0.026
Articles:	-	-	-	-	-
FY 2022 Plans: - Travel, engineering support, and test support for Naval Integrated Fire Control-Counter Air (NIFC-CA) Integration and Signal Data Processor (SDP) Next qualification testing. This is to support the development and testing of capabilities and components required to remain aligned with the US Navy's CEC Increment II capability upgrades. ***FY 2023 Base Plans:*** - Complete travel, engineering support, and test support for and SDP Next qualification testing and CEC increment II. - Initiate travel, engineering support, and test support for CEC Block 2 (increment II) development. This ensure USMC CTN integration and software modifications align to support CEC Block 2. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The $0.011M increase is to support travel, engineering, and test support for CTN CEC Increment II development.					
Title: Composite Tracking Network (CTN): Engineering Development	0.400	0.303	3.202	0.000	3.202
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue software certification to maintain interoperability with CEC Network to include associated engineering support.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue engineering support for CTN Software Development and Integration and certification efforts required to support the development of NIFC-CA. ***FY 2023 Base Plans:*** - Continue software certification to maintain interoperability with CEC Network to include associated engineering support. - Development, integration, test, and certification activities required for insertion of new capabilities into CTN that interfaces to CAC2S & G/ATOR TPS-80. New capabilities currently include NIFC-CA, Mode S identify friend or foe (IFF), and Terrestrial Transmission Line of Sight (TRILOS) radio interoperability. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The $2.899M increase is to support CTN development of interfaces with CAC2S and G/ATOR for new system capabilities.					
Title: Remote Video Viewing Terminal (RVVT): Software Development Support	0.205	1.328	1.377	0.000	1.377
Articles:	-	-	-	-	-
FY 2022 Plans: - Continued software development for the integration of encrypted video with new and fielded sensor platforms, to include 5th generation sensor and air platform. - Completed the integration of Full Motion Video into the Marine Corps Situational Awareness(MCSA)Tablets. - Initiated the implementation of Target Mensuration from Full Motion Video Meta Data. ***FY 2023 Base Plans:*** -Complete software development for the integration of encrypted video with new and fielded sensor platforms, to include 5th generation sensor and air platform. -Complete implementation of Target Mensuration from Full Motion Video Meta Data. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:***					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
The net increase of $0.049M supports the completion of the development of software for the integration of new encrypted video platforms, and the implementation of Target Mensuration from Full Motion Video Meta Data.					
Title: Composite Tracking Network (CTN): Developmental Testing and Cyber Security	1.713	2.177	4.679	0.000	4.679
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue systems engineering efforts and updates to the software baseline to support annual CEC FQT, maintain cybersecurity updates and its Authority to Operate. - Continue NIFC-CA system development and complete verification testing with Cooperative Engagement Capability (CEC) Network. - Continue Cooperative Engagement Capability (CEC) Increment II and Signal Data Processor (SDP) Next development with the US Navy. CTN must maintain interoperability as the Navy fields CEC Increment II capabilities and the CEC Network expansion in CEC Block 2 mandates changes to composite track number structure for expanded capability. SDP-Next is the next generation component which is to replace the current SDP-Sierra (SDP-S). This upgrade is also required to remain aligned with the US Navy's CEC Increment II capabilities.					
FY 2023 Base Plans: - Continue NIFC-CA system development with the Navy's CEC Network. - Continue systems engineering efforts and updates to the software baseline to support annual CEC FQT, maintain cybersecurity updates and its Authority to Operate. - Continue CEC Increment II and Signal Data Processor (SDP) Next development, integration and software modifications to support CEC Block 2 capabilities.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: The $2.502M increase is due to the ramp up in the development of CEC increment II and SDP Next development, integration and SW modifications.					
Title: Air Battle Management (ABM): Engineering Support	0.792	0.675	0.628	0.000	0.628
Articles:	-	-	-	-	-
FY 2022 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue engineering support for system integration development of the TBMCS-MC and its tech refresh. This is an effort to upgrade the TBMCS-MC until the replacement system is fielded. ***FY 2023 Base Plans:*** - Continue engineering support for further system integration development of the TBMCS-MC and its tech refresh. This is a continuation of the effort to upgrade the TBMCS-MC until the replacement system is fielded. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The $0.047M decrease is due to the reduction in scope of needed engineering support for system integration development of the TBMCS-MC tech refresh.					
Title: Air Battle Management (ABM): Test and Evaluation	2.327	1.495	0.738	0.000	0.738
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue development and T&E of Air Force KRADOS modules to meet Marine Corps TBMCS-MC replacement Next Generation Suite capability requirements. - Continue IA testing on developmental software to meet cyber security posture and conduct risk reduction testing to identify potential software vulnerabilities. - Complete Marine Corps participation in Air Force-led KRADOS developmental events. ***FY 2023 Base Plans:*** - Continue development and T&E of Air Force KRADOS modules to meet Marine Corps TBMCS-MC replacement Next Generation system capability requirements. - Continue IA testing on developmental software to meet cyber security posture and conduct risk reduction testing to identify potential software vulnerabilities. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The $0.757M decrease is due to the completion of TBMCS-MC replacement next generation system developmental testing conducted joint with US Air Force-led KRADOS developmental test events.					
Title: Air Battle Management (ABM): Product Development	0.689	1.100	1.437	0.000	1.437

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Articles:	-	-	-	-	-
FY 2022 Plans: - Complete TBMCS-MC replacement PRS development. - Initiate the integration development of the TBMCS-MC replacement PRS. ***FY 2023 Base Plans:*** - To initiate next generation equipment and application development to support replacement of TBMCS-MC as the system that provides the USMC its ABM capability. The ABM capability is vital to USMC Warfighting (i.e. Command and Control, Naval Operations, EABO, Composite Warfare) and develop joint integration with the US Navy and US Air Force in creating Air Battle Plans. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The $0.337M increase is to support the development of ABM's next generation system that will replace the TBMCS-MC.					
Accomplishments/Planned Programs Subtotals	6.478	7.093	12.087	0.000	12.087

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PMC/4640/CT: *Composite Tracking Network (CTN)*	6.931	0.000	7.642	-	7.642	5.559	14.584	5.092	4.024	0.000	107.122
• PMC/4640/DX: *Air Battle Management (ABM)*	1.290	1.199	3.283	-	3.283	2.438	1.453	1.445	1.468	Continuing	Continuing
• PMC/464023: *RVVT*	0.020	0.092	0.123	-	0.123	0.128	0.136	0.139	0.140	Continuing	Continuing

Remarks

D. Acquisition Strategy

ABM - The Marine Corps continues to sustain unique requirements in addition to Air Force requirements and deviates from the Air Force-developed TBMCS-Force Level configuration as necessary to sustain its TBMCS-MC. The USMC separately manages the development and fielding of software and hardware engineering

change proposals for Information Assurance (IA) and functionality updates to ensure daily direct support of the Air Battle Plan in joint theaters of operation. The Marine Corps prevents TBMCS-MC obsolescence through cyclic and as-needed technical refreshment of information technology hardware when applicable. The USD (AT&L) canceled the US Air Force's Air Operations Center - Weapon System (AOC-WS) 10.2 program in 2018 that included the Command and Control (C2) Air Operations Suite - C2 Information Services (C2AOS-C2IS), therefore Air Force Program Executive Officer (PEO) Digital subsequently transitioned its efforts to a middle tier of acquisition (MTA) (Section 804 of the FY 2016 NDAA) rapid prototyping effort under the AOC-WS Modifications "Block 20" program. AOC-WS "Block 20" capabilities are being developed by the Kessel Run Experimentation Lab (KREL); an organic Air Force software development MTA effort. The Marine Corps will primarily inherit the Air Force's software suite called the Kessel Run All Domain Operations Suite (KRADOS) - formerly C2AOS-C2IS - from the larger AOC-WS upgrade efforts. The KRADOS product will replace legacy TBMCS software as the joint ABM capability for the execution of the Air Battle Plan (ABP). As the USAF leads the development of its replacement for their TBMCS-Force Level capability, the Marine Corps is aligning its investments toward the ability to host the new capability in the Marine Corps cyber network and combat operating environments, to include cloud-based technology solutions and network architecture. The Marine Corps TBMCS Next Generation Suite strategy includes developmental and operational testing with joint partner laboratories (i.e. CAOC-X, Langley AFB; 45th Test Squadron) as well as Marine peculiar system of systems interoperability evaluations within its own engineering support centers (i.e. NSWC Crane; MCTSSA, Camp Pendleton) and Marine test events. The Air Force seeks a deployment of the new capability in Q1 FY 2023 of and the Marine Corps plans to stay aligned to this schedule by testing released software in concert with the Air Force but will not dispose of TBMCS-MC until Q4 FY 2023. The Marine Corps will determine replacement of the current legacy TBMCS-MC when testing and evaluation confirms the new system is ready to provide sufficient capability to enable Marines to plan and execute aviation command and control and Air Battle Management operations in a joint environment.

CTN - The USMC's CTN acquisition strategy is to participate in the USN's Cooperative Engagement Capability (CEC) program procurement and testing, making necessary modifications to support the Marine Corps' requirement. CTN is currently conducting a technology refresh (TR) of the CTN system. The TR will address system obsolescence and enable CTN to remain aligned with the development of US Navy CEC Block II (Increment II) and Signal Data Processor (SDP-Next) upgrades as well as maintain CEC interoperability which is vital as CTN is the USMC gateway to Naval Integrated Fire Control-Counter Air (NIFC-CA) that enables the ACE to achieve resiliency of joint air C2 in an Expeditionary Advanced Base Operations (EABO) environment and supports CMC FD initiatives. The TR upgrade will improve CTN components: the Signal Data Processor-Sierra (SDP-S), Compact Solid State Antenna (CSSA), voice communications, and AN/USG-4B Shelters. These upgrades will directly result in improved interfaces with the AN/TPS-80 Ground/Air Task Oriented Radar (G/ATOR) and the Common Aviation C2 System (CAC2S) through displacement of sensor and C2 via RF link and multiple radar connections, providing the Marine Air-Ground Task Force (MAGTF) and Joint Task Force Commanders an improved ground based sensor netting solution that interfaces with the Navy's CEC network.
The USMC Air Combat Element (ACE) Operational Planning Team (OPT) has directed an increase to the CTN Approved Acquisition Objective (AAO) in support of Force Design 2030. CTN will produce and field eight (8) CTN systems, increasing the AAO from 11 to 19 systems in support of Force Design.

RVVT - The RVVT acquisition strategy is to continue integration of Video Down-Link (VDL) systems into new and existing sensor platforms by enhancing the encryption, range, and reducing the power and weight requirements in order to support existing and planned capabilities supporting targeting and fires activities. Efforts to integrate Full Motion Video (FMV) to support Joint Fires Observers (JFOs) and Joint Terminal Attack Controllers (JTACs) is an ongoing requirement to maintain interoperability with new and existing sensor systems.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	267.138	0.000		0.000		0.000		-		0.000	0.000	267.138	-
CTN Engineering Devlopment	C/CPFF	NAVSEA PEO IWS : Washington, DC	24.584	0.400	Feb 2021	0.303	Feb 2022	3.202	Feb 2023	-		3.202	Continuing	Continuing	Continuing
ABM Product Development	C/FFP	NSWC Crane : Crane, IN	0.000	0.689	Nov 2020	1.100	Nov 2021	1.437	Nov 2022	-		1.437	0.000	3.226	-
RVVT	MIPR	CCDC : Huntsville, AL	4.222	0.000		0.000		0.000		-		0.000	0.000	4.222	-
RVVT	MIPR	SMDC : Huntsville, AL	0.000	0.205	Nov 2020	0.000		0.000		-		0.000	0.000	0.205	-
RVVT	WR	NAWC/China Lake : China Lake, CA	0.000	0.000		1.328	Nov 2021	1.377	Nov 2022	-		1.377	0.000	2.705	-
		Subtotal	295.944	1.294		2.731		6.016		-		6.016	Continuing	Continuing	N/A

Remarks

CTN: The $2.899M funding increase from FY 2022 to FY 2023 is to support CTN development of interfaces with CAC2S and G/ATOR for new system capabilities.
ABM: The $0.337M funding increase from FY 2022 to FY 2023 is to support the development of ABM's next generation system that will replace the TBMCS-MC.
RVVT: The net increase of $0.0.049M supports the completion of the development of software for the integration of new encrypted video platforms, and the implementation of Target Mensuration from Full Motion Video Meta Data.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	47.878	0.000		0.000		0.000		-		0.000	0.000	47.878	-
CTN Engineering Support	WR	NSWC : Dahlgren, VA	7.562	0.326	Jan 2021	0.000		0.000		-		0.000	0.000	7.888	-
CTN Engineering Support	Various	Travel-TAD : Not Specified	1.172	0.026	Sep 2021	0.015	Sep 2022	0.026	Oct 2022	-		0.026	Continuing	Continuing	Continuing
ABM Engineering Support	Various	Travel - TAD : Not Specified	0.075	0.075	Sep 2021	0.165	Sep 2022	0.118	Oct 2022	-		0.118	0.000	0.433	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ABM C2 SME support	C/FFP	NSWC Crane : Crane, IN	0.415	0.000		0.000		0.000		-		0.000	0.000	0.415	-
ABM C2 SME support	C/CPFF	DTIC : Fort Belvoir, VA	0.000	0.717	Nov 2020	0.510	Nov 2021	0.510	Nov 2022	-		0.510	0.000	1.737	-
		Subtotal	57.102	1.144		0.690		0.654		-		0.654	Continuing	Continuing	N/A

Remarks

CTN: The $0.011M funding increase from FY 2022 to FY 2023 is to support travel, engineering, and test support for CEC Increment II development.
ABM: The $0.047M funding decrease from FY 2022 to FY 2023 is due to the reduction in scope of needed engineering support for system integration development of the TBMCS-MC tech refresh.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	59.222	0.000		0.000		0.000		-		0.000	0.000	59.222	-
CTN Developmental Testing	WR	NSWC Corona : Corona, CA	2.916	0.065	Nov 2020	0.238	Nov 2021	0.925	Nov 2022	-		0.925	0.000	4.144	-
CTN Engineering/Cyber Security Development	C/CPFF	NAVSEA PEO IWS : Washington DC	4.082	1.084	Dec 2020	1.252	Dec 2021	2.785	Dec 2022	-		2.785	0.000	9.203	-
CTN Test Support	WR	NSWC Dahlgren : Dahlgren, VA	0.291	0.564	Nov 2020	0.687	Nov 2021	0.969	Nov 2022	-		0.969	0.000	2.511	-
ABM Engineering Support	WR	NSWC : Crane, IN	0.919	1.082	Oct 2020	0.995	Jun 2022	0.234	Jun 2023	-		0.234	0.000	3.230	-
ABM Cyber Security Support	C/FFP	NSWC Indian Head : Indian Head, MD	0.049	0.145	Mar 2021	0.500	Mar 2022	0.504	Jun 2023	-		0.504	0.000	1.198	-
ABM Operational Test Support	WR	MCOTEA : Quantico, VA	1.220	0.000		0.000		0.000		-		0.000	0.000	1.220	-
ABM Engineering Support	C/FFP	NSWC Crane : Crane, IN	0.321	1.100	Jun 2021	0.000		0.000		-		0.000	0.000	1.421	-
ABM Developmental Test Support	C/FFP	MCTSSA : Camp Pendleton, CA	0.740	0.000		0.000		0.000		-		0.000	0.000	0.740	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	69.760	4.040		3.672		5.417		-		5.417	0.000	82.889	N/A

Remarks

CTN: The $2.502M funding increase from FY 2022 to FY 2023 is due to the completion of NIFC-CA system verification testing with the US Navy CEC Network
ABM: The $0.757M funding decrease from FY 2022 to FY 2023 is due to the completion of TBMCS-MC replacement next generation system developmental testing conducted joint with US Air Force-led KRADOS developmental test events.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	36.391	0.000		0.000		0.000		-		0.000	0.000	36.391	-
ABM Program Support	C/FFP	NSWC Crane : Crane, IN	0.652	0.000		0.000		0.000		-		0.000	0.000	0.652	-
		Subtotal	37.043	0.000		0.000		0.000		-		0.000	0.000	37.043	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	459.849	6.478		7.093		12.087		-		12.087	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
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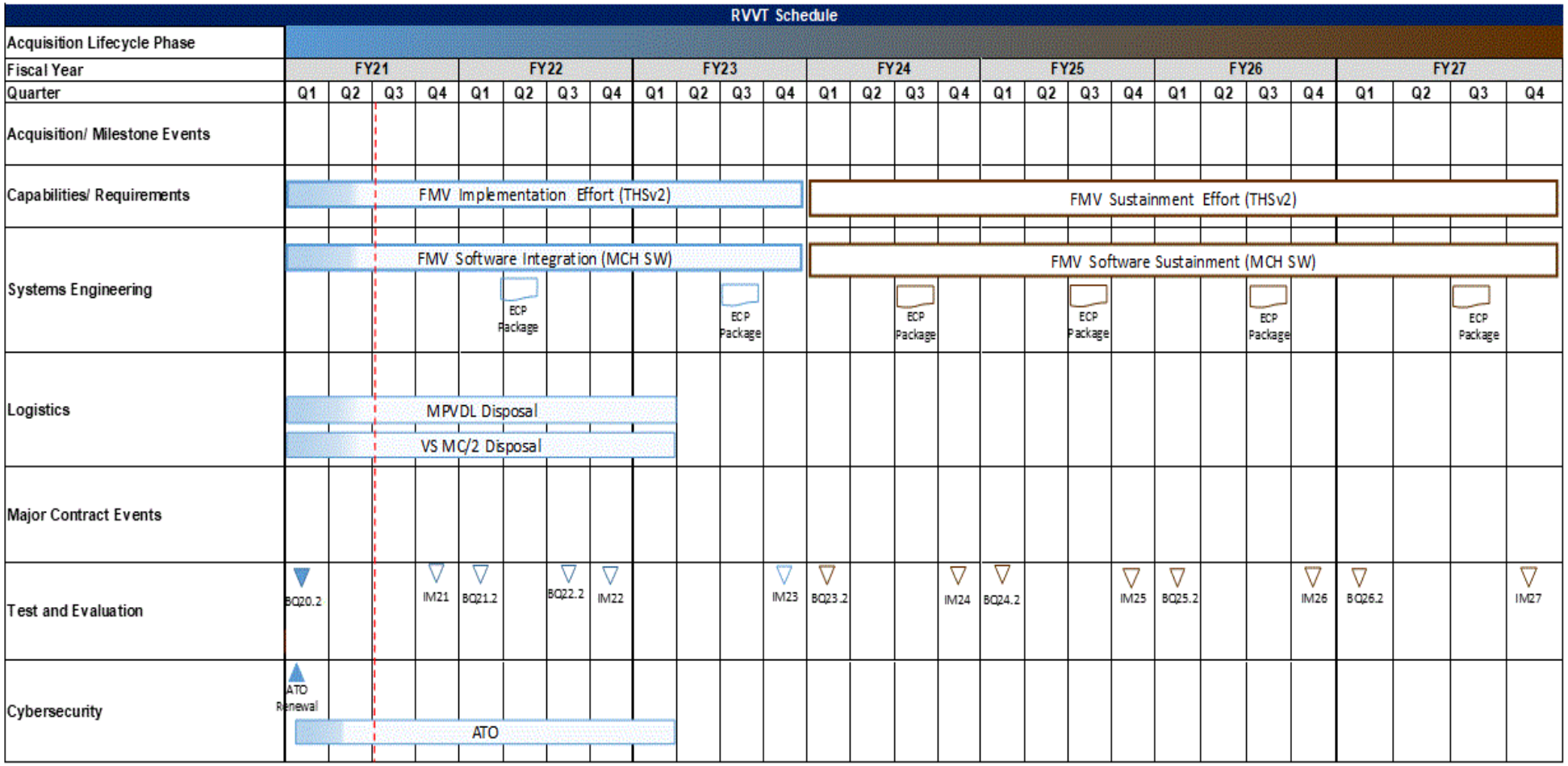

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

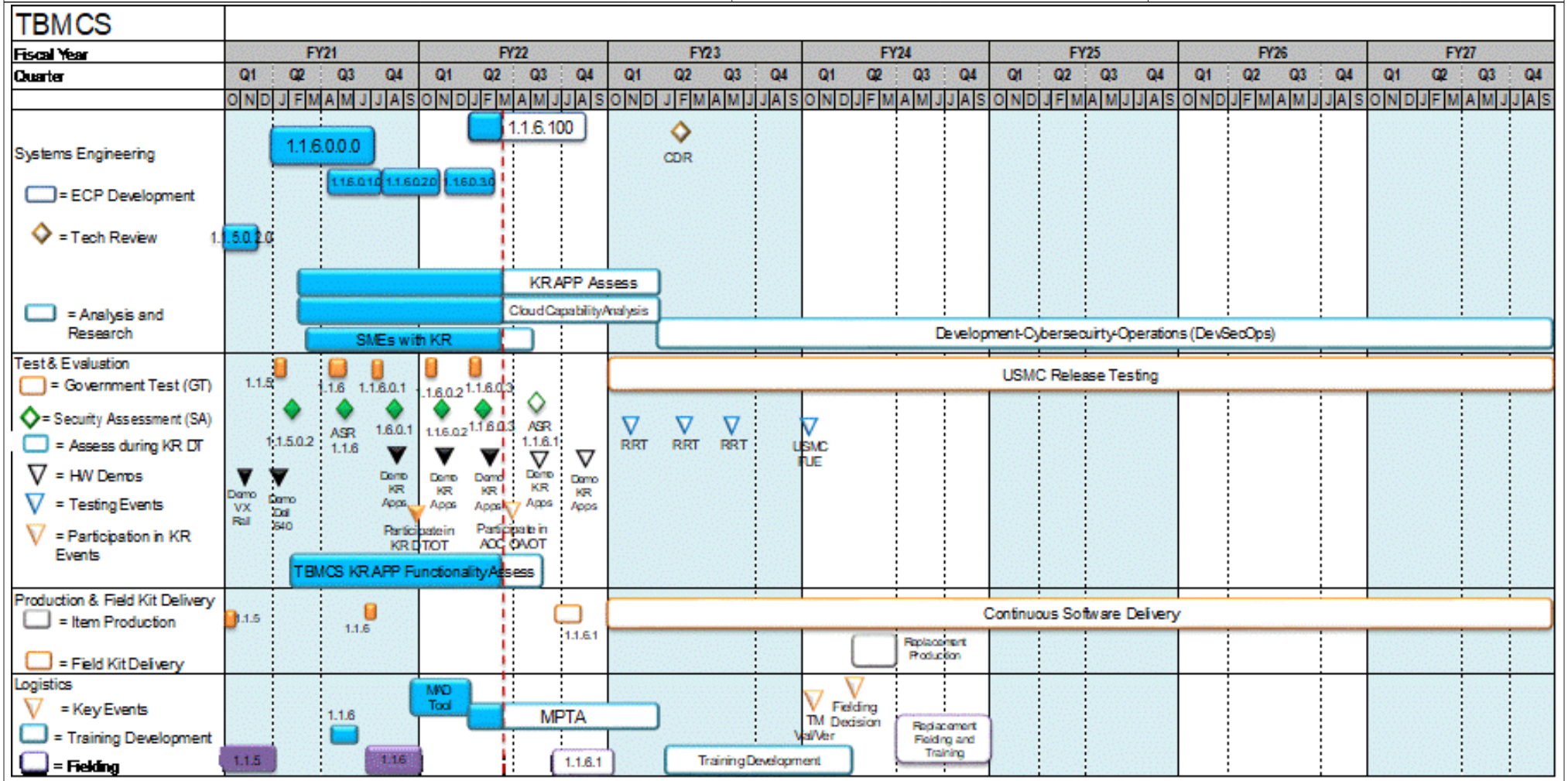

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

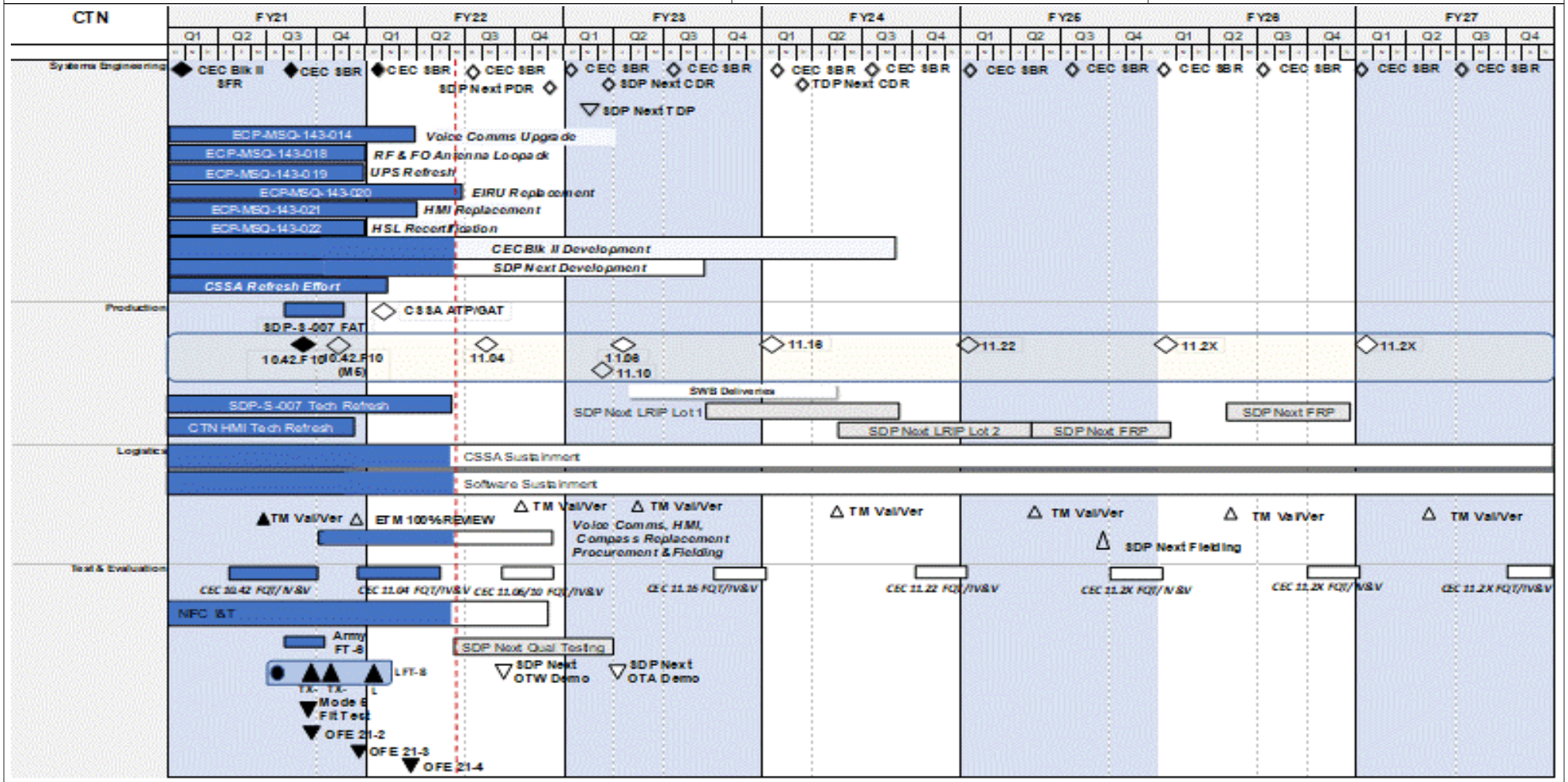

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2273				
CTN IPP Schedule: CTN Technology Refresh (ECP-143)	1	2021	2	2022
CTN IPP Schedule: CEC Block II (Increment II) Development	1	2021	3	2024
CTN IPP Schedule: SDP Next Development	1	2021	3	2023
CTN IPP Schedule: CTN Tech refresh: CSSA tech refresh	1	2021	1	2022
CTN IPP Schedule: CTN Tech refresh: SDP-S tech refresh	1	2021	2	2022
CTN IPP Schedule: CSSA Sustainment	1	2021	4	2027
CTN IPP Schedule: Software Sustainment	1	2021	4	2027
CTN IPP Schedule: CEC FQT/IV&V	1	2021	4	2027
CTN IPP Schedule: Naval Integrated Fire Control-Counter Air Integration and Testing	1	2021	4	2022
CTN IPP Schedule: Signal Data Processor (SDP) Next qualification testing	2	2022	2	2023
ABM IPP Schedule: Annual Software Update Releases (1.1.6)	1	2021	2	2022
ABM IPP Schedule: Annual software Government Test (GT) and Cyber security assessment (SA)	3	2021	3	2022
ABM IPP Schedule: TBMCS-MC Replacement system development Cloud capability analysis	2	2021	1	2023
ABM IPP Schedule: Development-Cybersecuirty-Operations	2	2023	4	2027
ABM IPP Schedule: TBMCS-MC Replacement system development	2	2021	4	2022
ABM IPP Schedule: USMC SW release testing	1	2023	4	2027
ABM IPP Schedule: Continuous SW Delivery	1	2023	4	2027
ABM IPP Schedule: TBMCS-MC Replacement Fielding	3	2024	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2274 / *Command & Control Warfare Sys*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
2274: *Command & Control Warfare Sys*	79.013	8.324	22.325	29.643	-	29.643	24.938	23.904	23.912	24.290	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) Ground Family of Systems (MEGFoS) - MEGFOS are critical CMC Force Design programs. Full funding of MEGFOS is required for FY 2023 for this key Force Design Initiative as it supports expanded research and development of Electronic Warfare-related capabilities required for MEGFoS platform development. This capability will provide essential force protection by providing Counter Radio-Controlled Improvised Explosive Device (RCIED) and Counter Unmanned Aerial System (C-UAS) capabilities as well as the capability to sense threat spectrum usage within an area of responsibility. The increase of $7.57M from FY 2022 to FY 2023 is primarily due to the initiation of the MEGFoS Dismounted variants development, which will integrate common, open hardware backplane based off the C4ISR Modular Open Suites of Standards (CMOSS) and a Sensor Open Systems Architecture (SOSA); development of networking capability for dismounted and team portable systems to provide a high level of situational awareness; and the integration of S&T efforts into both the MEGFoS Team Portable and Dismounted variants. These funds support development of MEGFoS systems and will support a common operating picture, allowing all elements of the MAGTF to gain and maintain awareness of the electromagnetic spectrum within their area of responsibility. MEGFOS is a key component of the Expeditionary Advanced Base Operations (EABO) construct where small maneuver units will require self-protect and organic sensing capabilities. Failure to fully fund this effort will result in delays of or unsynchronized MEGFoS development efforts and greater risk to mounted and dismounted forces operating in a hostile RCIED and UAS environment.

The Marine Corps is seeking to evolve EW capabilities from existing legacy, proprietary EW systems to capabilities for an advanced multi-function electronic warfare mission focused on supporting Electromagnetic Spectrum Operations (EMSO). MEGFOS is the future for team portable, vehicle mounted and dismounted advanced tactical warfare capability supporting the EMSO concept. MEGFoS will provide interconnected EW systems developed using the CMOSS and SOSA standards that will operate across a range of frequencies in order to provide the Marine Corps the ability to maneuver efficiently inside the electromagnetic spectrum. The program is essential for ensuring Marines have the ability to protect friendly use of spectrum, sense all spectrum usage in an area of responsibility, and to target adversaries inside spectrum with the intent to deny, delay, or degrade an adversary's decision making cycle.

Counter Radio-Controlled Improvised Explosive Device (RCIED) Electronic Warfare (USMC CREW) Systems are vehicle mounted and dismounted modular programmable multi-band radio frequency jammers designed to deny enemy use of selected portions of the radio frequency spectrum in the vicinity of the jammer to counter the RCIED threat. The mounted and dismounted systems provide Marines in vehicle convoys and on foot with the necessary protection from the continued and evolving threat of deadly RCIEDs. CREW received an Urgent Statement of Need (USON) 30 January 2018 directing the development of Multi-Function Electronic Warfare (MFEW) systems. Legacy Crew Capabilities and the MFEW development will be components of the Marine Electronic Warfare Ground Family of Systems (MEGFoS). Beginning FY 2021, USMC CREW/MFEW funding has been realigned into the MEGFoS funding profile.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2274 / *Command & Control Warfare Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: MEGFoS - Product Development	5.365	13.737	16.888	0.000	16.888
Articles:	-	-	-	-	-
FY 2022 Plans: -Complete development of MFEW capabilities such as electronic attack (EA)/electronic support (ES) capabilities, fully networked, and advanced electronic warfare (EW) techniques. -Initiate integration of the developed common, open hardware backplane based off the C4ISR Modular Open Suites of Standards (CMOSS), and a Sensor Open Systems Architecture. -Continue development of hardware components that will be interoperable across the mounted, dismounted and team portable systems for MEGFOS. -Complete integration of advanced transceivers to fully realize advanced EA/ES capabilities. -Complete the development of a networking capability for mounted and dismounted systems to provide a high level of situational awareness to commanders and Marines at the company level and fully realize advanced EA/ES capabilities for MFEW. -Initiate development of networking capability for dismounted and team portable systems to provide a high level of situational awareness to commanders and Marines at the company level and fully realize advanced EA/ES capabilities for MEGFoS. -Initiate the development of MEGFoS Dismounted Systems. -Initiate integration of Science and Technology (S&T) efforts into MEGFoS.					
FY 2023 Base Plans: -Continue integration of the developed common, open hardware backplane based off the C4ISR Modular Open Suites of Standards (CMOSS), and a Sensor Open Systems Architecture (SOSA). -Continue development of hardware components that will be interoperable across the mounted, dismounted and team portable systems for MEGFOS. -Continue development of networking capability for dismounted and team portable systems to provide a high level of situational awareness to commanders and Marines at the company level and fully realize advanced EA/ES capabilities for MEGFoS. -Continue development of MEGFoS Dismounted Systems. -Continue integration of Science and Technology (S&T) efforts into MEGFoS. -Initiate development of MEGFoS Mounted Systems. -Initiate development of techniques to counter emerging threats.					
FY 2023 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2274 / *Command & Control Warfare Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The increase of $3.151M from FY 2022 to FY 2023 reflects initiation of the following efforts: development of the MEGFoS mounted variants and development of advanced techniques to counter emerging threats.					
Title: MEGFoS - Support	1.836	4.984	8.310	0.000	8.310
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue providing systems engineering support for the MFEW (mounted and dismounted), MEGFoS Hardware backplane, and Universal Test Sets by analyzing performance impacts resulting from compatibility, technology and software updates and environmental risks. - Continue support of The Office of Naval Research (ONR) Future Naval Capabilities (FNC) Enabling Dynamic Operational Radio Frequency Operating Systems/Electronic Warfare Operating Kit (ENDOR/EWOK) software development and integration into MEGFoS hardware backplane. - Initiate MEGFoS dismounted development support. ***FY 2023 Base Plans:*** -Continue providing systems engineering support for the MFEW (mounted and dismounted), MEGFoS Hardware backplane, and Universal Test Sets by analyzing performance impacts resulting from compatibility, technology and software updates and environmental risks. -Continue MEGFoS dismounted development support, providing systems engineering support for MEGFoS dismounted and integration support of developed S&T effort into MEGFoS dismounted. -Initiate MEGFoS mounted development support, providing systems engineering support for MEGFoS mounted and integration support of developed S&T efforts into MEGFoS mounted. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The increase of $3.326M from FY 2022 to FY 2023 reflects initiation of MEGFoS mounted development support, providing systems engineering support for MEGFoS mounted and integration support of developed S&T efforts into MEGFoS mounted.					
Title: MEGFoS - Test and Evaluation	1.123	3.604	4.445	0.000	4.445
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2274 / *Command & Control Warfare Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
FY 2022 Plans: - Continue developmental test of MEGFoS Architectures in relevant environments. - Continue testing new and developing load-sets ability to exploit or defeat advanced and emerging threat systems. - Continue testing of the mounted and dismounted MFEW engineering changes that will be procured and fielded. - Initiate characterization testing for the Networking and enhanced Graphic User Interface (GUI) Engineering Change Proposal (ECP). ***FY 2023 Base Plans:*** - Continue developmental test of MEGFoS Architectures in relevant environments. - Continue testing new and developing load-sets ability to exploit or defeat advanced and emerging threat systems. - Complete testing of the mounted and dismounted MFEW engineering changes that will be procured and fielded. - Continue characterization testing for the Networking and enhanced Graphic User Interface (GUI) Engineering Change Proposal (ECP). -Conduct MEGFoS Team Portable Operational Demonstration, in preparation for Rapid Prototyping outcome decision. -Conduct MEGFoS dismounted developmental testing. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The increase of $0.841M from FY 2022 to FY 2023 reflects MEGFoS Team Portable Operational Demonstration, in preparation for Rapid Prototyping outcome decision and dismounted developmental testing.					
Accomplishments/Planned Programs Subtotals	8.324	22.325	29.643	0.000	29.643

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PMC/6520AA: *MARINE AIR GROUND TASK FORCE (MAGTF) EW Ground FoS (MEGFoS)*	0.000	72.071	160.248	-	160.248	217.270	236.591	85.827	87.328	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2274 / *Command & Control Warfare Sys*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• RDTE/2274: *MEGFoS RDTE Funding*	8.324	22.325	29.643	-	29.643	24.938	23.904	23.912	24.290	Continuing	Continuing

Remarks

RDTE Project 2274 funding FY 2020 - FY 2023 totaling $30.618M reflects funding associated with MEGFoS Middle Tier Acquisition (MTA) for rapid prototyping.

MTA Funding RDTEN/0206313M/2274:
FY 2020: $3.922M
FY 2021: $5.648M
FY 2022: $9.673M
FY23: $11.375M

D. Acquisition Strategy

Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) Ground Family of Systems (MEGFoS): The CREW and MFEW programs will continue to develop new counter techniques, improve capabilities, enhance software and develop upgrades to counter evolving threats and prevent technology obsolescence. Activities include waveform development, non-recurring engineering for system enhancements, capability upgrades, and the testing and government studies required to support these changes. In FY 2021, the initial 300 MFEW Mounted systems began issuance to the FMF. An additional 600 MFEW Mounted systems are planned for procurement and issuance between FY 2022-2024. MFEW systems are based on a USON requirement and will be augmented by the MEGFoS systems starting in FY 2025. MEGFoS will provide a significant improvement in capability when compared to MFEW and what is commercially available today. The MEGFoS Team Portable system was authorized for Middle Tier of Acquisition Rapid Prototyping in 3Q FY 2020, with planned prototyping completion in 3Q FY 2023. Upon successful prototyping of the Team Portable variant, MEGFoS will procure 40 systems. The intent is to use the MEGFoS Team Portable solution as the basis for the Dismounted and Mounted variants. Procurement of the Dismounted systems, planned for FY 2024-2025, while the MEGFoS Mounted systems are being developed. The iterative development approach for MEGFoS, focusing on a common hardware and software standard, provides the opportunity to integrate all EW sensors into a common operating picture, allowing all elements of the MAGTF to gain and maintain awareness in the electromagnetic spectrum. This will include, but is not limited to, Cyber, Communications, Signature Management, and advanced signals detection and attack techniques.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2274 / *Command & Control Warfare Sys*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MEGFoS	TBD	MCSC : QUANTICO, VA	0.000	0.000		4.123	Dec 2021	4.070	Jul 2023	-		4.070	Continuing	Continuing	Continuing
MEGFoS	TBD	TBD : TBD	0.000	0.000		0.000		3.000	Dec 2022	-		3.000	0.000	3.000	-
MEGFoS	WR	NIWC-LANT : CHARLESTON,SC	0.000	2.835	Mar 2021	3.635	Oct 2021	4.122	Oct 2022	-		4.122	Continuing	Continuing	Continuing
MEGFoS	C/CPFF	NIWC-LANT : CHARLESTON, SC	3.922	1.730	Mar 2021	3.753	Jun 2022	4.100	Jun 2023	-		4.100	Continuing	Continuing	Continuing
MEGFoS	C/CPFF	JHU/APL : LAUREL, MD	0.000	0.800	Feb 2021	2.226	Dec 2021	0.850	Dec 2022	-		0.850	Continuing	Continuing	Continuing
MEGFoS	WR	NSWC-Crane : CRANE, IN	0.000	0.000		0.000		0.746	Dec 2022	-		0.746	0.000	0.746	-
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	32.251	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	36.173	5.365		13.737		16.888		-		16.888	Continuing	Continuing	N/A

Remarks

The increase of $3.151M from FY 2022 to FY 2023 reflects initiation of the following efforts: development of the MEGFoS mounted variants and development of advanced techniques to counter emerging threats.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MEGFoS	WR	NIWC-LANT : CHARLESTON, SC	0.000	0.742	Mar 2021	0.760	Dec 2021	1.000	Dec 2022	-		1.000	Continuing	Continuing	Continuing
MEGFoS	C/CPFF	NIWC-LANT : CHARLESTON	0.000	0.090	Nov 2020	2.800	Nov 2021	4.930	Nov 2022	-		4.930	Continuing	Continuing	Continuing
MEGFoS	TBD	TBD : TBD	0.000	0.000		1.424	Jun 2022	1.445	Jun 2023	-		1.445	Continuing	Continuing	Continuing
MEGFoS	WR	NSWC-CRANE : CRANE, IN	0.000	1.004	Oct 2020	0.000		0.935	Jun 2023	-		0.935	0.000	1.939	-
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	7.849	0.000		0.000		0.000		-		0.000	0.000	7.849	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2274 / *Command & Control Warfare Sys*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	7.849	1.836		4.984		8.310		-		8.310	Continuing	Continuing	N/A

Remarks

The increase of $3.326M from FY 2022 to FY 2023 is due to the initiation of MEGFoS mounted development support.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MEGFoS	MIPR	YPG : YUMA, AZ	0.000	0.219	May 2021	0.863	May 2022	1.574	Oct 2022	-		1.574	Continuing	Continuing	Continuing
MEGFoS	WR	NIWC-CD : CRANE, IN	0.000	0.599	Oct 2021	0.500	Oct 2021	0.571	Oct 2022	-		0.571	Continuing	Continuing	Continuing
MEGFoS	WR	NIWC-LANT : CHARLESTON, SC	0.000	0.105	Oct 2021	2.091	Oct 2021	2.100	Oct 2022	-		2.100	Continuing	Continuing	Continuing
MEGFoS	C/CPFF	NIWC-LANT : CHARLESTON, SC	0.000	0.000		0.150	Dec 2021	0.200	Jun 2023	-		0.200	Continuing	Continuing	Continuing
MEGFoS	C/CPFF	MCSC : QUANTICO, VA	0.000	0.200	Jun 2021	0.000		0.000	Jun 2023	-		0.000	0.000	0.200	-
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	21.931	0.000		0.000		0.000		-		0.000	0.000	21.931	-
		Subtotal	21.931	1.123		3.604		4.445		-		4.445	Continuing	Continuing	N/A

Remarks

The increase of $0.841M from FY 2022 to FY 2023 is due to the Operational Demonstration of the MEGFoS Team Portable Rapid Prototype and the developmental testing of the MEGFoS Dismounted variants.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	13.060	0.000		0.000		0.000		-		0.000	0.000	13.060	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2274 / *Command & Control Warfare Sys*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	13.060	0.000		0.000		0.000		-		0.000	0.000	13.060	N/A

Remarks

No change from FY 2022 to FY 2023.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	79.013	8.324		22.325		29.643		-		29.643	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2274 / *Command & Control Warfare Sys*

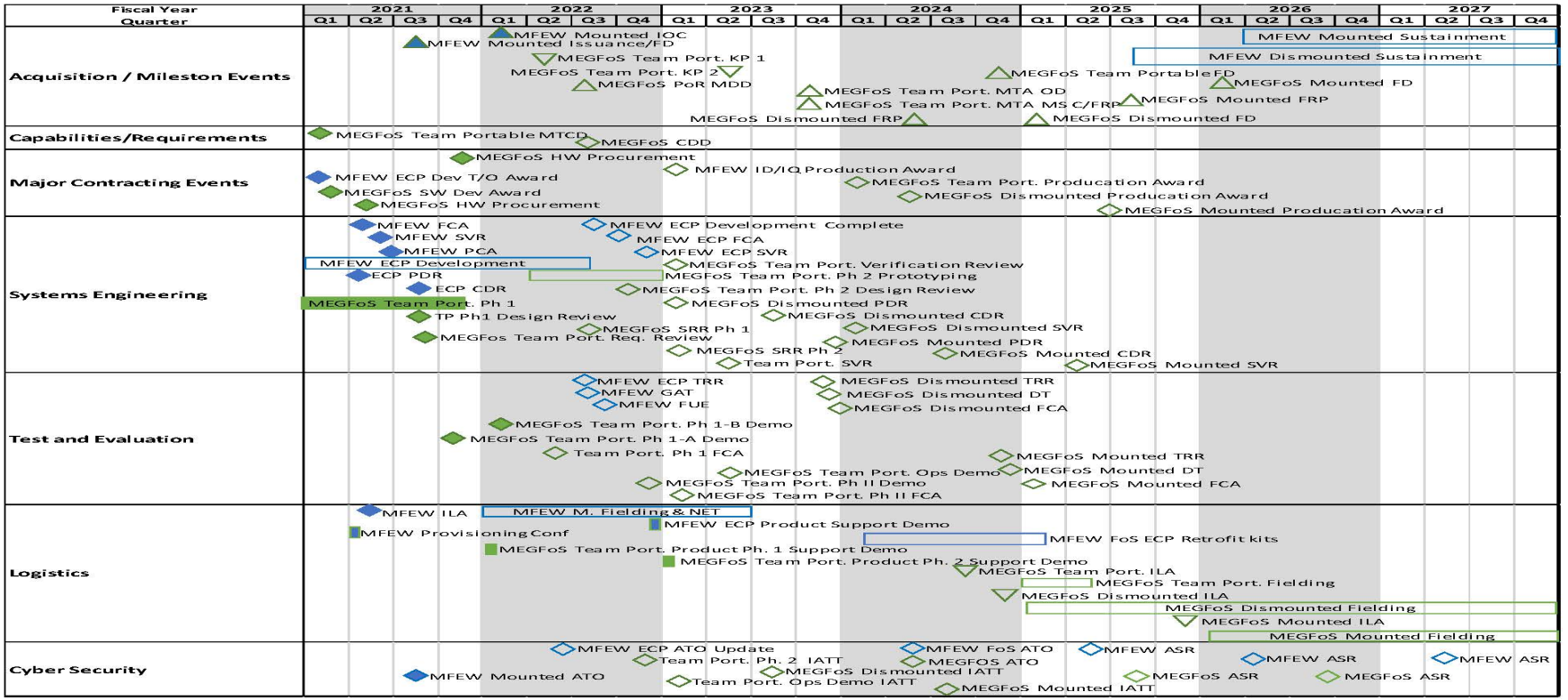

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2274 / *Command & Control Warfare Sys*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2274				
MEGFoS Dismounted and Mounted MDD	3	2022	3	2022
MEGFoS Team Portable Phase II Test and Ops Demo	2	2023	2	2023
MFEW Mounted Issuance Decision	3	2021	3	2021
MFEW ID/IQ Production Award	1	2023	1	2023
MEGFoS Team Portable Milestone C/FRP	4	2023	4	2023
MEGFoS Team Portable Fielding Decision	4	2024	4	2024
MEGFoS Dismounted Milestone C/FRP	2	2024	2	2024

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2275 / *Marine Corps Tactical Radio Systems*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
2275: *Marine Corps Tactical Radio Systems*	106.749	13.232	15.064	17.566	-	17.566	16.492	12.745	11.281	11.452	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Tactical Communications Modernization (TCM): TCM contains multiple CMC Force Design programs. TCM supports the research, testing, and evaluation of non-developmental tactical voice and data radio systems for mounted and dismounted operations within all echelons of the Marine Air-Ground Task Force. The testing will ensure the communication systems are joint networking capable and support National Security Agency (NSA) Communications Security (COMSEC) Modernization requirements. The funding provides contracted engineering support, facility test support, and test reporting for multiple systems. These include the Mobile User Objective System (MUOS), High Frequency Radio II (HFR II), and Multi-Channel Radio Family of System (MCR FoS) [Multi-Channel Man Pack (MCMP) and Multi-Channel Handheld (MCHH)] radios, High-Altitude Attritable Link Offset, terminals, antennas, current systems requiring updates or obsolescence issues, and Joint Enterprise Network Manager (JENM).

Networking on the Move (NOTM) - NOTM is a critical CMC Force Design program, essential to achieving Force Design initial operational capability (IOC) in FY 2023 and sustaining the momentum to achieve Force Design full operational capability (FOC) by 2030. NOTM is a critical enabler for "Command and Control (C2) in a Degraded Environment," a Force Design 2030 Line of Effort. NOTM enables persistence inside contested environments, and the conduct of sea denial operations as part of the Naval Expeditionary Force. NOTM achieves this by providing a state of the art turn-key open architecture solution that enables forces to exercise command and control across operational domains - land, sea, air, and while transitioning between domains, by providing terrestrial line of sight and beyond line of sight satellite communication gateway services, and access to services and applications that enable forces to exercise command and control while transitioning between static and mobile positions. NOTM provides critical radio, voice, and data command and control links to key leaders in dynamic environments across multiple domains. The USMC has two NOTM programs, the NOTM Ground Combat Vehicle (NOTM-GCV), and the NOTM Airborne (NOTM-A) with requirements to field kits for the following platforms: High Mobility Multipurpose Wheeled Vehicle (HMMWV), Joint Light Tactical Vehicle (JLTV), Amphibious Assault Vehicle (AAV), Amphibious Combat Vehicle (ACV), Ultra-Light Tactical Vehicle (ULTV), KC-130J Hercules and MV-22 Osprey One NOTM system for HMMWV, JLTV, and AAV consists of three vehicles per system (1 Point of Presence (POP) and 2 Staff Vehicles). Each NOTM system for ULTV, ACV, and airborne platforms consists of one vehicle per system (POP vehicle). NOTM also supports Navy shipboard integration by installing NOTM Tactical Entry Point (TEP) Modem Kits on Amphibious L-class ships to provide services to Marine Littoral Regiment (MLR) forces ashore. COSMOS details are held at a higher classification.

Wideband Satellite Communications (WSATCOM) (formerly VSAT): This is a critical CMC Force Design program. WSATCOM is an integrated satellite communications family of systems (FoS) that is the primary beyond line-of-sight (BLOS) communications platform for the MAGTF. This FoS supports the expeditionary advanced base operations concept by enabling communication throughout all levels of distributed MAGTF operations. WSATCOM systems' modular architecture supports technology insertion through scalable and flexible SATCOM technologies. WSATCOM uses commercial Ku and military X and Ka frequency bands to provide BLOS connectivity to support intra-MAGTF communications (NIPRNET, SIPRNET, telephony) at all levels of the MAGTF. It directly and indirectly supports the seven functions of information operation concepts, enabling commanders at all levels to reliably command and control forces and to support a wide range of information operation missions.

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Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): SMART-T provides tactical users with protected data and voice via Advanced Extremely High Frequency (AEHF) satellite communications. The SMART-T system is transported on High Mobility Multipurpose Wheeled Vehicles (HMMWVs), providing MAGTF Commanders a secure, survivable, long-haul, low/medium data rate communications link not subject to terrain masking and horizon limitations. The SMART-T is the only USMC asset that possesses a SATCOM AEHF capability. Individuals of this Family of Systems include Very Small Aperture Terminal (VSAT) Expeditionary, Small, Medium, and Large. These systems will be replaced by the Marine Corps Wide-Band SATCOMM (MCWS) Expeditionary (MCWS-X)with IOC in FY 2021, and Light and Heavy (MCWS-L/H) and FY 2023 will focus on testing of the MCWS systems.

Terrestrial Wideband Transmission Systems (TWTS): These are CMC Force Design programs. TWTS is a portfolio that provides the Fleet Marine Force with the capabilities of secure Beyond Line of Sight (BLOS) and Line of Sight (LOS) terrestrial digital data transmission. The BLOS capability will be provided by the Next Generation Troposcatter (NGT) which is currently in the Engineering and Manufacturing Development Phase. The NGT capability will provide significantly higher bandwidth communications over longer distances compared to the Army/Navy Transportable Radio Communications-170A (AN/TRC-170A) that has been in operations and sustainment since 1992. The LOS capability will be provided by the Line-of-Sight Radio System Family of Systems (LRS FoS) which will begin fielding in FY 2021 and an optical communications system, which was recently designated as an acquisition program. The LRS FoS will provide Naval integration over long distances with both shore-to-shore and shore-to-ship connectivity. LRS FoS includes a Transit Case based system for operational flexibility, a vehicle integrated system (MRC), and the Tactical Elevated Antenna Mast II (TEAMS II) which provides the antenna height needed for transmitting over significant distances. The optical communications system will provide Marines with an extremely high data rate communications pathway. TWTS will also continue to sustain legacy systems such as the AN/TRC-170, Army-Navy/Mobile Radio Communications (AN/MRC-142), Wireless Point to Point Link (WPPL), and Tactical Elevated Antenna Mast System (TEAMS) until NGT, LRS FoS, and the optical communications systems are fielded. The new capabilities within the TWTS portfolio will modernize the Marine Corps ability to connect networks over long distances in contested and satellite-denied environments.

Combat Operations Center (COC): COC provides commanders with a rapidly deployable, common, modular, and scalable operational agency that facilitates command and control across the full spectrum of MAGTF operations. The AN/TSQ-239A Family of Systems (FoS), is designed to provide centralized C2 Operational Facilities (OPFAC) to collect, process, and disseminate tactical data for the commander and staff of a Marine Expeditionary Force (MEF), Division, Wing, Marine Logistics Group, Regiment, Marine Air Group, Battalion, and Squadron. The COC provides the commander with a Common Operational Picture (COP) and tactical data and communications assets needed to plan and conduct operations in an expeditionary combat environment. The system enables analytical and intuitive decision-making with a modular and scalable equipment set consisting of a common module OPFAC, C2 system, visual displays, and SW. Existing Tactical Data System software, previously resident on numerous platforms throughout the Marine Air-Ground Task Force (MAGTF), have been re-hosted on the COC system to provide commanders with integrated data access and communications. COC transitioned from Project C2273 to Project C2275 beginning FY 2019. COC program office will begin developing a design for a update to the current COC configuration called Next Generation Operational Facility (OPFAC). The Next Generation OPFAC will provide the MAGTF with a more agile and modular COC capability to better support future Expeditionary Advanced Based Operations (EABO) that require a smaller physical presence. In FY 2021 the Combat Operations Center (COC) requirements transitions into the Combat Data Network (CDN) program PE 0206313M Project 2276 under the title Common Hosting Environment (CHE).

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: TCM: Product Development	1.274	1.199	4.769	0.000	4.769
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue funding the Marine Corps fair share cost for development of the Joint Enterprise Network Manager (JENM) application required for MUOS. ***FY 2023 Base Plans:*** - TCM funds the Marine Corps fair share cost for development of the Joint Enterprise Network Manager (JENM) application required for MUOS. - Begin development of HALO C2 array to ensure Marine Corps communications remain effective in a contested environment. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $3.570M from FY 2022 to FY 2023 reflects the initiation of of HALO C2 array development efforts.					
Title: TCM: Engineering and Program Support	0.349	0.356	1.066	0.000	1.066
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue engineering and support efforts for radios, such as MCHH, as well as crypto modernization efforts. ***FY 2023 Base Plans:*** - Fund engineering and support efforts for radios, such as MCHH, as well as crypto modernization efforts. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.710M from FY 2022 to FY 2023 $0.710M is in support of HALO C2 Array.					
Title: TCM: Test and Evaluation Support	4.787	3.983	4.851	0.000	4.851
Articles:	-	-	-	-	-
FY 2022 Plans: - Procure test assets to support testing to mitigate obsolescence issues.					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Test events including software development test, road shock, shake and vibration testing and MIL-STD testing for TCM FoS and system updates or obsolescence. - Support procurement of antenna test asset and test events. (This initiative supports the following National Defense Strategy objective: sustain joint force military advantage) ***FY 2023 Base Plans:*** - Fund test events including software development test, road shock, shake and vibration testing and MIL-STD testing for TCM FoS and system updates or obsolescence. - Fund the procurement of antenna test asset and support during test events. (This initiative supports the following National Defense Strategy objective: sustain joint force military advantage) - Begin testing of HALO C2 array to ensure continued Marine Corps communications while defeating adversary electronic counter measures. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.868M from FY 2022 to FY 2023 reflects the initiation of HALO C2 array testing.					
Title: TCM: Management Services	0.394	1.013	1.043	0.000	1.043
Articles:	-	-	-	-	-
FY 2022 Plans: - Support FFRDC engineering and program support for the TCM Family of Systems (FoS), HFR II, MCR FoS, MBR II equipment, legacy equipment reaching obsolescence, and research/testing of new technology. ***FY 2023 Base Plans:*** - Support FFRDC engineering and program support for the TCM Family of Systems (FoS), HFR II, MCR FoS, MBR II equipment, legacy equipment reaching obsolescence, and research/testing of new technology. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** No significant change from FY 2022 to FY 2023.					
Title: NOTM: Product Development	3.820	4.501	1.602	0.000	1.602
Articles:	-	-	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Description: Networking on the Move (NOTM) Research and Development funding supports the design, development, prototyping and Engineering for technology refresh and upgrades, system refreshes and new capabilities. ***FY 2022 Plans:*** - Continue prototyping efforts in support of NOTM Amphibious Combat Vehicle (ACV) integration. - Continue development efforts in support of network and SATCOM resiliency tools. - Continue development of network management/configuration tools and artificial intelligence integration. - Continue NOTM-Air (NOTM-A) research efforts focused on digital interoperability and potential size, weight, and power reductions. ***FY 2023 Base Plans:*** - Continue development efforts in support of network and SATCOM resiliency tools. Continue development of network management/configuration tools and artificial intelligence integration. - Continue NOTM-Air (NOTM-A) research efforts focused on digital interoperability and potential size, weight, and power reductions. - Complete prototyping efforts in support of NOTM Amphibious Combat Vehicle (ACV) integration. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease of $2.899M from FY 2022 to FY 2023 reflects completion of prototyping efforts and development efforts in support of NOTM Amphibious Combat Vehicle (ACV) integration.					
Title: NOTM: Test and Evaluation Support	0.424	2.521	1.475	0.000	1.475
Articles:	-	-	-	-	-
Description: Networking on the Move Test and Evaluation funding supports acquisition testing for design, development, production, engineering and fielding of system variants and equipment upgrades. ***FY 2022 Plans:*** - Complete tests and certification in support of satellite communication systems hardening and resiliency. - Continue testing in support of network configuration and network management tool suit. - Complete testing in support of NOTM-A SATCOM system improvements.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Initiate integration and usability testing in support of prototype SATCOM and network management tools/ upgrades. ***FY 2023 Base Plans:*** - Continue testing in support of network configuration and network management tool suit. - Continue integration and usability testing in support of prototype SATCOM and network management tools/ upgrades. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease of $1.046M from FY 2022 to FY 2023 reflects completion of testing and certification in support of satellite communication systems hardening and resiliency, and completion of testing in support of NOTM-A SATCOM system improvements.					
Title: WSATCOM (formerly VSAT): Product Development ***Articles:*** ***FY 2022 Plans:*** N/A ***FY 2023 Base Plans:*** N/A ***FY 2023 OCO Plans:*** N/A	0.367 -	0.000 -	0.000 -	0.000 -	0.000 -
Title: WSATCOM (formerly VSAT): Engineering and Program Support ***Articles:*** ***FY 2022 Plans:*** - Produce engineering documentation, to include the Program Protection Plan, PSPEC, and Cyber Security Plan in support of Marine Corps Wideband Satellite-Light and Heavy (MCWS-L/H). - Initiate and complete Cybersecurity documentation and RMF planning for MCWS-L and MCWS-H. ***FY 2023 Base Plans:*** - Initiate engineering documentation, to include the Program Protection Plan, PSPEC, and Cyber Security Plan in support of Man-Portable Secure Anti-Jam Terminal (MSAT) and Low Earth Orbit (LEO)	0.419 -	0.521 -	0.907 -	0.000 -	0.907 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Initiate Cybersecurity documentation and RMF planning for MSAT and LEO. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Support: Increase in $0.386M from FY 2022 to FY 2023 supports initiation of engineering and cybersecurity documentation related to MSAT and LEO.					
Title: WSATCOM (formerly VSAT): Management Services	0.286	0.095	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2022 Plans: - Complete engineering efforts through a FFRDC in support of analysis of requirements and research to mitigate end-of-life/end-of-sale, and component obsolescence for the VSAT FoS, until the MCWS L/H capabilities can be fielded. ***FY 2023 Base Plans:*** N/A ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease of $0.095M from FY 2022 to FY 2023 due to completion of analysis of requirements and research to mitigate end-of-life/end-of-sale, and component obsolescence for the VSAT FoS.					
Title: SMART-T: Management Services	0.067	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2022 Plans: N/A ***FY 2023 Base Plans:*** N/A ***FY 2023 OCO Plans:*** N/A					
Title: SMART-T: Engineering and Program Support	0.030	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Articles:	-	-	-	-	-
FY 2022 Plans: N/A ***FY 2023 Base Plans:*** N/A ***FY 2023 OCO Plans:*** N/A					
Title: COSMOS: Product Development	0.000	0.000	1.000	0.000	1.000
Articles:	-	-	-	-	-
FY 2022 Plans: N/A ***FY 2023 Base Plans:*** - Details for COSMOS are held at a higher classification level. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** - Details for COSMOS are held at a higher classification.					
Title: TWTS: Test and Evalution	0.580	0.492	0.467	0.000	0.467
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue LRS FoS testing and initiate test and evaluation efforts for Optical and TEAMS II capabilities. ***FY 2023 Base Plans:*** -Continue test and evaluation efforts for Optical Capability. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Decrease of $0.025M from FY 2022 to FY 2023 is due to reduction of testing efforts related to Optical capabilities.					
Title: TWTS Product Development	0.435	0.383	0.386	0.000	0.386
Articles:	-	-	-	-	-
FY 2022 Plans: -Continue support of technology scouting, prototype development, and evaluation support for TWTS programs.					
FY 2023 Base Plans: -Continue support of technology scouting, prototype development, and evaluation support for TWTS programs.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: No significant change from FY 2022 to FY 2023.					
Accomplishments/Planned Programs Subtotals	13.232	15.064	17.566	0.000	17.566

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PMC/4633-1: *TCM*	184.312	183.299	325.825	-	325.825	357.246	124.365	55.552	40.008	Continuing	Continuing
• PMC/4631-1: *NOTM*	26.236	48.873	35.593	-	35.593	60.766	20.664	17.950	17.588	Continuing	Continuing
• PMC/4633-2: *WSATCOM (formerly VSAT)*	14.602	17.439	45.316	-	45.316	54.667	19.594	19.985	20.385	Continuing	Continuing
• PMC/4633-3: *SMART-T*	1.552	0.821	0.983	-	0.983	1.172	1.356	1.351	0.000	Continuing	Continuing
• PMC/4633-4: *TWTS*	53.314	166.615	202.653	-	202.653	203.454	3.549	3.624	3.696	Continuing	Continuing
• PMC/4631-2: *COC*	0.004	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	40.535
• PMC/4633-5: *WSATCOM MCWS-X MTA Funding*	0.200	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	20.632

Remarks

PMC 4633-5 WSATCOM - FY 2020-2021 totaling $20.632M reflects funding associated with WSATCOM MCWS-X Middle Tier Acquisition (MTA) for rapid fielding.

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D. Acquisition Strategy

Tactical Communications Modernization (TCM): TCM will maximize the use of non-developmental radio solutions to meet the next generation of Marine Corps tactical radio requirements. The Mobile User Objective System (MUOS) testing at contracted government test labs to include environmental, shock, electromagnetic compatibility, and interoperability testing until full capability is completed. The Multi Channel Radios (MCR) Family of Systems (FoS) is an evolutionary program that will field non-developmental software defined radios (SDR) to meet the National Security Agency's (NSA) Communications Security Modernization end of Calendar Year 2024 deadline. Multi-Channel Radio Family of Systems, consists of the Multi Channel Hand Held (MCHH) and Multi-Channel Man-Pack (MCMP) systems. The MCHH system will be openly competed for Contract Award estimated in February 2022. RFP was released to industry in Mar 2021. The MCMP system procurement has been delayed to allow industry to resolve catastrophic heating issued that were discovered in testing, causing both a safety and performance risk. Anticipated procurement of this capability to be 2Q FY 2022 to meet COMSEC modernization by 1Q FY 2025.

Networking on the Move (NOTM): NOTM will use an evolutionary acquisition strategy that leverages Commercial-Off-The-Shelf (COTS) and Government-Off-The-Shelf (GOTS) technology to procure, sustain, and meet emerging requirements. The design of the system provides for internal growth capability through an open system architecture enabling technology refresh to extend the system's life, maintain interoperability, Information Assurance (IA) compliance, and reduce costs due to Diminishing Manufacturing Sources and Material Shortages (DMSMS). It is envisioned that technology refresh will occur on the NOTM hardware and software periodically due to component obsolescence, user-driven requests for improvements, IA compliance, and mission-related requirements. Refresh will include investments to incorporate evolving capabilities to ensure compatibility with other systems, create lighter and more efficient equipment, and keep pace with evolving software requirements. End-of-life equipment refresh is expected throughout the program's life cycle and may be managed through kit purchases, replacement through Engineering Change Proposals (ECPs), or as replacement parts as equipment is repaired.

Wideband Satellite Communications (WSATCOM)(formerly VSAT): The VSAT Family of Systems (FoS) was fielded over 10 years and as a result, many subcomponents have reached End-of-Life/End-of-Sale (EoL/EoS). The WSATCOM acquisition strategy leverages Commercial-Off-The-Shelf (COTS) technology to keep the systems relevant and capable. The design of Marine Corps Wideband Satellite (MCWS) is intended to be scalable and utilize like subcomponents to minimize sustainment costs and equipment readiness issues. The MCWS-Expeditionary (MCWS-X) variant in FY 2021 will provide a man-portable, lighter, smaller, and more capable terminal. Refreshes will be required periodically through the life of the program due to equipment obsolescence, user requirements, and IA compliance, which will be conducted through the Engineering Change Proposal (ECP) process.

Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): SMART-T is an Army led, ACAT II program. The Marine Corps SMART-T has fielded the full Authorized Acquisition Objective (AAO) of 42 terminals and 35 AN/PSQ-17 Network Planning tools and completed the Advanced Extremely High Frequency (AEHF) upgrades. The SMART-T Project Office will procure non developmental items utilizing an Army contract to mitigate obsolescence, Diminishing Manufacturing Sources and Material Shortages (DMSMS), and components whose warranty has expired. This strategy will continue until a NEXGEN AEHF solution is identified.

Terrestrial Wideband Transmission Systems (TWTS): TWTS is a portfolio that provides the Fleet Marine Force with the capabilities of secure Beyond Line of Sight (BLOS) and Line of Sight (LOS) terrestrial digital data transmission. The BLOS capability will be provided by the Next Generation Troposcatter (NGT) which is currently in the Engineering and Manufacturing Development Phase. NGT procurements for testing and fielding will be made through the Marine Corps FFP contract awarded in Q1 FY 2020. The LOS capability will be provided by the Line-of-Sight Radio System Family of Systems (LRS FoS) which is being purchased through an Army contract

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and will begin fielding in FY 2021. NGT and LRS are both Leading Readiness Indicators for the Marine Corps Force Design Effort supporting the conduct of Command and Control in a degraded environment. The LOS capability also includes an optical communications system which was recently designated as an acquisition program.

Combat Operations Center (COC): The COC AN/TSQ-239 (V)1-4 is the foundation of USMC Command and Control (C2), meeting near term communications and network requirements across the OpFor. There is a continuing developmental effort to evolve the COC into a fully integrated MAGTF C2 capability to maintain industry standard and interoperability with disparate C2 systems across the joint forces. COC program office will begin developing a design for a update to the current COC configuration called Next Generation Operational Facility (OPFAC) to begin fielding in FY 2023. The Next Generation OPFAC will provide the MAGTF with a more agile and modular COC capability to better support future Expeditionary Advanced Based Operations (EABO) that require a smaller physical presence. In FY 2021 the Combat Operations Center (COC) requirements transitions into the Combat Data Network (CDN) program PE 0206313 Project 2276 under the title Common Hosting Environment (CHE).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TCM JENM Development	SS/CPFF	ARL : Aberdeen, MD	5.683	1.139	Feb 2021	1.064	Feb 2022	1.207	Feb 2023	-		1.207	0.000	9.093	-
TCM FoS LCCEs	C/IDIQ	MCSC : Quantico, VA	0.210	0.135	Jul 2021	0.135	Jul 2022	0.000		-		0.000	0.000	0.480	-
TCM FoS Development	Various	MCSC : Quantico, VA	0.000	0.000		0.000		3.562	Nov 2022	-		3.562	0.000	3.562	-
NOTM Development	C/CPFF	NIWC-LANT : Charleston, SC	5.999	1.910	Dec 2020	3.900	Dec 2021	1.000	Dec 2022	-		1.000	0.000	12.809	-
NOTM Development	WR	NIWC-Pacific : San Diego, CA	3.142	1.910	Dec 2020	0.241	Dec 2021	0.242	Dec 2022	-		0.242	Continuing	Continuing	Continuing
NOTM Development/ Enhancement	C/CPFF	NIWC-Pacific : San Diego, CA	0.000	0.000		0.360	Dec 2021	0.360	Dec 2022	-		0.360	0.000	0.720	-
WSATCOM/VSAT GUI Development	C/FFP	CECOM : Aberdeen, MD	2.101	0.367	Jun 2021	0.000		0.000		-		0.000	0.000	2.468	-
TWTS Development	C/FFP	MCSC : Quantico	0.124	0.435	May 2021	0.383	Jan 2022	0.386	Jan 2023	-		0.386	0.000	1.328	-
Prior Years Cumulative Funding	Various	Various : Various	26.112	0.000		0.000		0.000		-		0.000	0.000	26.112	-
NOTM COSMOS	Various	Various : Various	0.000	0.000		0.000		1.000	Jan 2023	-		1.000	0.000	1.000	-
		Subtotal	43.371	5.896		6.083		7.757		-		7.757	Continuing	Continuing	N/A

Remarks

Product Development overall increase of $1.674M from FY 2022 to FY 2023 is largely attributed to initiation of TCM HALO C2 array development efforts.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TCM Engineering Support	Various	MCSC : Quantico, VA	0.778	0.349	May 2021	0.356	May 2022	1.066	May 2023	-		1.066	Continuing	Continuing	Continuing
WSATCOM/VSAT Engineering Support	WR	NIWC-PAC : San Diego, CA	1.186	0.390	Feb 2021	0.521	Feb 2022	0.907	Oct 2022	-		0.907	Continuing	Continuing	Continuing
SMART-T Engineering Support 2	WR	NIWC-PAC : San Diego, CA	0.021	0.000	Dec 2020	0.000		0.000		-		0.000	0.000	0.021	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	Various : Various	7.239	0.000		0.000		0.000		-		0.000	0.000	7.239	-
WSATCOM/VSAT Engineering Support	WR	NIWC-LANT : Charleston, SC	0.000	0.029	Jun 2021	0.000		0.000		-		0.000	0.000	0.029	-
		Subtotal	9.224	0.768		0.877		1.973		-		1.973	Continuing	Continuing	N/A

Remarks

Support overall increase of $1.096M from FY 2022 to FY 2023 reflects initiation of WSATCOM engineering and cybersecurity documentation related to commercial SATCOM efforts ($0.386M) and TCM engineering support necessary for HALO C2 ($0.710M).

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TCM FoS Test Activities and Support	TBD	TBD : TBD	4.806	2.851	Aug 2021	2.637	Aug 2022	3.899	Aug 2023	-		3.899	Continuing	Continuing	Continuing
TCM T&E Support	MIPR	DTIC : Fort Belvoir, VA	1.424	0.302	Mar 2021	0.749	Nov 2021	0.330	Jan 2023	-		0.330	0.000	2.805	-
TCM FoS Test Assets	C/IDIQ	PRP : San Diego, CA	2.398	1.731	Mar 2021	0.686	Mar 2022	0.652	Mar 2023	-		0.652	0.000	5.467	-
NOTM Vehicle Integration Testing	WR	NIWC-LANT : Charleston, SC	4.196	0.124	Dec 2020	0.000		0.000		-		0.000	0.000	4.320	-
NOTM Test and Eval	C/CPFF	NIWC-PAC : San Diego, CA	0.000	0.000		1.193	Jan 2022	0.415	Jan 2023	-		0.415	0.000	1.608	-
NOTM Test and Eval	C/CPFF	MCTSSA : Camp Pendleton, CA	0.000	0.000		0.010	Jan 2022	0.000		-		0.000	0.000	0.010	-
NOTM Test & Eval	WR	NIWC-PAC : San Diego, CA	0.000	0.150	Dec 2020	0.306	Nov 2021	0.130	Nov 2022	-		0.130	0.000	0.586	-
NOTM T&E	C/CPFF	NIWC-LANT : Charleston, SC	0.000	0.150	Feb 2021	1.012	Nov 2021	0.930	Nov 2022	-		0.930	0.000	2.092	-
TWTS T&E Support	C/FFP	MCSC : Quantico	0.000	0.580	Jun 2021	0.492	Mar 2022	0.467	Feb 2023	-		0.467	0.000	1.539	-
Prior Years Cumulative Funding	Various	Various : Various	23.084	0.000		0.000		0.000		-		0.000	0.000	23.084	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	35.908	5.888		7.085		6.823		-		6.823	Continuing	Continuing	N/A

Remarks

Test and Evaluation overall decrease of $0.262M from FY 2022 to FY 2023 reflects completion of NOTM testing and certification in support of satellite communication systems hardening and resiliency, and completion of testing in support of NOTM-A SATCOM system improvements.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TCM Engineering Support	FFRDC	US Army, MITRE : Stafford, VA	2.154	0.394	Aug 2021	0.924	Jan 2022	1.013	Jan 2023	-		1.013	Continuing	Continuing	Continuing
WSATCOM/VSAT Engineering Support 1	FFRDC	US Army, MITRE : Stafford, VA	6.168	0.286	Feb 2021	0.095	Feb 2022	0.000		-		0.000	Continuing	Continuing	Continuing
SMART-T Engineering Support	FFRDC	US Army, MITRE : Stafford, VA	0.508	0.000	Dec 2020	0.000		0.000		-		0.000	0.000	0.508	-
Prior Years Cumulative Funding	FFRDC	US Army, MITRE : Stafford, VA	9.416	0.000		0.000		0.000		-		0.000	0.000	9.416	-
		Subtotal	18.246	0.680		1.019		1.013		-		1.013	Continuing	Continuing	N/A

Remarks

Management Support overall decrease of $0.006M from FY 2022 to FY 2023 is due to completion of WSATCOM analysis of requirements and research to mitigate end-of-life/ end-of-sale, and component obsolescence for the VSAT FoS.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	106.749	13.232		15.064		17.566		-		17.566	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

HFR II

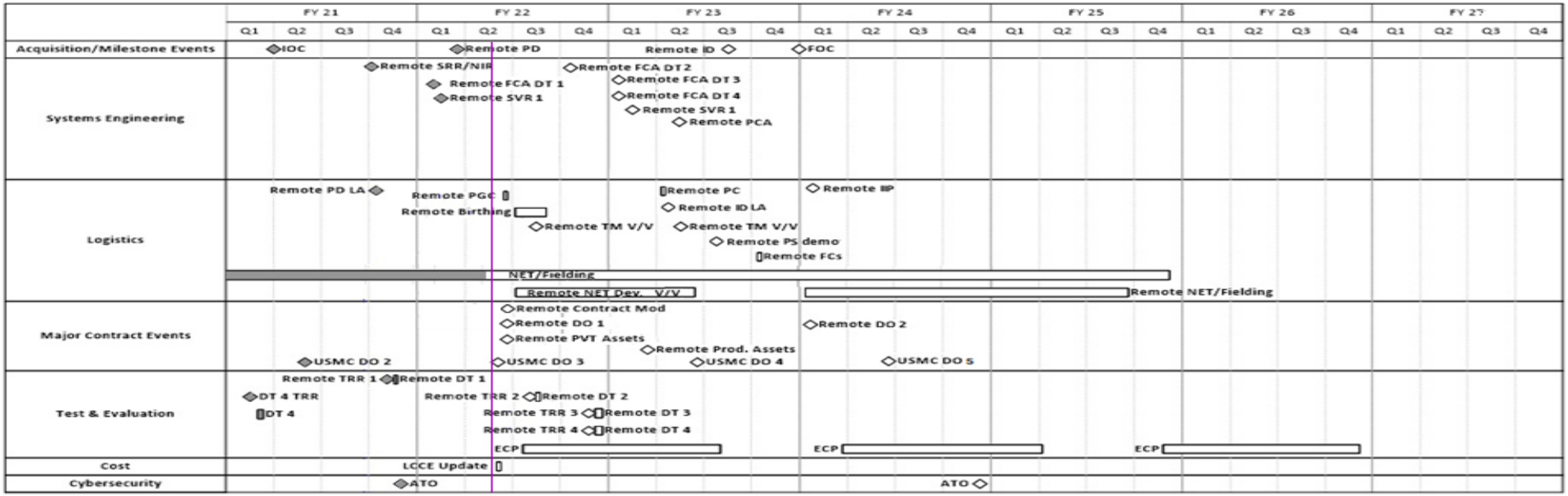


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

MBR II

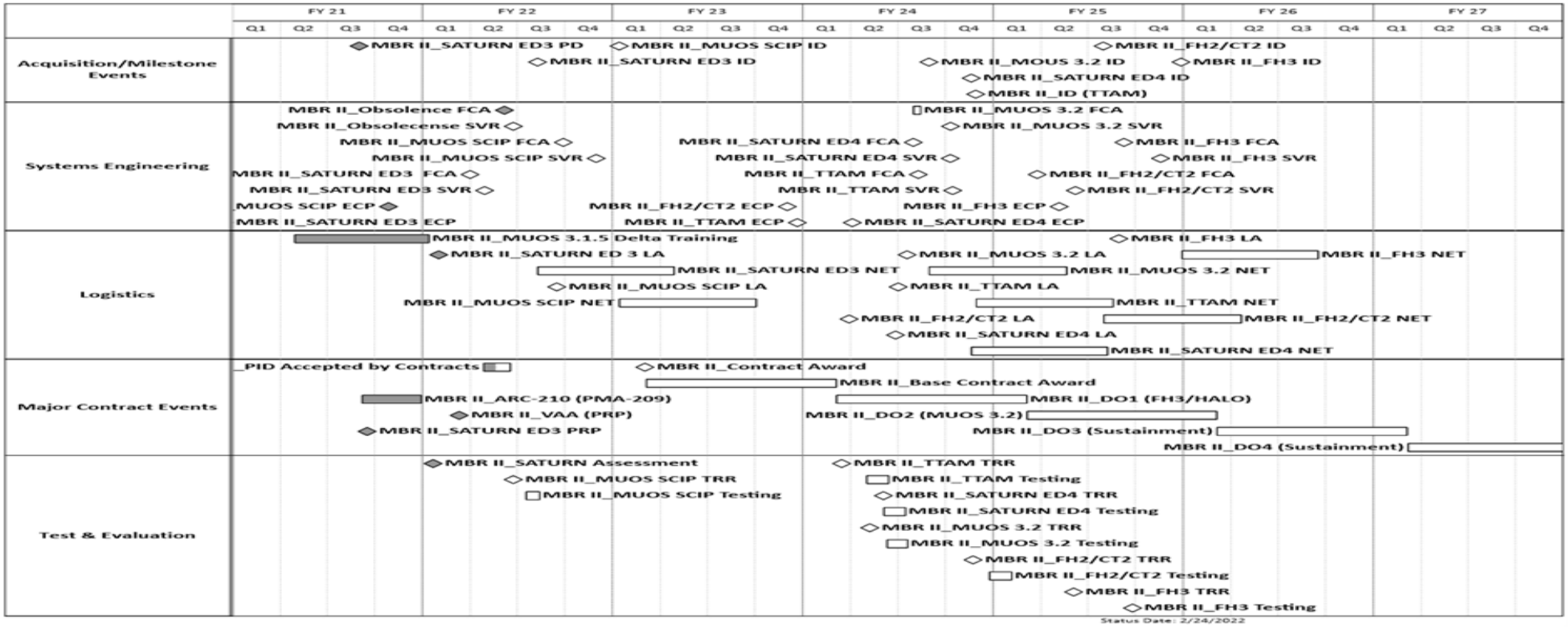


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

MCHH

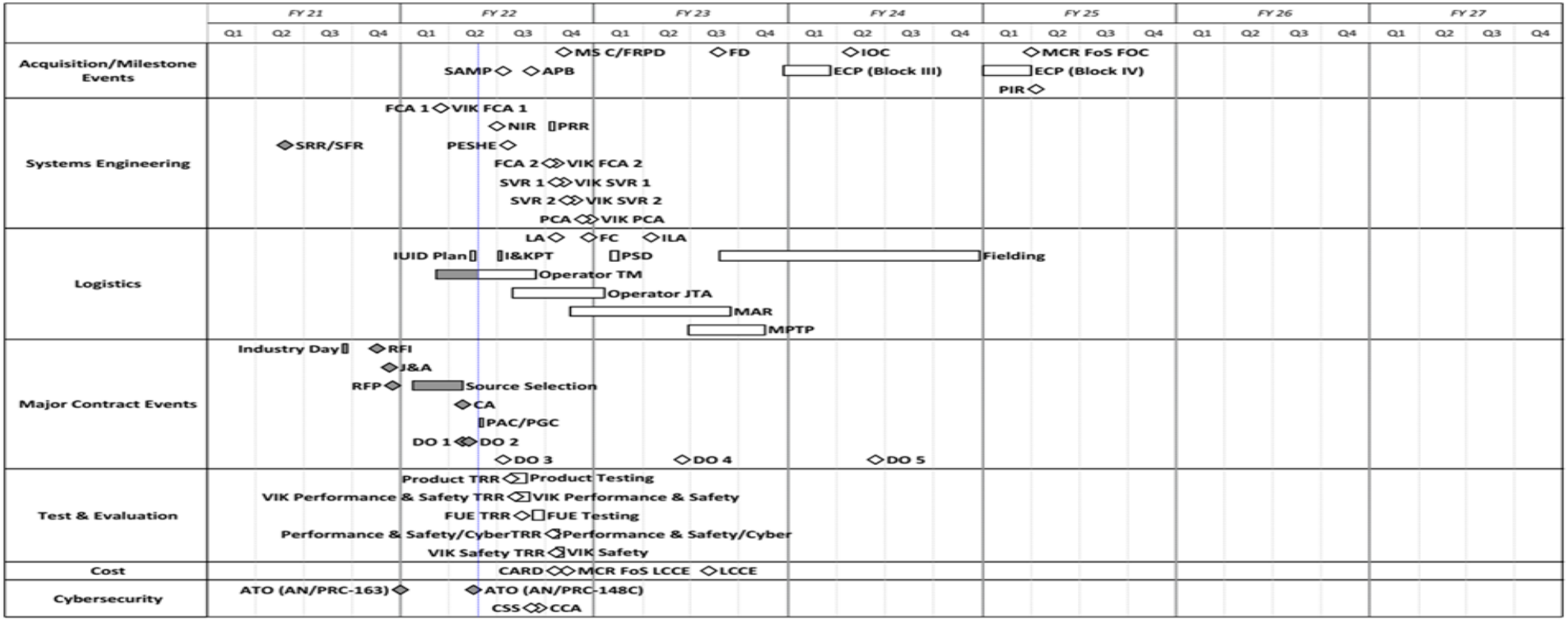


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

MCMP

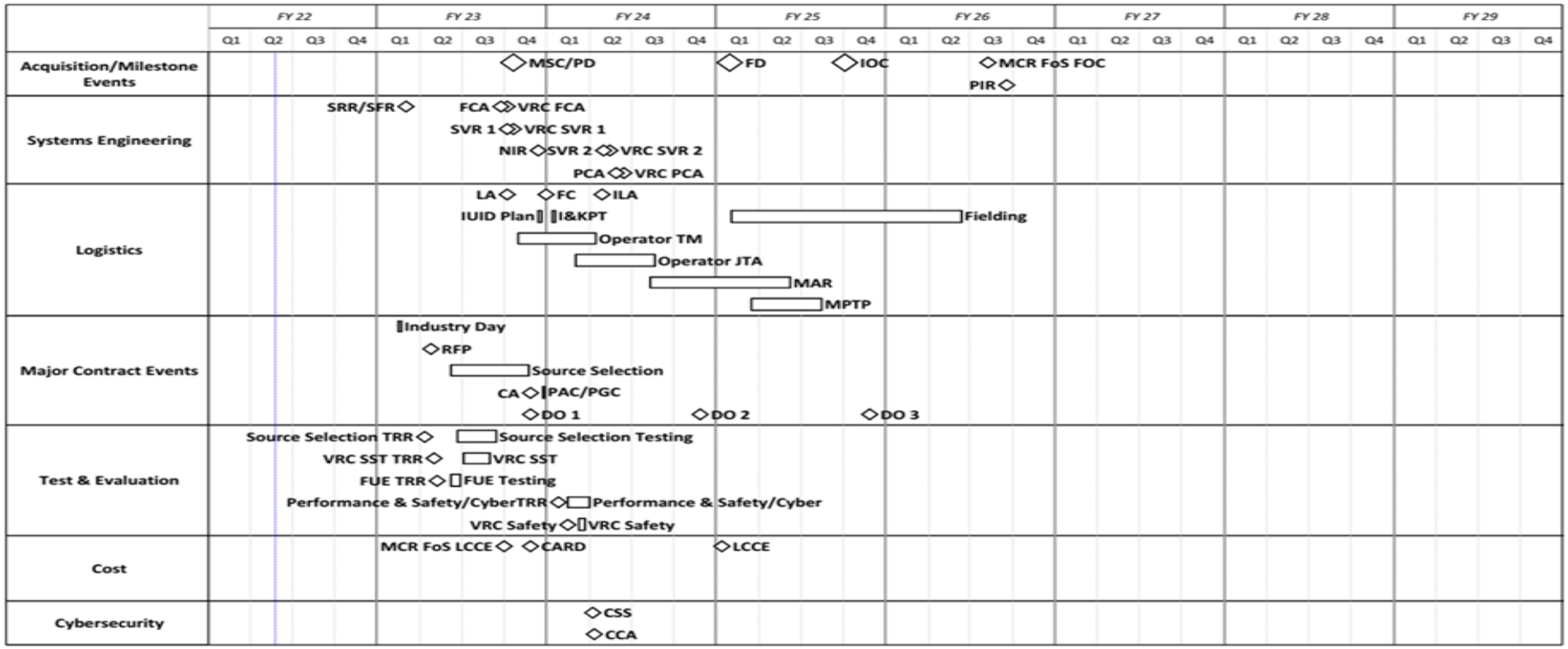


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

NOTM Program Schedule

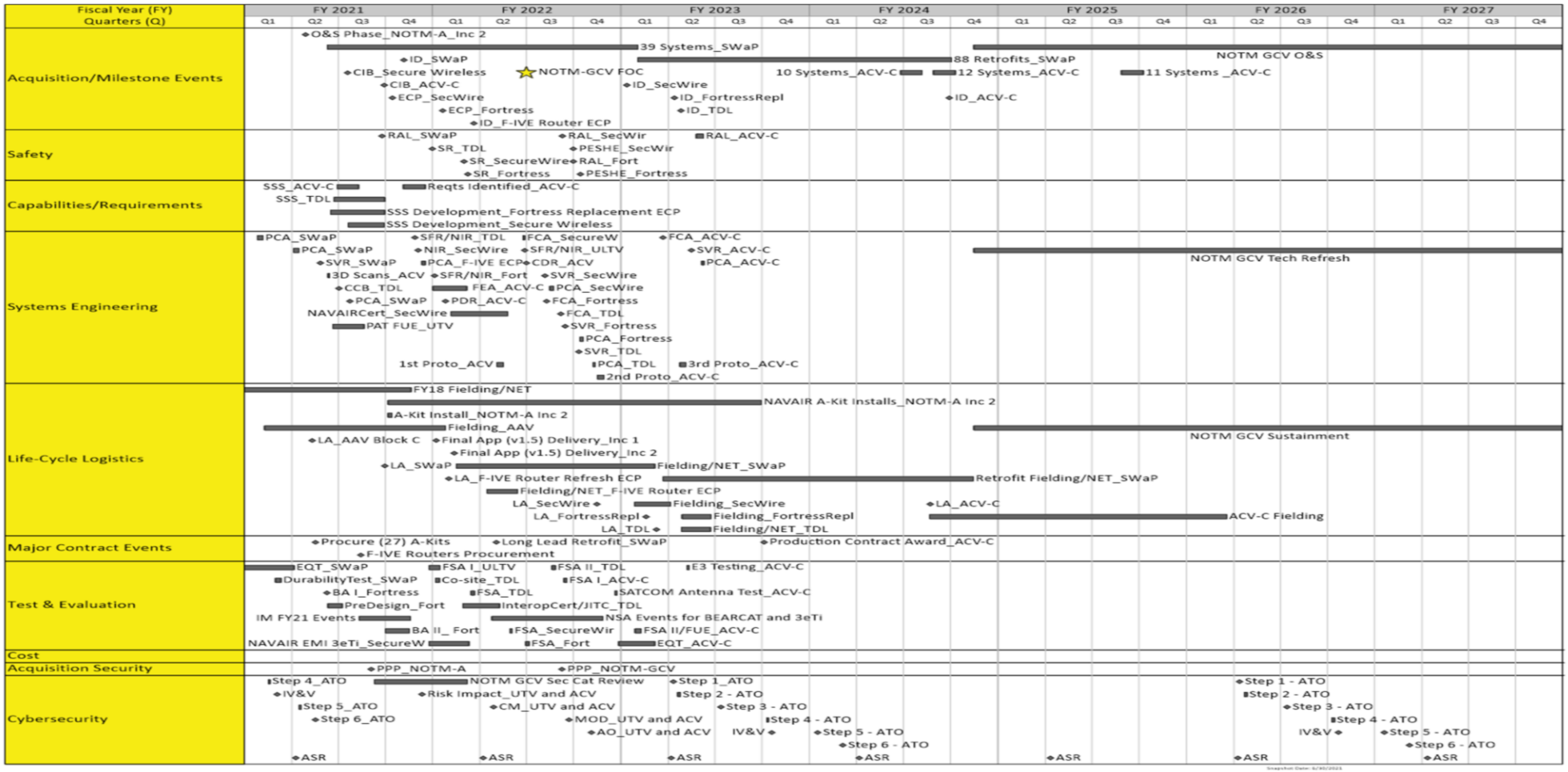


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

TWTS Portfolio

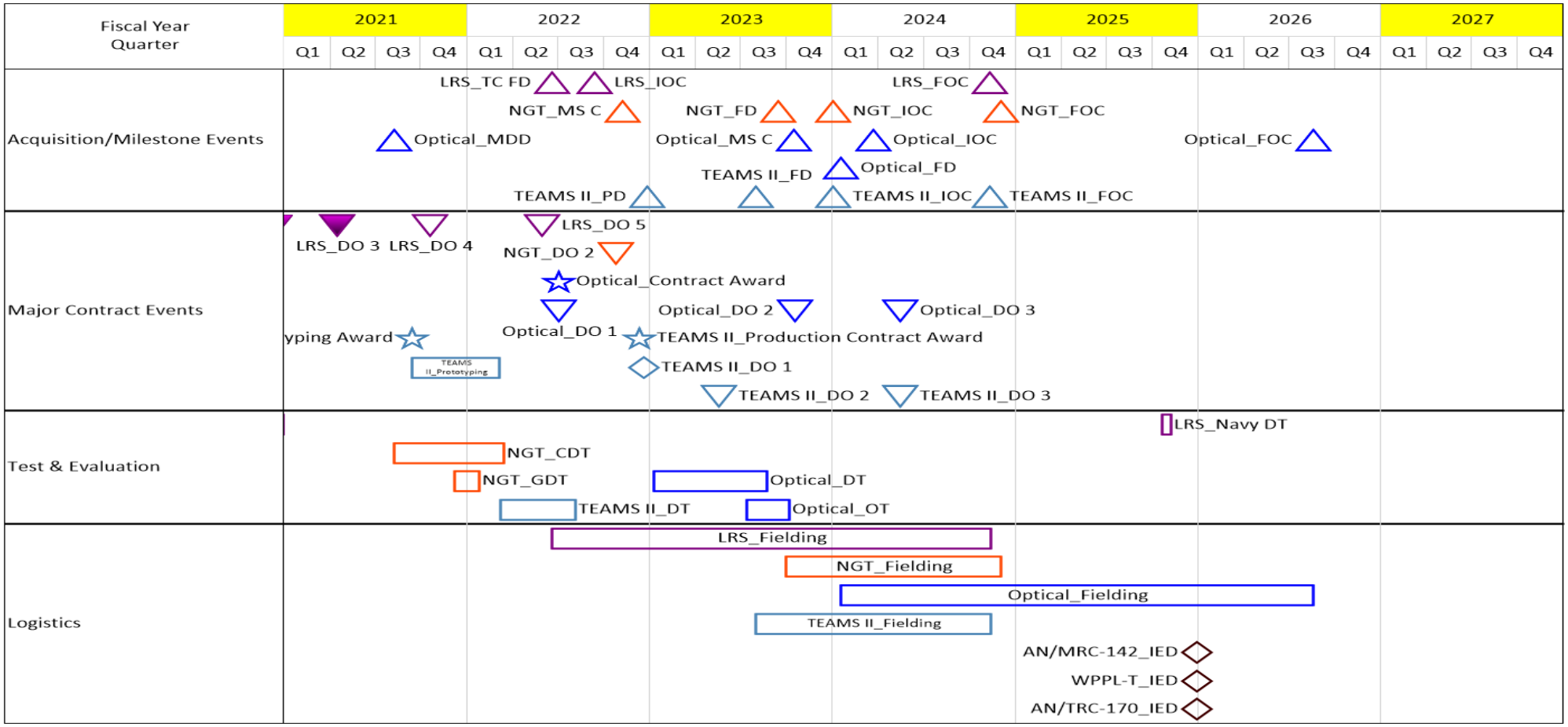
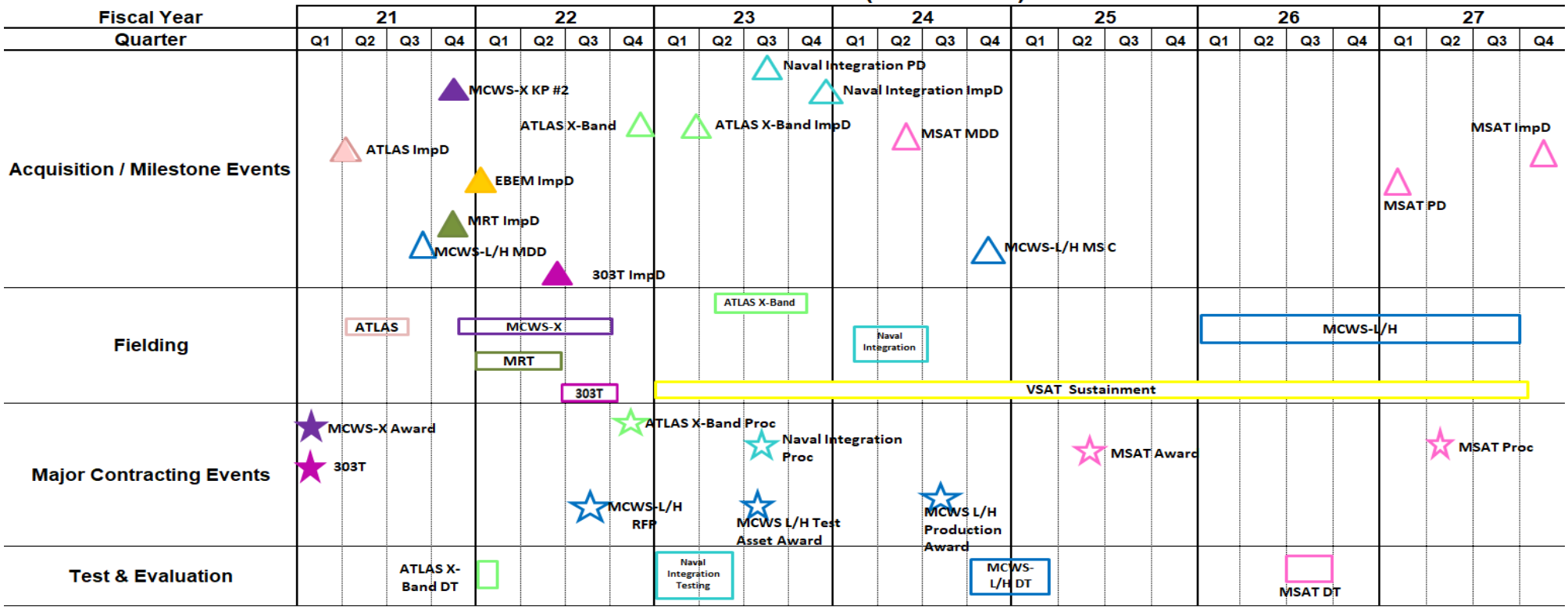


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

PROGRAM SCHEDULE - WIDEBAND SATCOM (WSATCOM) FAMILY OF SYSTEMS



ATLAS: Adaptable Tactical Lightweight Antenna System (formerly VSAT ISA)
MRT: Master Reference Terminal
VSAT-E: Very Small Aperture Terminal - Expeditionary
303T: VSAT S/M 303T Bypass
EBEM: Enhanced Bandwidth Efficient Modem Firmware Upgrade

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2275				
TCM HFR II: DO #2	2	2021	2	2021
TCM HFR II: Initial Operating Capability (IOC)	1	2021	1	2021
TCM HFR II: DO #3	2	2022	2	2022
TCM MCHH: Contract Award DO #1	2	2022	2	2022
TCM MCHH: Procurement Decision (PD)	2	2022	2	2022
TCM MCHH: FD	3	2023	3	2023
TCM MCHH: DO #2	2	2022	2	2022
TCM MCHH: IOC	2	2024	2	2024
TCM MCMP: PD / Contract Award DO#1	4	2023	4	2023
TCM MCMP: VRC DO #1	4	2023	4	2023
TCM MCMP: Fielding Decision	1	2025	1	2025
TCM MCMP: DO #2	4	2024	4	2024
WSATCOM: WSATCOM/VSAT MRT Fielding	3	2021	1	2022
WSATCOM: WSATCOM/VSAT MRT Implementation Decision	3	2021	3	2021
WSATCOM: WSATCOM MCWS-X Procurement	1	2021	1	2021
WSATCOM: WSATCOM MCWS-L/H Test Asset Award	3	2023	3	2023
WSATCOM: WSATCOM MCWS-L/H Production Award	3	2024	3	2024
WSATCOM: WSATCOM MCWS-X Fielding Decision (KP#2)	4	2021	4	2021
TWTS: TWTS NGT Testing	3	2021	1	2022
TWTS: TWTS TEAMS II Prototype Testing	3	2021	1	2022
TWTS: TWTS TEAMS II Development Testing	2	2022	3	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
TWTS: TWTS TEAMS II Contract Award	4	2022	4	2022
TWTS: TWTS Optical Contract Award	3	2022	3	2022
TWTS: TWTS Optical Development Testing	1	2023	3	2023
TWTS: TWTS Optical Operational Testing	3	2023	4	2023
NOTM: NOTM PDR ACV-C	1	2022	1	2022
NOTM: NOTM CDR ACV-C	2	2022	2	2022

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2276 / *Comms Switching and Control Sys*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
2276: *Comms Switching and Control Sys*	49.840	4.640	1.536	2.122	-	2.122	2.338	2.128	1.674	1.705	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Combat Data Network (CDN), formerly Data Distribution System - Modular (DDS-M): The CDN provides the commander a modular, integrated, and interoperable Internet Protocol (IP) - based Local Area Network (LAN) and Wide Area Network (WAN) capability that forms the data communications backbone to tactical organizations within a Marine Air-Ground Task Force (MAGTF). The CDN provides an extension of the Defense Information System Network (DISN), Secret Internet Protocol Router Network (SIPRNet), Nonsecure Internet Protocol Router Network (NIPRNet) as well as a coalition networking. The CDN provides Marine Corps maneuver elements with a modular and scalable IP data transport capability by providing computers, servers, routers, data switches, cabling, multiple connections to various tactical transmission devices, contains integral In-line Network Encryption (INE) device supporting IP Security (IPSec), and Virtual Private Networking (VPN). CDN is currently designated as the Common Hosting Environment (CHE) for tactical networking. CHE will consolidate like capabilities from various programs of record, primarily server capacity and network access switching, under a single program of record. CHE will simplify the equipment string and will help reduce the overall Size, Weight, and Power (SWaP) requirements for the MAGTF. In FY 2021 the Combat Operations Center (COC) requirements PE 0206313 Project 2275 transitioned into the Combat Data Network (CDN) program under the title Common Hosting Environment (CHE). CDN will be the Operational Command Post (OCP) in the future. The Capabilities Development Document (CDD) is currently routing through the JCIDS process.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: CDN: Product Development	2.892	0.538	1.124	0.000	1.124
Articles:	-	-	-	-	-
Description: CDN Product Development: Funds support Engineering Change Proposals (ECP) for systems tech refresh on a three to five year cycle while in sustainment.					
FY 2022 Plans: - Continue development activities associated with Common Hosting Environment (CHE) virtualization efforts and incorporation of cloud based technologies. - Continue development of required hardware upgrades to server hardware to support cloud. Development effort will focus on continued integration and testing of improved versions of existing components.					
FY 2023 Base Plans: - Initiate development activities associated with Operational Command Post (OCP) modifications. - Continue and enhance incorporation of cloud-based technologies.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue development of required hardware upgrades to server hardware to support cloud. Development effort will focus on continued integration and testing of improved versions of existing components. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.586M from FY 2022 to FY 2023 is attributed to development of Operational Command Post (OCP) ancillary items, cross domain solutions, and non-Radio Frequency wireless solutions. OCP will replace CDN in FY 2024 to align with future requirements such as signature reduction and Expeditionary Advanced Base Operations.					
Title: CDN: Test and Evaluation ***Articles:*** ***Description:*** CDN Test and Evaluation: Funds support acquisition testing for system technology refresh on a three to five year cycle while in sustainment. ***FY 2022 Plans:*** - Continue support for JITC efforts demonstrated through DoD Interoperability Communication Exercises for Common Hosting Environment (CHE) virtualization efforts and incorporation of cloud based technologies. ***FY 2023 Base Plans:*** - Continue support for JITC efforts demonstrated through DoD Interoperability Communication Exercises for Common Hosting Environment (CHE) virtualization efforts and incorporation of cloud based technologies. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** N/A	1.111 -	0.563 -	0.563 -	0.000 -	0.563 -
Title: CDN: Management Services ***Articles:*** ***Description:*** CDN Management Services: Funds Federally Funded Research and Development Contracts (FFRDC) support for systems tech refresh on a three to five year cycle while in sustainment.	0.637 -	0.435 -	0.435 -	0.000 -	0.435 -

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
FY 2022 Plans: - Continue Network Optimization and reconfiguration efforts to upgrade VoIP and IPS/Firewalls to implement fully virtual applications running within the Common Hosting Environment (CHE). ***FY 2023 Base Plans:*** - Continue Network Optimization and reconfiguration efforts to that upgrade VoIP and IPS/Firewalls that implement fully virtual application running within the Common Hosting Environment (CHE). ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	4.640	1.536	2.122	0.000	2.122

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PMC/4634/A: *CDN*	29.057	41.268	50.940	-	50.940	45.205	39.892	40.230	40.948	Continuing	Continuing

Remarks

D. Acquisition Strategy

Combat Data Network (CDN), formerly Data Distribution System - Modular (DDS-M): CDN will maximize use of existing COTS, GOTS, and GFE. CDN hardware and software will continue to be upgraded and improved as technology advances. Major focus will be on interoperability and compatibility with existing systems and components in the Marine Corps, as well as Joint and Coalition forces. R&D effort will focus on integration and testing of improved versions of existing components. CDN may reuse other Services' development and utilize external contracts that satisfy requirements and analysis of alternatives. R&D effort will focus on implementation of the Common Hosting Environment (CHE) which will lead to the ability to transition to cloud technologies and incorporation of Operational Command Post (OCP) requirements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2276 / *Comms Switching and Control Sys*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CDN Development Efforts	WR	NIWC-LANT : Charleston, SC	1.655	2.892	Feb 2021	0.538	Feb 2022	1.124	Feb 2023	-		1.124	Continuing	Continuing	Continuing
Prior Year Cumulative Funding	Various	Various : Various	30.590	0.000		0.000		0.000		-		0.000	0.000	30.590	-
		Subtotal	32.245	2.892		0.538		1.124		-		1.124	Continuing	Continuing	N/A

Remarks

Increase of $0.586M from FY 2022 to FY 2023 is attributed to research and development of Operational Command Post ancillary items, cross domain solutions, and non-RF wireless solutions.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Cumulative Funding	Various	Various : Various	5.696	0.000		0.000		0.000		-		0.000	0.000	5.696	-
		Subtotal	5.696	0.000		0.000		0.000		-		0.000	0.000	5.696	N/A

Remarks

No change from FY 2022 to FY 2023.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CDN Testing	WR	NIWC Pacific : San Diego, CA	0.981	1.111	Mar 2021	0.563	Mar 2022	0.563	Mar 2023	-		0.563	Continuing	Continuing	Continuing
Prior Year Cumulative Funding	Various	Various : Various	2.886	0.000		0.000		0.000		-		0.000	0.000	2.886	-
		Subtotal	3.867	1.111		0.563		0.563		-		0.563	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2276 / *Comms Switching and Control Sys*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

No change from FY 2022 to FY 2023.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CDN	FFRDC	MITRE : Stafford, VA	2.500	0.637	Dec 2020	0.435	Dec 2021	0.435	Dec 2022	-		0.435	Continuing	Continuing	Continuing
Prior Year Cummulative Funding	FFRDC	MITRE : Stafford, VA	5.532	0.000		0.000		0.000		-		0.000	0.000	5.532	-
		Subtotal	8.032	0.637		0.435		0.435		-		0.435	Continuing	Continuing	N/A

Remarks

No change from FY 2022 to FY 2023.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	49.840	4.640		1.536		2.122		-		2.122	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

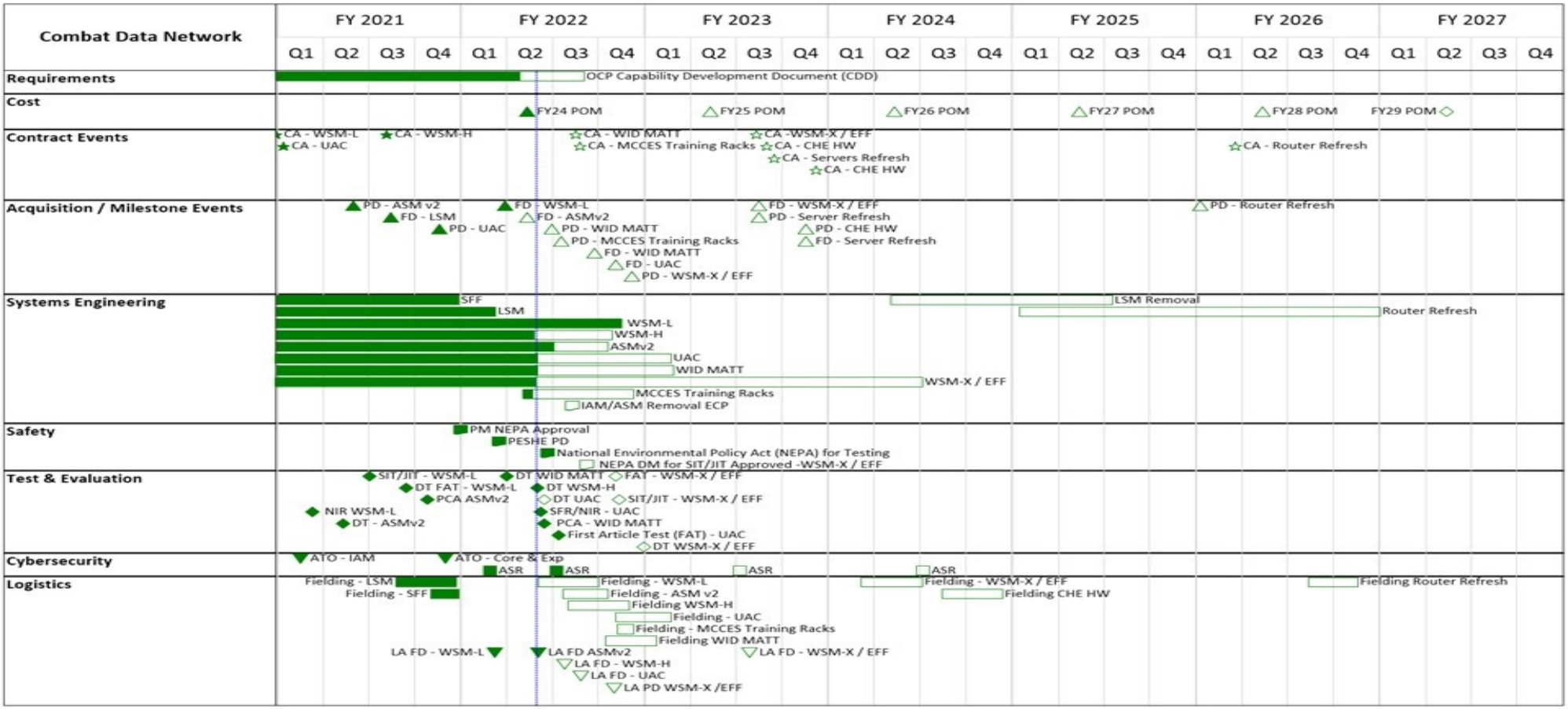


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2276				
CDN WSM-L	1	2021	1	2021
CDN WSM-L Fielding	1	2021	4	2022
CDN WSM-H Fielding	1	2021	4	2022
CDN PD ASM V2	2	2021	2	2021
CDN SIT/JIT WSM-L	2	2021	2	2021
CDN FAT WSM-L	3	2021	3	2021
CDN FD WSM	1	2022	1	2022
CDN DT WID MATT	1	2022	1	2022
CDN First article Test	2	2022	2	2022
CDN WID MATT contract award	3	2022	3	2022
CDN MCCES training rack contract award	3	2022	3	2022
CDN PD WID MATT	3	2022	3	2022
CDN WSM-X contract award	3	2023	3	2023
CDN CHE HW	3	2023	3	2023
CDN Servers Refresh	3	2023	3	2023
CDN FD WSM-X	3	2023	3	2023
CDN PD Server Refresh	3	2023	3	2023
CDN CHE SW	4	2022	4	2022
CDN FD Server Refresh	4	2023	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy											Date: April 2022	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 2277 / *System Engineering and Integration*			
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
2277: *System Engineering and Integration*	44.831	2.575	1.909	4.767	-	4.767	7.269	6.677	6.274	6.376	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides funds for engineering, test, and evaluation activity, which ensures that the systems being developed within the Program Element (PE) employ consistent standards for interoperability and to the maximum extent feasible use of hardware and software which is uniform and standard across programs.

Expeditionary Energy Office (E2O): Energy is a top priority for the USMC and one of the six pillars of Modernization for the Corps identified by the Commandant. The Commandant established the USMC Expeditionary Energy Office (E2O), with the mission to analyze, develop, and direct the Marine Corps' energy strategy in order to optimize expeditionary capabilities across all warfighting functions. E2O's role is to advise the Marine Requirements Oversight Council (MROC) on all energy and resource related requirements, acquisitions, and programmatic decisions. This office and funding directly support execution of the USMC Expeditionary Energy Strategy and Implementation Plan, and priorities identified in the USMC Expeditionary Energy Water and Waste Initial Capabilities Document/Capabilities Based Assessment, as well as Science and Technology (S&T) Objectives identified in the 2012 USMC S&T Strategic Plan. The Marine Corps program aligns with the Commandant's Planning Guidance, the National Defense Authorization Act, DoD directives and SECNAV goals. This funding will support the achievement of the Strategy, and the activities of the USMC Expeditionary Energy Concepts process, managed by the E2O.

Joint Interoperability of Tactical Command and Control Systems (JINTACCS) is a Joint Chiefs-of-Staff (JCS)/DoD-mandated program for joint development, implementation, and testing of tactical data links and US Message Text Format (MTF) under the direction of the Defense Information Systems Agency (DISA) and Office of the Secretary of Defense/ Networks and Information Integration (OASD/NII) per the Commander Joint Chiefs of Staff (CJCSI) Instructions 6610.01E and CJCS16241.04 respectively. This effort also covers interoperability analyses, standardization, and testing of tactical message standards such as Link 16, Joint Range Extension Application Protocol (JREAP), and Variable Message Format (VMF) used between the Marine Corps and joint forces. Responsible for the development of Net Centric standards (XML, Web Services) to meet requirements of USMC/DoD/Coalition Net Centric Data Strategies. Efforts in this area include Marine Corps representation in tactical data link and tactical data message joint working groups and configuration control boards and application of the Interoperability Enhancement Process (IEP) across Marine Air Ground Task Force systems and platforms.

Systems Engineering, Integration and Coordination (SEIC) is MCSC Chief Engineer's systems engineering and integration program. SEIC provides the decision support tools and engineering analysis resources needed to assess, identify and resolve Marine Air Ground Task Force (MAGTF) inter-systems' SoS issues and challenges. SEIC supports DC CD&I, DC PP&O, DC A, DC I&L, DC M&RA, HQMC C4, and HQMC INT in the analysis, evaluation, and assessment of MAGTF Systems and SoS requirements. SEIC centralized management of Command, Control, Communications, Computers and Intelligence Surveillance and Reconnaissance (C4ISR) programs allows the implementation of systems engineering certification process in support of milestone decision approval; a requirements and functional analysis process enabling system of systems engineering and an overarching C4ISR systems architecture, and a product realization process to support budget decisions. SEIC

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

engineering conducts functional analyses for emergent system of systems challenges and ensures seamless integration and maximum interoperability of materiel across USMC, Naval, Joint, and DoD programs consistent with the Commandant's Vision and Strategy 2025.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Expeditionary Energy Office (E2O)	1.995	1.312	2.054	0.000	2.054
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue to support the USMC Expeditionary Energy Strategy and Implementation Plan, as well as the USMC Expeditionary Energy Water and Waste Initial Capabilities Document. - Continue and accelerate the support of fielding power and energy solutions for Expeditionary Advanced Base Operations (EABO). - Initiate user evaluation to support small unit power transition.					
FY 2023 Base Plans: -Continue to support the USMC Expeditionary Energy Strategy and Implementation Plan, as well as the USMC Expeditionary Energy Water and Waste Initial Capabilities Document. - Continue to evaluate technologies for small unit power informing the Acquisition Requirement Micropower. -Initiate R&D efforts that explore and quantify engineering characteristics that promote battlefield electrification in support of Presidential Climate Change directives.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: Increase of $0.742M from FY 2022 to FY 2023 reflects the funding needed to initiate the battlefield electrification efforts that promote battery powered vehicles.					
Title: JINTACCS: JCS and DoD CIO Data Links Testing	0.579	0.596	1.384	0.000	1.384
Articles:	-	-	-	-	-
Description: Joint Interoperability of Tactical Command and Control Systems (JINTACCS) is a United States military program for the development and maintenance of tactical information exchange configuration items (CIs) and operational procedures. It was originated to ensure that the command and control (C2 and C3) and weapons systems of all US military services and NATO forces would be interoperable. MARCORSYSCOM Systems Engineering, Interoperability Architectures, and Technology direct the JINTACCS Program. Created as a non-acquisition R&D engineering program it provides for critical engineering services in several areas. JINTACCS is essential to USMC development and maintenance of tactical data exchange standards (Link 16,					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
VMF, MTF, etc.), maintenance of C2 systems interoperability issues, development of Net Centric standards (XML, Web Services) to meet requirements of DoD/USMC Net Centric Data Strategy, and participation in Marine Corps, Joint, and Coalition Interoperability Certification testing to DoD/JCS/USMC/NATO requirements in an ever-changing cyber environment. ***FY 2022 Plans:*** - Continue to provide Marine Corps representation at TDL and tactical data message working groups, CCBs, and other interoperability forums. Continue to assess and represent Marine Corps positions on TDL and tactical data message ICPs, RFEs, and other initiatives. - Continue data collection and information dissemination associated with the Marine Corps IEP. Enter system bit-level information into the eSMART tool; conduct interoperability assessments of MAGTF systems using the eSMART tool to highlight gaps and identify investment opportunities to meet emerging interoperability needs; provide feedback to JCS representatives concerning shortfalls or recommended improvements to the eSMART tool. - Continue to provide TDL subject matter expert support to Marine Corps Systems Command and Program Executive Office Land Systems programs to support test, certification, and modernization of Marine Corps capabilities ***FY 2023 Base Plans:*** - Continue to provide Marine Corps representation at TDL and tactical data message working groups, CCBs, and other interoperability forums. Continue to assess and represent Marine Corps positions on ALL TDL and tactical data message ICPs, RFEs, and other initiatives. - Continue data collection and information dissemination associated with the Marine Corps IEP. Enter system bit-level information into the eSMART tool; conduct interoperability assessments of MAGTF systems using the eSMART tool to highlight gaps and identify investment opportunities to meet emerging interoperability needs; provide feedback to JCS representatives concerning shortfalls or recommended improvements to the eSMART tool. - Provide training to Marine Corps Systems Command and Program Executive Office Land Systems programs in the use of the eSMART tool to enter system bit-level information into the eSMART tool; conduct interoperability assessments of MAGTF systems using the eSMART tool to highlight gaps and identify investment opportunities to meet emerging interoperability needs, - Support program office development of tactical data link and tactical data message documentation in support of Joint Interoperability Test Command certifications.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue to provide TDL subject matter expert support to Marine Corps Systems Command and Program Executive Office Land Systems programs to support test, certification, and modernization of Marine Corps capabilities. - Provide SME support in implementing, modernizing and sustaining VMF messages to USMC programs to enable them to remain interoperable within the MAGTF and with the naval, joint and coalition forces. (impacts GCCS-TCO, JTCW, AFATDS, CAC2S, M777, HIMARS, JWARN, THS, etc.). - Provide engineering expertise required to plan and implement the USG directed migration of USMC C2 systems and networks to eXtensible Machine Language (XML) - to facilitate continued interoperability with the Joint, naval and coalition force, as well as with other USG agencies. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.788M from FY 2022 to FY 2023 reflects the funding needed to: (1) fully provide engineering expertise required to assess and analyze proposed changes to Tactical Data Link and tactical data message formats (i.e. Link-16, VMF, USMTF, MADL, Link 22, etc.) to determine impacts to USMC C2 systems and architectures for MAGTF, Joint and Naval interoperability. (2) Provide SME support in implementing, modernizing and sustaining VMF messages to USMC programs to enable them to remain interoperable within the MAGTF and with the naval, joint and coalition forces. (impacts GCCS-TCO, JTCW, AFATDS, CAC2S, M777, HIMARS, JWARN, THS, etc.) and (3) Provide engineering expertise required to plan and implement the USG directed migration of USMC C2 systems and networks to eXtensible Machine Language (XML) - to facilitate continued interoperability with the Joint, naval and coalition force, as well as with other USG agencies.					
Title: SEIC: Engineering and Technical Support	0.001	0.001	1.329	0.000	1.329
Articles:	-	-	-	-	-
FY 2022 Plans: - Complete the integration of MAGTF C2 systems and C4 services with shipboard C2 architectures and C4ISR infrastructures in direct support of MEU deployments via Deploying Group Systems Integration Test (DGSIT). ***FY 2023 Base Plans:*** The program received $0.001M in FY 2021 and FY 2022 and was not able to complete plan due to level of funding. The FY 2023 request alignes program funding to validated need. Program will continue the integration					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
of MAGTF C2 systems and C4 services with shipboard C2 architectures and C4ISR infrastructures in direct support of MEU deployments via Deploying Group Systems Integration Test (DGSIT). ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $1.328M from FY 2022 to FY 2023 reflects the funding needed to continue direct support of Deploying Group Systems Integration Tests (DGSIT) and related test events in direct support of MEU deployments.					
Accomplishments/Planned Programs Subtotals	2.575	1.909	4.767	0.000	4.767

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The System Engineering and Integration programs utilizes a non-traditional acquisition strategy. The program utilize the Naval Surface Warfare Centers for system engineering support services.

EEO - Expeditionary Energy Strategy and Implementation Plan, and priorities identified in the USMC Expeditionary Energy Water and Waste Initial Capabilities Document/Capabilities Based Assessment, as well as Science and Technology Objectives identified in the 2012 USMC S&T Strategic Plan. The program utilize the Naval Surface Warfare Centers for system engineering support services.

JINTACCS - Created as a non-acquisition R&D engineering program it provides for critical engineering services in several areas. (JINTACCS) is a United States military program for the development and maintenance of tactical information exchange configuration items (CIs) and operational procedures. It was originated to ensure that the command and control (C2 and C3) and weapons systems of all US military services and NATO forces would be interoperable. MARCORSYSCOM Systems Engineering Directorate, Integration Division directs the JINTACCS Program.

SEIC - Provides the decision support tools and engineering analysis resources needed to assess, identify and resolve Marine Air Ground Task Force (MAGTF) inter-systems' SoS issues and challenges. SEIC supports the Marine Corps in the analysis, evaluation, and assessment of MAGTF Systems and SoS requirements. The program utilize the Naval Surface Warfare Centers for system engineering support services.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	Various : Various	10.899	0.000		0.000		0.000		-		0.000	0.000	10.899	-
		Subtotal	10.899	0.000		0.000		0.000		-		0.000	0.000	10.899	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF SEI&C	WR	NSWC : Dahlgren, VA	5.963	0.001	Mar 2021	0.001	Mar 2022	0.000		-		0.000	Continuing	Continuing	Continuing
MAGTF SEI&C	WR	NSWC : DAM NECK, VA	0.420	0.000		0.000		0.250	Nov 2022	-		0.250	0.000	0.670	-
MAGTF SEI&C	C/FP	MANTECH : Stafford, VA	2.809	0.000		0.000		0.519	Nov 2022	-		0.519	0.000	3.328	-
MAGTF SEI&C	WR	NIWC-LANT : Charleston, SC	0.000	0.000		0.000		0.560	Mar 2023	-		0.560	0.000	0.560	-
JINTACCS	C/FFP	MCTSSA : Camp Pendleton, CA	2.603	0.306	Mar 2021	0.310	Mar 2022	0.887	Apr 2023	-		0.887	0.000	4.106	-
JINTACCS	C/FFP	MANTECH : Quantico, VA	0.450	0.214	Jan 2021	0.225	Jan 2022	0.208	Jan 2023	-		0.208	0.000	1.097	-
JINTACCS	C/FFP	GDIT : Stafford, VA	0.000	0.000		0.000		0.225	Apr 2023	-		0.225	0.000	0.225	-
Experimental Forward Operating Base (E2O)	WR	Various : Various	2.668	0.300	Nov 2020	0.000		0.100	Feb 2023	-		0.100	0.000	3.068	-
Experimental Forward Operating Base (E2O)	WR	NSWC : Carderock	1.181	0.289	Nov 2020	0.275	Nov 2021	0.400	Feb 2023	-		0.400	0.000	2.145	-
Experimental Forward Operating Base (E2O)	WR	NAVFAC EXWC : Port Hueneme, CA	1.267	0.250	Feb 2021	0.000		0.000		-		0.000	0.000	1.517	-
Experimental Forward Operating Base (E2O)	WR	NSWC : Panama City, FL	0.609	0.000		0.275	Nov 2021	0.000		-		0.000	0.000	0.884	-
Experimental Forward Operating Base (E2O)	WR	NSWC : Crane, IN	0.901	0.412	Nov 2020	0.275	Nov 2021	0.400	Feb 2023	-		0.400	0.000	1.988	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Experimental Forward Operating Base (E2O)	C/FFP	DTIC : FT. Belvoir	0.150	0.200	Apr 2021	0.075	Apr 2022	0.000		-		0.000	0.000	0.425	-
Experimental Forward Operating Base (E2O)	WR	NSWC Dahlgreen : Dahlgren, VA	0.400	0.344	Mar 2021	0.150	Mar 2022	0.000		-		0.000	0.000	0.894	-
Experimental Forward Operating Base (E2O)	WR	Naval Research Lab : Washington, DC	0.000	0.200	Apr 2021	0.262	Apr 2022	0.436	Feb 2023	-		0.436	0.000	0.898	-
Experimental Forward Operating Base (E2O)	WR	US Army GVSC : Detroit, MI	0.000	0.000		0.000		0.718	Nov 2022	-		0.718	0.000	0.718	-
Prior Years Cumulative Funding	Various	Various : Various	6.488	0.000		0.000		0.000		-		0.000	0.000	6.488	-
		Subtotal	25.909	2.516		1.848		4.703		-		4.703	Continuing	Continuing	N/A

Remarks

MAGTF SEI&C: Increase of $1.327M from FY 2022 to FY 2023 reflects the funding needed to continue direct support of Deploying Group Systems Integration Tests (DGSIT) and related test events in direct support of MEU deployments.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	Various : Various	7.611	0.000		0.000		0.000		-		0.000	0.000	7.611	-
		Subtotal	7.611	0.000		0.000		0.000		-		0.000	0.000	7.611	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JINTACCS-Travel	Various	PROGRAM : TRAVEL	0.412	0.059	Feb 2021	0.061	Feb 2022	0.064	Jun 2023	-		0.064	Continuing	Continuing	Continuing
		Subtotal	0.412	0.059		0.061		0.064		-		0.064	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2277 / *System Engineering and Integration*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	44.831	2.575		1.909		4.767		-		4.767	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

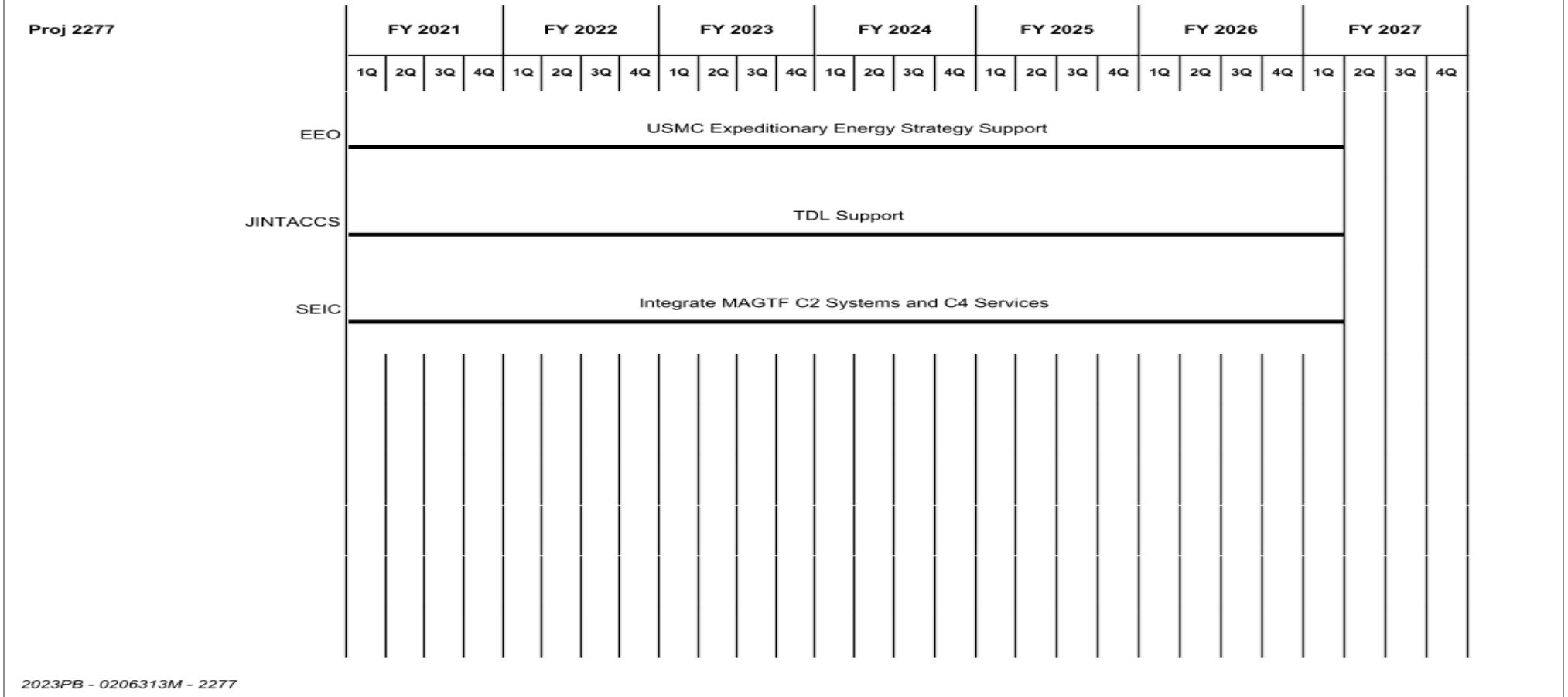


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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2277				
EEO: USMC Expeditionary Energy Strategy Support	1	2021	1	2027
JINTACCS: TDL Support	1	2021	1	2027
SEIC: Integrate MAGTF C2 Systems and C4 Services	1	2021	1	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2510 / *MAGTF CSSE & SE*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
2510: *MAGTF CSSE & SE*	289.782	0.943	0.943	0.991	-	0.991	1.013	1.032	1.053	1.070	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

(U) The Marine Air Ground Task Force (MAGTF) Combat Service Support Element & Supporting Establishment (CSSE & SE) consists of mutually supporting Logistics Information Technology (IT) programs that support force deployment, planning, and execution; sustainment and distribution; and contributes to the Combatant Commander's Common Operating Picture to support rapid accurate decision making.

JOINT FORCE REQUIREMENTS GENERATOR II (JFRG II) is an Automated Information System (AIS) that provides the Marine Corps the capability to plan and execute strategic force deployments in support of Joint contingency and crisis action operations and plans. It serves as the single link between Service operational force requirements and validated/sourced unit personnel and cargo data. JFRG II permits multi-level planning with entry of equipment and personnel data, transportation/ movement data, and the phasing of the total force throughout the entire movement timeline. JFRG II interfaces with the Joint Planning and Execution Service (JPES) Program Management office (PMO) Joint Operation Planning and Execution System (JOPES) system that registers, updates and validates Time Phased Force and Deployment Data (TPFDD) within the Department of Defense chain of
command. Validated deployment information is then used by U.S. Transportation Command for the scheduling of strategic transportation assets. JFRG II interfaces with the Sea Service Deployment Module (SSDM) for unit cargo information, and the War Reserve System (WRS), to be replaced by the Integrated Material Analysis Tool (IMAT) sometime in fiscal year 2021,in order to register sustainment requirements. JFRG II can generate standard, executive, and ad hoc reports and perform database queries to support information requirements. JFRG II operates and functions in a classified environment.

MAGTF LOGISTICS SUPPORT SYSTEMS (MLS2): This is a Marine Corps Force Design Program. Composed of several main components including the Electronic Maintenance Support System (EMSS). EMSS is a rugged organizational-level (O-level), light-weight, one-man portable maintenance device capable of supporting multiple platforms and systems across maintenance communities. It provides a Commercial Off-The-Shelf (COTS) hardware device equipped with Built-In-Test/Built-In-Test Equipment (BIT/BITE) interfaces, and Software Defined Test Instrument (SDTI) General Purpose Electronic Test Equipment (GPETE) capabilities. These hardware capabilities will enable commercial or custom DoD and USMC software capabilities including Interactive Electronic Technical Manuals (IETMs), Computer Based Training (CBT), and other maintenance applications to be hosted on EMSS. EMSS also has the capability to connect to the Marine Corps Enterprise Network (MCEN) and access sites like Global Combat Support System - Marine Corps (GCSS-MC) in order to facilitate maintenance and supply transactions, thereby improving readiness. With these capabilities, maintainers will make more informed decisions and sustain force readiness over time.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: JOINT FORCE REQUIREMENTS GENERATION II (JFRG II)	0.202	0.207	0.212	0.000	0.212
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
FY 2022 Plans: - Initiate Engineering Change Proposals (ECPs) to increase user functionality for legacy system and continue Cross Domain Solution (CDS) development. ***FY 2023 Base Plans:*** - Continue Engineering Change Proposals (ECPs) to increase user functionality for legacy system and Cross Domain Solution ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The $0.005M increase from FY 2022 to FY 2023 is due to inflation.					
Title: MAGTF LOGISTICS SUPPORT SYSTEMS (MLS2)	0.741	0.736	0.779	0.000	0.779
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue to develop additional GOTS diagnostic software capability for additional Heavy Equipment, Motor Transport, Ordnance and Engineer weapon systems in order to enhance maintenance capabilities, migrate away from more expensive commercial off the shelf (COTS) solutions, and decrease total ownership cost (TOC) for supported platforms. ***FY 2023 Base Plans:*** - Initiate initial testing of artificial intelligence to be used in EMSS Marine Diagnostic Software capabilities and Wireless "At the Platform" Test Sets (WATS). - Continue to develop additional GOTS diagnostic software capability for additional Heavy Equipment, Motor Transport, Ordnance and Engineer weapon systems in order to enhance maintenance capabilities, migrate away from more expensive commercial off the shelf (COTS) solutions, and decrease total ownership cost (TOC) for supported platforms. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:***					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
The $0.043M increase from FY 2022 to FY 2023 supports reflects testing of artificial intelligence to be used in EMSS Marine Diagnostic Software capabilities and Wireless "At the Platform" Test Sets (WATS).					
Accomplishments/Planned Programs Subtotals	0.943	0.943	0.991	0.000	0.991

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PMC/BLI 4181: *MAGTF Logistics Support Systems*	12.333	12.377	12.434	-	12.434	12.683	12.937	13.197	13.462	Continuing	Continuing

Remarks

D. Acquisition Strategy

JOINT FORCE REQUIREMENTS GENERATOR II (JFRG II) is required to modernize in order to implement Joint Requirements Oversight Counsel (JROC) mandates in support of Adaptive Planning and Execution (APEX) including the inclusion of Global Force Management - Data Initiative (GFM-DI) data elements and Joint Command and Control (JC2) Capabilities Development Document (CDD) requirements. The JFRG II legacy software application will remain supported until end of life (EOL) or replaced by a modernized application. Future capability improvements as identified in the JC2 CDD will be implemented through the configuration management process.

MAGTF LOGISTICS SUPPORT SYSTEMS (MLS2) is pursuing an evolutionary acquisition strategy in order to sustain operationally suitable and supportable capability across the Marine Corps as a maintenance aid. Electronic Maintenance Support Systems must evolve in concert with the supported platforms maintenance philosophy to provide extended functionality and access to network connectivity.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2510 / *MAGTF CSSE & SE*	

Product Development ($ in Millions)

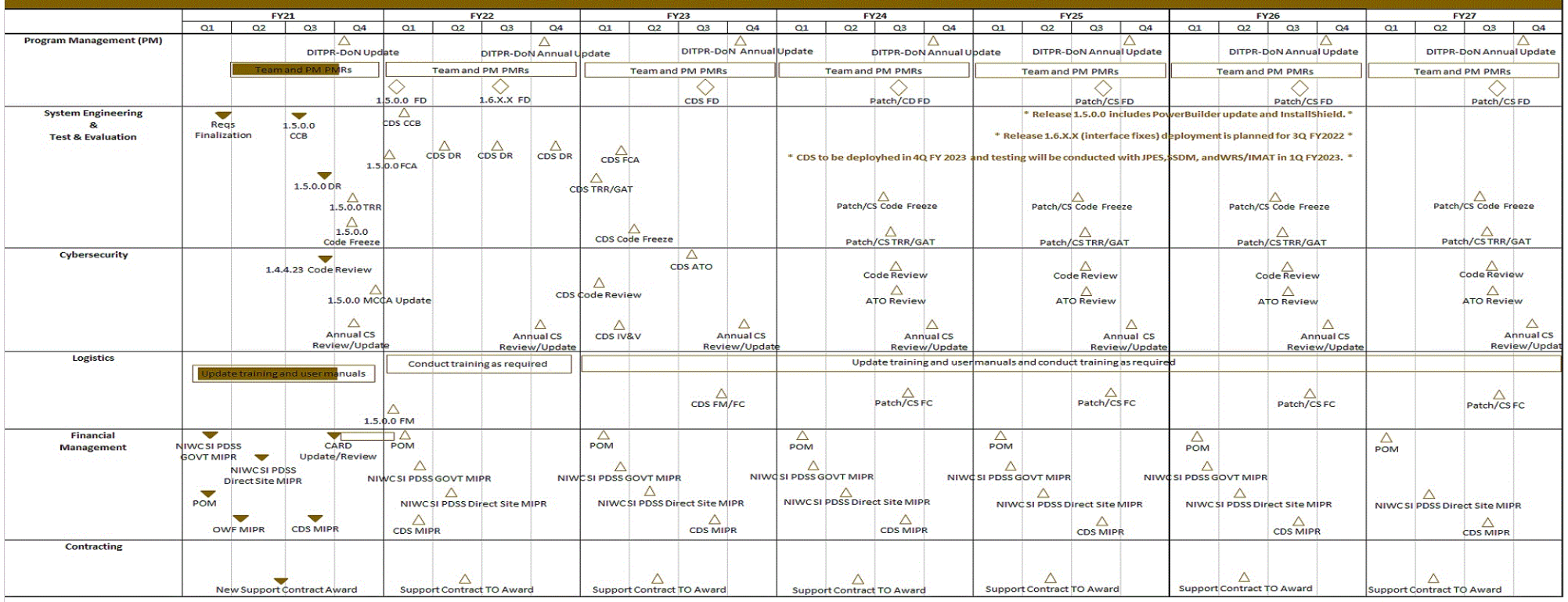
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JFRG II	C/IDIQ	SAIC : Stafford, VA	2.706	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
JFRG II	WR	NIWC LANT : Charleston, SC	0.804	0.000		0.147	Nov 2021	0.212	Nov 2022	-		0.212	Continuing	Continuing	Continuing
JFRG II	WR	DISA : Ft Meade, MD	0.300	0.202	Jun 2021	0.060	Nov 2021	0.000		-		0.000	Continuing	Continuing	Continuing
EMSS/MAGTF Logistics Support Systems	WR	NSWC, Crane : Crane, IN	2.412	0.345	Feb 2021	0.352	Feb 2022	0.388	Feb 2023	-		0.388	Continuing	Continuing	Continuing
EMSS/MAGTF Logistics Support Systems	WR	MCLC, Albany : Albany, GA	0.307	0.396	Feb 2021	0.384	Feb 2022	0.391	Feb 2023	-		0.391	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	Various : Various	283.253	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	289.782	0.943		0.943		0.991		-		0.991	Continuing	Continuing	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	289.782	0.943		0.943		0.991		-		0.991	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

Joint Force Requirements Generator (JFRG) II Operations and Support Schedule



Finished Task	Capabilities Development	TRR	Test Readiness Review	PMR	Program Management Review	JOPES	Joint Operation and Planning Execution System
Planned Task	Material Solution Analysis	GAT	Government Acceptance Testing	CARD	Cost Analysis Requirements Description	SSDM	Sea Service Deployment Module
Task Completion %	Tech Maturation & Risk Reduction	CCB	Configuration Control Board	FM	Fielding Message	WRS	War Reserve System
Task duration	Engineering & Manufacturing Dev	CDS	Cross Domain Solution	FD	Fielding Decision	IMAT	Integrated Material Analaysis Tool
Major Milestone	Production & Deployment	MCCA	Marine Corps Certified Application	PDSS	Post Deployment Software Support		
	Operations & Support	GOVT	Government	NIWC	North Naval Information Warfare Center		
		FC	Fielding Conference	MIPR	Mililtary Interdepartmental Purchase Request	Notes:	
		DR	Design Review	POM	Program Objective Memorandum	1. CDS versioning is to be determined	
		OWF	Ozone Widget Framework	ECPs	Engineering Change Proposals	2. JPES full capability will be deployed in 2QFY23.	
		MOD	Modernization	SI	System Integrator		
		FCA	Functional Configuration Audit	TO	Task Order		
		CS	Cybersecurity	JPES	Joint Planning and Execution Services		
		DITPR-DON	Department of Defense Information Technology Portfolio Repository-Department of the Navy				

Last updated: 7/16/2021

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MLS2/EMSS				
FY21 EMSS Block II Fielding	3	2021	1	2022
FY22 EMSS Block II Fielding	4	2022	4	2022
FY22 EMSS Block II FOC	4	2022	4	2022
FY23 EMSS Block II Refresh	3	2023	3	2023
FY24 EMSS Block II Refresh	3	2024	3	2024
FY25 EMSS Block II Refresh	3	2025	3	2025
FY26 EMSS Block II Refresh	3	2026	3	2026
FY27 EMSS Block II Refresh	3	2027	3	2027
JFRG II				
Legacy Enhancement and Cross Domain Solution (CDS) Requirements FInalization	1	2021	1	2021
Development of CDS Platform	3	2021	3	2021
Cont. Development of CDS Platform	1	2022	1	2022
ECP for Cyber Compliance	1	2023	1	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 3099 / *Radar System*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
3099: *Radar System*	227.657	1.405	1.134	1.059	-	1.059	2.018	1.730	1.530	1.556	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Long Range Radar (AN/TPS-59) - The AN/TPS-59A(V)3 is a transportable, three dimensional, tactical radar system that provides the Marine Air Ground Task Force (MAGTF) with long-range surveillance. It is the MAGTF's only ground based long range sensor that provides the capability to detect and report Air Breathing Targets (ABT) and track Theater Ballistic Missiles (TBM). The AN/TPS-59A(V)3 Radar System is connected to the Common Aviation Command and Control Systems (CAC2S). It provides the air defense controllers data and may be used autonomously to conduct Ground Control Intercept, tactical en-route Air Traffic Control (ATC), or TBM alert operations via the Joint Integrated Air Missile Defense (IAMD) encrypted Link-16. AN/TPS-59 funding zeroed beginning FY 2021 due to Marine Corps decision to modernize in accordance with the National Defense Strategy (NDS)/Defense Planning Guidance (DPG).

Virtual Warfare Center (VWC) Support - The project team conducts fully interactive simulated war games at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area. The VWC provides a venue for the exploration of advanced engagement concepts focused on persistent forward naval engagements in support of the MAGTF and the development of associated Joint and Service specific tactics, techniques, and procedures (TTPs). VWC support encompasses a set of integrated fire control (IFC) activities that also includes concept/CONOPS development, family of systems architecture development, and systems engineering/integration efforts.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: VWC: Support	1.087	0.857	0.782	0.000	0.782
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue to simulate war games at the VWC in St. Louis, MO, for the quantification of the family of systems performance and determine how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area.					
FY 2023 Base Plans: - Continue to simulate war games at the VWC in St. Louis, MO, for the quantification of the family of systems performance and determine how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area.					
FY 2023 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease of $0.075M from FY 2022 to FY 2023 reflects decrease of simulation efforts required to determine system performance in the Integrated Air and Missile Defense (IAMD) mission area.					
Title: VWC: Test and Evaluation	0.318	0.277	0.277	0.000	0.277
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue the simulation of war games at the VWC in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area. ***FY 2023 Base Plans:*** - Continue the simulation of war games at the VWC in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** NA					
Accomplishments/Planned Programs Subtotals	1.405	1.134	1.059	0.000	1.059

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Virtual Warfare Center (VWC) Support - The project team conducts fully interactive simulated war games at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area. VWC support encompasses a set of integrated fire control (IFC) activities that also includes concept/CONOPS development, family of systems architecture development, and systems engineering/ integration efforts. The Office of Naval Research (ONR) is the lead for all VWC contracting actions.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 3099 / *Radar System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59 - DREX EDM Development	SS/CPFF	LMC : Syracuse, NY	11.536	0.000		0.000		0.000		-		0.000	0.000	11.536	-
AN/TPS-59 - DREX EDM Development Program Management	SS/CPFF	LMC : Syracuse, NY	6.927	0.000		0.000		0.000		-		0.000	0.000	6.927	-
Prior Year Cumulative Funding	Various	Various : Various	90.234	0.000		0.000		0.000		-		0.000	0.000	90.234	-
		Subtotal	108.697	0.000		0.000		0.000		-		0.000	0.000	108.697	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59 - Engineering Support	C/FFP	MCSC : Quantico, VA	4.189	0.000		0.000		0.000		-		0.000	0.000	4.189	-
VWC	C/CPFF	ONR : St. Louis, MO	25.908	1.087	Feb 2021	0.857	Feb 2022	0.782	Feb 2023	-		0.782	Continuing	Continuing	Continuing
Prior Year Cumulative Funding	Various	Various : Various	52.687	0.000		0.000		0.000		-		0.000	0.000	52.687	-
		Subtotal	82.784	1.087		0.857		0.782		-		0.782	Continuing	Continuing	N/A

Remarks

Decrease of $0.075M from FY 2022 to FY 2023 reflects decrease of simulation efforts required to determine system performance in the Integrated Air and Missile Defense (IAMD) mission area.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59 - Test & Evaluation	C/CPFF	NSWC, Corona : Corona, CA	0.692	0.000		0.000		0.000		-		0.000	0.000	0.692	-
AN/TPS-59 - GFE for Test Asset	C/CPFF	LMC : Syracuse, NY	0.817	0.000		0.000		0.000		-		0.000	0.000	0.817	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 3099 / *Radar System*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59 - Platform Cert	MIPR	AIMS Prog Office : Warner Robbins AFB, GA	0.029	0.000		0.000		0.000		-		0.000	0.000	0.029	-
VWC	C/CPFF	ONR : St. Louis, MO	2.074	0.318	May 2021	0.277	May 2022	0.277	May 2023	-		0.277	0.000	2.946	-
Prior Year Cumulative Funding	Various	Various : Various	4.683	0.000		0.000		0.000		-		0.000	0.000	4.683	-
		Subtotal	8.295	0.318		0.277		0.277		-		0.277	0.000	9.167	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59 Engineering Support	MIPR	MITRE : Bedford, MA	1.900	0.000		0.000		0.000		-		0.000	0.000	1.900	-
Prior Year Cumulative Funding	Various	Various : Various	25.981	0.000		0.000		0.000		-		0.000	0.000	25.981	-
		Subtotal	27.881	0.000		0.000		0.000		-		0.000	0.000	27.881	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	227.657	1.405		1.134		1.059		-		1.059	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

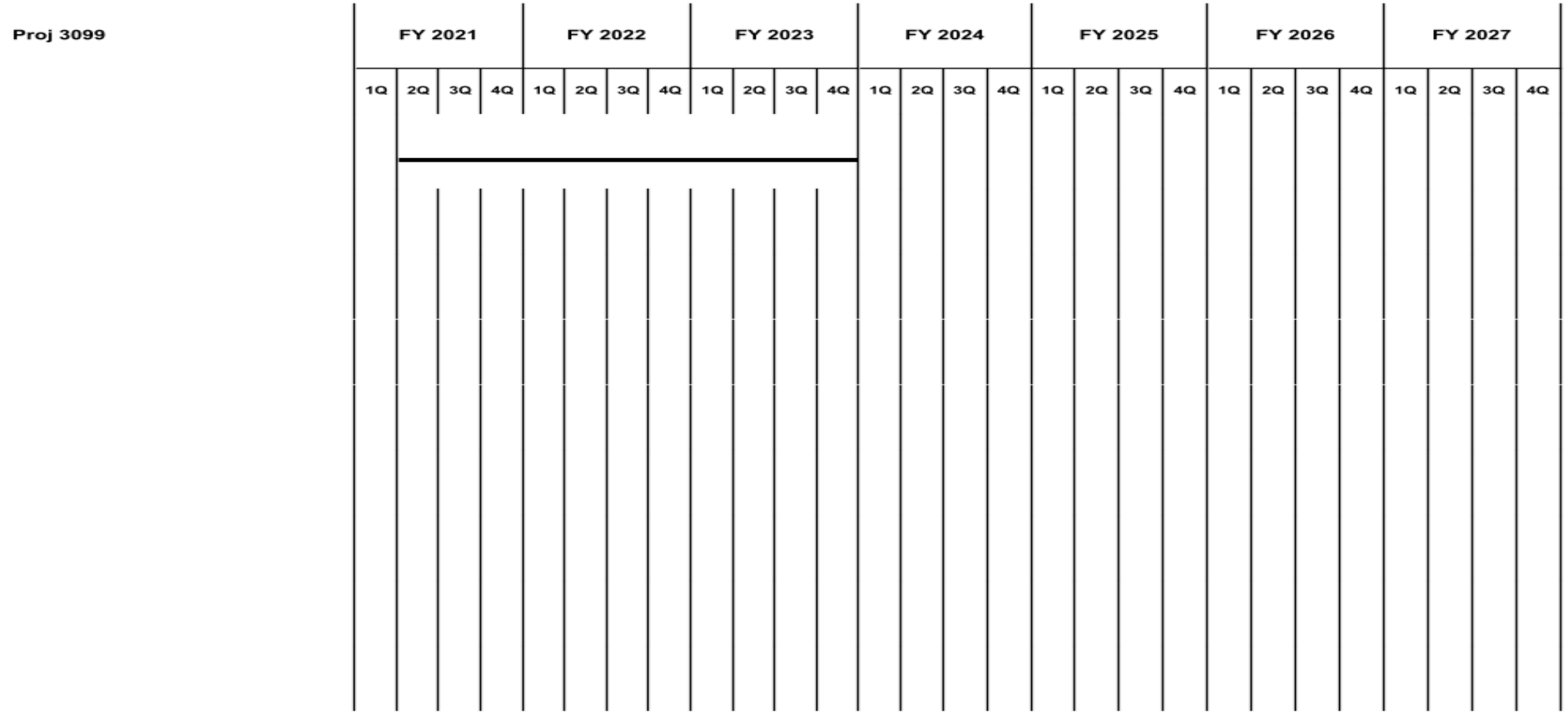


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3099				
VWC War Game Simulation	2	2021	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 3772 / *Information Related Capabilities (IRC)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
3772: *Information Related Capabilities (IRC)*	8.637	3.073	3.230	5.510	-	5.510	5.663	6.453	6.570	6.683	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Signature Management (SIGMAN): SIGMAN supports the goals of Force Design 2030 by providing tools that enable an expeditionary force to conduct distributed operations and produce mass effects while minimizing their own blue-force (friendly force) electromagnetic (EM) signature. This includes the capability to conduct blue-force signature assessment, blue-force signature planning, and advanced delivery of mass effects. SIGMAN is being developed in three increments. SIGMAN Increment I is the SIGMAN Visualization and Planning Tool (SVPT), which will provide commanders a display of their own force's EM signatures and the information needed to limit/mitigate their signatures. SIGMAN Increment II is the Radio Frequency (RF) Generator - Light and SIGMAN III is the RF Generator-Heavy. Increments II and III will provide commanders the tools needed to mitigate blue-force signatures. SIGMAN will be utilized by the Marine Corps Information Operations Center (MCIOC) SIGMAN platoon to provide commanders with the ability to understand their own forces' electromagnetic signatures and the ability to disrupt or deceive adversary units. Full development of SIGMAN capabilities is a key enabler to the Marine Littoral Regiment operating in contested signature environments where small maneuver elements must move, communicate, and survive while conducting Distributed Maritime Operations.

Digital Media Systems (DMS) (formerly Public Affairs Systems (PAS)) is the result of the Combat Camera and Public Affairs Occupational Fields (OccField) transitioning into the COMMSTRAT OccField in 2018. DMS provides the Marine Corps and the Joint Force with deployable systems to support Operations in the Information Environment (OIE), non-lethal fires, and the battle of narrative efforts. DMS supports the Fleet Marine Force (FMF) to be more lethal, survivable, and sustainable when conducting emerging maritime and warfighting concepts against competitor threats. The program maintains an evolutionary approach to acquisitions and leverages commercial industry-standard non-developmental items to provide the best value to the Marine Corps, while keeping Communication, Strategy and Operations (COMMSTRAT) Marines appropriately equipped to understand and affect the information environment. This effort supports research, testing, and evaluation of the Tactical Imagery Production System Next Generation (TIPS NG) to provide the FMF with the means to acquire, process, edit, develop, disseminate, transmit in near-real time, archive visual information (VI) products, and provide reprographics print speeds in support of Marine Corps missions across the competition continuum.

The Military Information Support Operations (MISO) Family of Systems (FoS), which consists of the Fly-Away Broadcast System (FABS), Next-Generation Loud Speaker (NGLS), Radio-In-A-Box (RIAB), and Marine Corps SOF Integration Node (MSIN), provides the Marine Air-Ground Task Force (MAGTF) Commander the ability to plan, develop, deliver and assess messages and actions to influence select foreign groups and promote themes to change those groups' attitudes and reduce civilian interference, minimize collateral damage, and increase the population's support for MAGTF operations. The MISO was established in response to multiple Marine Requirements Oversight Council Memorandums, and the approval of a MISO Organizational and Operational (O&O) Concept, 16 June 2015. MISO capabilities are critical to the success of the MAGTF mission, enabling commanders to shape the information environment, counter enemy propaganda, misinformation, disinformation, and adversarial narratives.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3772 / *Information Related Capabilities (IRC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Signature Management (SIGMAN): Product Development	0.000	1.190	3.309	0.000	3.309
Articles:	-	-	-	-	-
FY 2022 Plans: - Initiate the research and development of blue-force signature assessment, blue-force signature planning, and advanced delivery capability through Office of Naval Research (ONR) Cognitive Radio Frequency Inference Technology (CRIT) efforts. ***FY 2023 Base Plans:*** - Continue the research and development of blue-force signature assessment, blue-force signature planning, and advanced delivery capability through Office of Naval Research (ONR) Cognitive Radio Frequency Inference Technology (CRIT) efforts. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $2.119M from FY 2022 to FY 2023 reflects additional tasks associated with the development of the CRIT effort.					
Title: Signature Management (SIGMAN): Test and Evaluation	1.979	1.855	1.004	0.000	1.004
Articles:	-	-	-	-	-
FY 2022 Plans: - Complete research and development efforts for Signature Management (SIGMAN) capability for Increment I blue-force electromagnetic signature monitoring and capabilities. - Continue research and development efforts for Signature Management (SIGMAN) related to Increment III electromagnetic signature emitter devices. - Initiate and complete procurement of test articles for Increment III electromagnetic signature emitter devices. ***FY 2023 Base Plans:*** - Conduct test and evaluation for Signature Management (SIGMAN) related to Increment III electromagnetic signature emitter devices to include MIL-STD-810G testing and capability testing. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:***					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3772 / *Information Related Capabilities (IRC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Decrease of $0.851M from FY 2022 to FY 2023 reflects the completion of research and development efforts for Increment I blue-force electromagnetic signature monitoring and capabilities as well as completion of test article procurement in support of Increment III.					
Title: Digital Media Systems (DMS) (Formerly Public Affairs System (PAS)): Test and Evaluation	0.225	0.058	0.336	0.000	0.336
Articles:	-	-	-	-	-
FY 2022 Plans: - Conduct test and evaluation activities related to the Next Generation (NEXGEN) Tactical Imagery Production System (TIPS) providing production verification and user evaluation in support of upgrades for the COMMSTRAT Occfield. ***FY 2023 Base Plans:*** -Continue product development/integration activities and conduct test and evaluation activities related to the Tactical Imagery Production System Next Generation (TIPS NG) providing production verification and user evaluation in support of upgrades for the COMMSTRAT Occfield. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.278M from FY 2022 to FY 2023 reflects test and evaluation efforts in support of the upgrades required for the COMMSTRAT Occfield.					
Title: Military Information Support Operations (MISO): Product Development	0.869	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: The MISO Family of Systems (FoS), which consists of the Fly-Away Broadcast System (FABS), Next-Generation Loud Speaker (NGLS), Radio-In-A-Box (RIAB), and Marine Corps SOF Integration Node (MISN), provides the Marine Air-Ground Task Force (MAGTF) Commander the ability to plan, develop, deliver and assess messages and actions to influence select foreign groups and promote themes to change those groups' attitudes and reduce civilian interference, minimize collateral damage, and increase the population's support for MAGTF operations. Initiates product development of the Fly-Away Broadcast System (FABS) in preparation for a MS C decision. ***FY 2022 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3772 / *Information Related Capabilities (IRC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
N/A ***FY 2023 Base Plans:*** N/A ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** N/A					
Title: Military Information Support Operations (MISO): Test and Evaluation	0.000	0.127	0.861	0.000	0.861
Articles:	-	-	-	-	-
Description: The MISO Family of Systems (FoS), which consists of the Fly-Away Broadcast System (FABS), Next-Generation Loud Speaker (NGLS), Radio-In-A-Box (RIAB), and Marine Corps SOF Integration Node (MISN), provides the Marine Air-Ground Task Force (MAGTF) Commander the capability to conduct planned operations to convey selected information and indicators to foreign adversary, neutral and friendly target audiences to influence their emotions, motives, objective reasoning, providing an operational advantage. Initiates production of the Medium and Light variant of the Fly-Away Broadcast System (FABS) in preparation for a Fielding decision. ***FY 2022 Plans:*** - Conduct production verification and user evaluation testing of the Fly-Away Broadcast System (FABS) Heavy variant. - Provide Engineering Change Proposal (ECP) support for the development of software and cyber upgrades for ongoing technology modernizations. ***FY 2023 Base Plans:*** - Continue production verification and user evaluation testing of the Fly-Away Broadcast System (FABS) Heavy variant. - Continue engineering change proposal (ECP) to support for the development of software and cyber upgrades for ongoing technology modernizations. -Conduct vehicle integration testing/support planned to ensure design meets Performance Requirements, i.e. Co-site Interference, Functional including ATH and OTM, Munson Road, Near Strike Lightning and Drop Test. ***FY 2023 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3772 / *Information Related Capabilities (IRC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.734M from FY 2022 to FY 2023 supports the test and evaluation of the Fly-Away Broadcast System (FABS) Heavy variant as well as ECP support for the development of required software and cyber upgrades required for technology modernizations.					
Accomplishments/Planned Programs Subtotals	3.073	3.230	5.510	0.000	5.510

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PMC/4620AA: *MARCIMS*	0.302	0.000	0.307	-	0.307	0.000	0.313	0.319	0.325	Continuing	Continuing
• PMC/4620BB: *DMS (Formerly PAS)*	0.694	0.693	2.653	-	2.653	2.267	3.474	3.534	3.600	Continuing	Continuing
• PMC/4620CC: *MISO*	4.987	4.021	3.838	-	3.838	4.156	4.227	4.312	4.398	Continuing	Continuing
• PMC/4620DD: *SIGMAN*	5.716	6.963	4.393	-	4.393	3.229	4.800	4.876	4.958	Continuing	Continuing

Remarks

D. Acquisition Strategy

SIGMAN FoS is a new capability using existing hardware and software systems. SIGMAN FoS plans to expand upon capabilities and to introduce new signature assessment and management capabilities as technology updates mature with increased modularity, flexibility, and mobility.

Digital Media Systems will leverage existing Marine Corps Programs of Record and maximize the utilization of commercial-off-the-shelf devices and software to provide best overall cost, schedule and performance solutions to the warfighter with minimal developmental cost and schedule investments.

The MISO Family of Systems (FoS), which consists of the Fly-Away Broadcast System (FABS), Next-Generation Loud Speaker (NGLS), Radio-In-A-Box (RIAB), and Marine Corps SOF Integration Node (MISN), provides the Marine Air-Ground Task Force (MAGTF) Commander the ability to plan, develop, deliver and assess messages and actions to influence select foreign groups and promote themes to change those groups' attitudes and reduce civilian interference, minimize collateral damage, and increase the population's support for MAGTF operations. Initiates production of the Medium and Light variant of the Fly-Away Broadcast System (FABS) in preparation for a Fielding decision.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 3772 / *Information Related Capabilities (IRC)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SIGMAN	C/CPFF	ONR : Arlington, VA	0.000	0.000		1.190	Mar 2022	3.309	Mar 2023	-		3.309	0.000	4.499	-
MISO	WR	NIWC LANT : Charleston, SC	0.000	0.869	Jan 2022	0.000		0.000		-		0.000	0.000	0.869	-
MARCIMS	WR	NIWC-IH : Indian Head, MD	4.031	0.000		0.000		0.000		-		0.000	0.000	4.031	-
		Subtotal	4.031	0.869		1.190		3.309		-		3.309	0.000	9.399	N/A

Remarks

Increase of $2.119M from FY 2022 to FY 2023 reflects research and development of SIGMAN blue-force signature assessment, blue-force signature planning, and advanced delivery capability through Office of Naval Research (ONR) Cognitive Radio Frequency Inference Technology (CRIT) efforts.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SIGMAN	WR	NIWC : Charleston, SC	0.000	1.979	Jan 2021	1.855	Feb 2022	1.004	Feb 2023	-		1.004	Continuing	Continuing	Continuing
DMS/PAS	WR	MCSC : Quantico, VA	0.000	0.225	Aug 2021	0.058	Mar 2022	0.336	Mar 2023	-		0.336	Continuing	Continuing	Continuing
MISO	WR	NAVSEA : Laurel, MD	4.606	0.000		0.000		0.000		-		0.000	0.000	4.606	-
MISO	WR	NIWC LANT : Charleston, SC	0.000	0.000		0.127	Nov 2021	0.861	Nov 2022	-		0.861	Continuing	Continuing	Continuing
		Subtotal	4.606	2.204		2.040		2.201		-		2.201	Continuing	Continuing	N/A

Remarks

Increase of $0.161M from FY 2022 to FY 2023 reflects test and evaluation efforts in support of the upgrades required for the COMMSTRAT Occfield.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8.637	3.073		3.230		5.510		-		5.510	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 3772 / *Information Related Capabilities (IRC)*	

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3772 / *Information Related Capabilities (IRC)*

SIGMAN

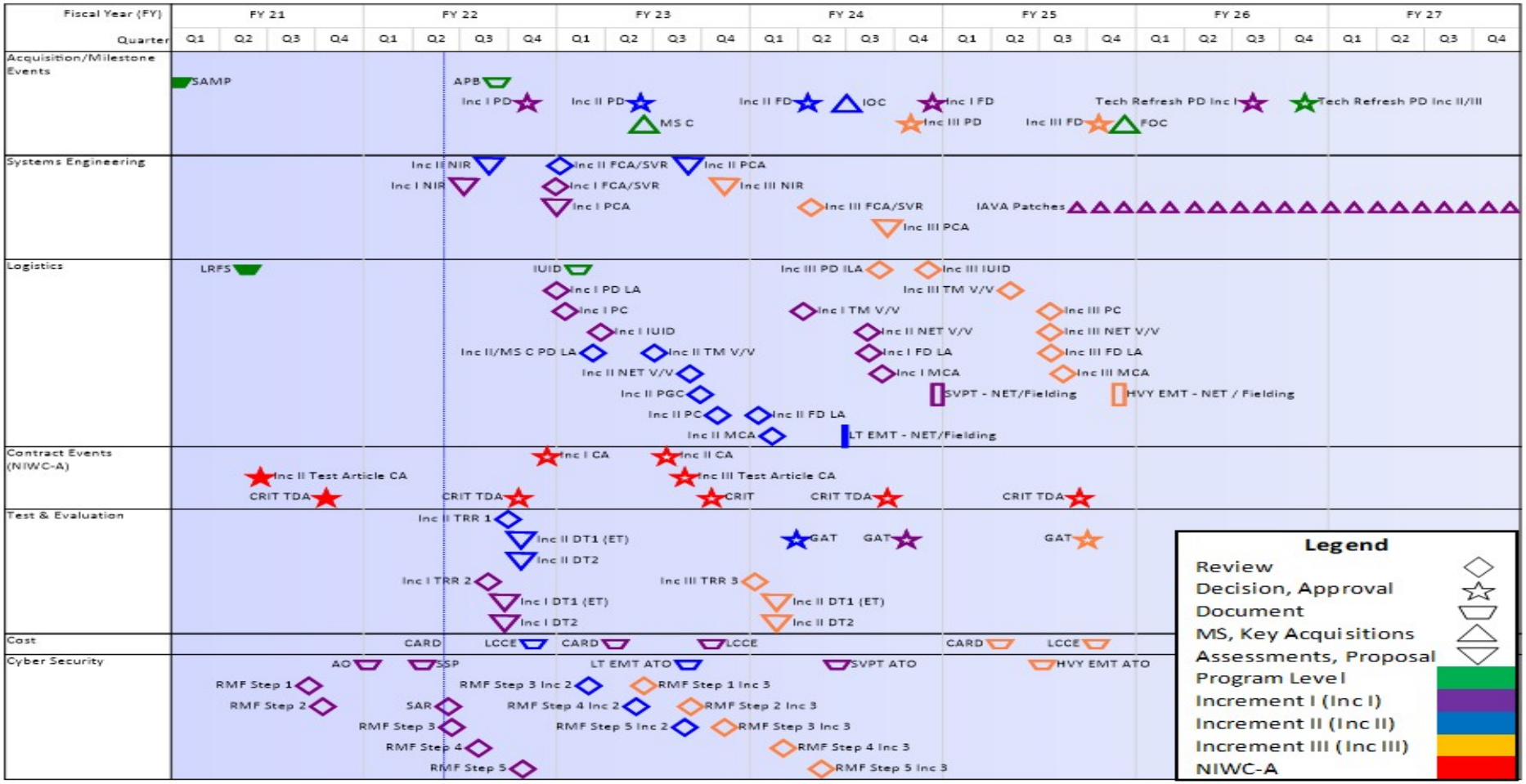


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3772 / *Information Related Capabilities (IRC)*

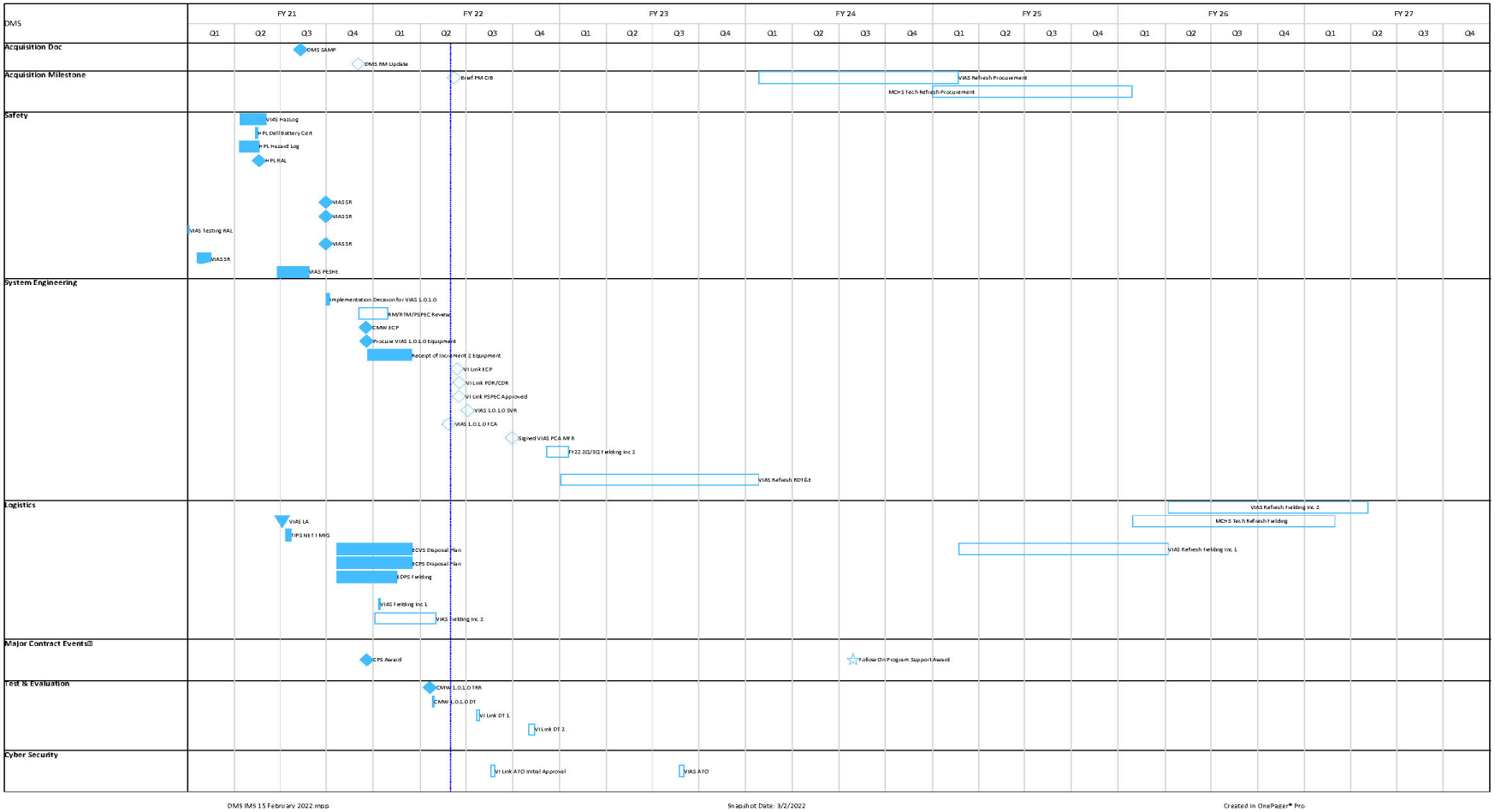


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3772 / *Information Related Capabilities (IRC)*

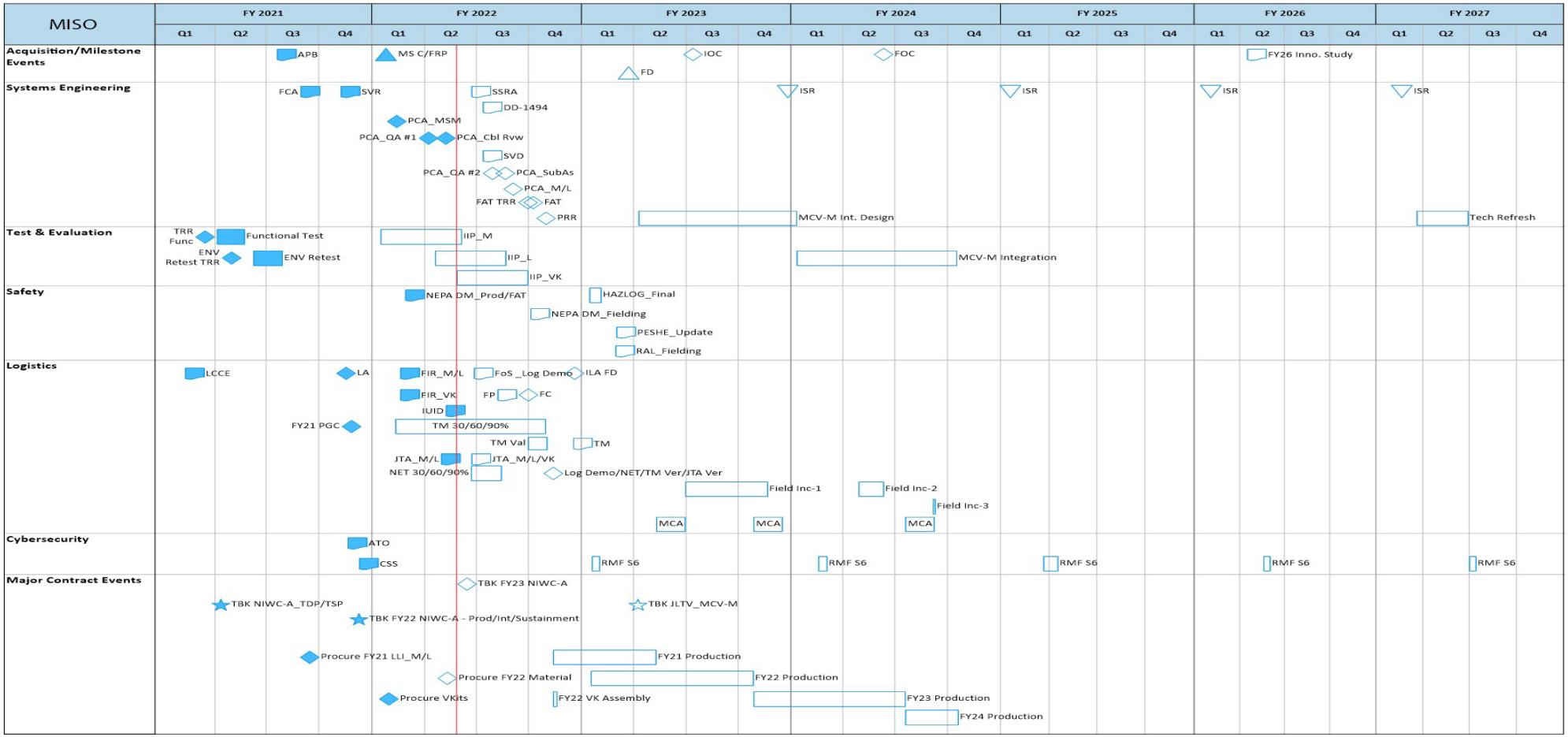


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3772 / *Information Related Capabilities (IRC)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SIGMAN				
MS C	2	2023	2	2023
Inc 1 Production Decision	4	2022	4	2022
Inc 2 Production Decision	2	2023	2	2023
DMS (Formerly PAS)				
DMS VIPS TRR	1	2022	1	2022
DMS VIPS DT	1	2022	1	2022
DMS PALMES X BAND Acceptance Test	2	2022	2	2022
VIAS 1.0.1.0 FCA	2	2022	2	2022
VIAS 1.0.1.0 SVR	3	2022	3	2022
VIAS 1.0.1.0 Fielding	4	2022	4	2022
DMS VI Link DT1	3	2022	3	2022
DMS VI Link DT2	4	2022	4	2022
MISO				
FABS Functional Testing (Medium & Light)	1	2021	2	2021
FABS Environmental ReTesting (Medium & Light)	2	2021	3	2021
FABS Production (Medium & Light)	3	2021	4	2022
FABS MS C / LRIP (Medium & Light)	4	2021	4	2021
FABS IOC (Medium & Light)	4	2022	4	2022
INT FABS Medium Development	3	2022	4	2022
INT FABS Medium Testing	1	2023	3	2023
FABS IOC	3	2023	3	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3772 / *Information Related Capabilities (IRC)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Field Inc 2	3	2023	3	2023
FABS FOC	4	2023	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 3773 / *Fire Coordination and Sensors*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
3773: *Fire Coordination and Sensors*	15.381	9.237	8.047	7.974	-	7.974	8.959	9.010	8.971	9.123	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project 3773 Fire Coordination and Sensors funds the development of critical United States Marine Corps (USMC) fire support coordination, targeting, and digital interoperability systems required for the employment of air and ground fires. Fire Coordination and Sensors provides the systems needed to develop and integrate a digital networked sensor to shooter mission thread supporting the Marine Air Ground Task Force (MAGTF). Key systems included are:

Family of Target Acquisition Systems (FTAS) - The FTAS provides the MAGTF the capability to locate, identify and attack enemy indirect fire weapons systems, and observe and direct friendly artillery fire. The FTAS consists of the AN/TPQ-46B Firefinder radar, the AN/TPQ-54(V)1 Lightweight Counter Mortar Radar Mobile (LCMR), and the Ground Counter Fire Sensor-Replacement (GCFS-R) Scalable Passive Acoustic Reporting and Targeting Node (SPARTN). The FTAS is critical in the execution of counterfire and the integration of target acquisition information enabling attack by MAGTF assets. The FTAS also provides artillery firing units the ability to conduct artillery registration and other friendly fire missions. The FTAS encompasses the equipment required to support target acquisition within the target acquisition platoon and is resident in the headquarters battery of each artillery regiment. The program will initiate development of replacement sensor systems and continue to address system issues that arise due to Diminishing Manufacturing Sources and Material Shortages (DMSMS) items with the FTAS.

Advanced Field Artillery Tactical Data System (AFATDS) Family of Systems (FoS) - The AFATDS FoS consists of two programs: AFATDS, and Mobile Shelters consisting of the Mobile Tactical Shelter (MTS), Target Processing Set (TPS), and the Mobile Command Vehicle (MCV) Shelter. AFATDS integrates all supporting arms assets within the MAGTF, such as mortars, cannon artillery, rockets and missiles, close air support, and naval surface fires support systems. AFATDS automates fire planning, tactical and technical fire direction, and fire support coordination. AFATDS facilitates the employment of USMC and Joint fires capabilities for operations ashore, sea control, sea denial, and other USMC/Joint fires requirements. In FY 2021 the decision was made to transition from the High Mobility Multipurpose Wheeled Vehicle mounted MTS and TPS to the JLTV mounted MCV Shelter for the increased AAO due to Force Design 2030. The MCV Shelter is primarily dedicated to housing the AFATDS and other fire support systems. MCV Shelters enhance the capabilities and survivability of USMC fire support units by enabling rapid emplacements, displacements, and by supporting command, control, and communications on the move.

Target Hand-Off System (THS) - The THS addressed a Marine Corps operational requirement for a lightweight, handheld, and accurate target acquisition engagement coordination system. THS provides MAGTF Commanders with the only man-portable target location and video downlink capability that allows Air Officers and Fire Support Coordinators to prosecute identified targets. The THS' advance interoperability capability provides the MAGTF Commander with the only portable target acquisition system able to interoperate with all target prosecution platforms available on the battlefield. The THS is designed for the Forward Air Controllers (FACs), Forward Observers (FOs), Fire Support Teams (FSTs), Firepower Control Teams (FCTs), Tactical Air Control Parties (TACPs) and Reconnaissance Teams to quickly acquire targets in day, night and near-all-weather visibility conditions, in order to conduct precise, rapid indirect surface fire support, Naval Surface Fire Support (NSFS) and Close Air Support (CAS).

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3773 / *Fire Coordination and Sensors*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: FTAS	1.927	1.678	1.716	0.000	1.716
Articles:	-	-	-	-	-
FY 2022 Plans: - Completed development of GCFS-R systems prototype 2. - Conducted updates to the LCMR tech refresh technical data package. - Continued Correlation / Fusion Technology Transition Agreement (TTA) Transition. ***FY 2023 Base Plans:*** - Complete Correlation / Fusion Technology Transition Agreement (TTA) Transition. - Conduct test and evaluation of software patches for the suite of FTAS equipment. - Initiate the development of the LCMR replacement. - Initiate the development of Engineering Change Proposal (ECP) to address DMSMS issues. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Net increase of $0.038 from FY 2022 to FY 2023 is a result of the initial development of the LCMR replacement effort and DMSMS ECPs; and completion of the GCFS-R prototypes.					
Title: AFATDS	6.906	5.952	5.831	0.000	5.831
Articles:	-	-	-	-	-
FY 2022 Plans: - Complete development of AFATDS software version 6.8.1.3. - Initiate test and evaluation support for AFATDS software version 6.8.1.3. - Continue AFATDS version 7.0 software development - Initiate and complete environmental, safety, and developmental testing for the MCV Shelter. ***FY 2023 Base Plans:*** - Complete test and evaluation support for AFATDS software version 6.8.1.3. - Fielding of AFATDS software version 6.8.1.3. - Continue AFATDS version 7.0 software development. - Initiate test and evaluation support for AFATDS software version 7.0					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3773 / *Fire Coordination and Sensors*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Develop training material and conduct new equipment training (NET) ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** AFATDS decrease of $0.121M from FY 2022 to FY 2023 is due to completion of MCV prototype development.					
Title: THS	0.404	0.417	0.427	0.000	0.427
Articles:	-	-	-	-	-
FY 2022 Plans: - Completed software development of Link-16 messages formats to support digital communications with CAS platforms and C2 networks. ***FY 2023 Base Plans:*** - Initiate the implementation of the Variable Message Format (VMF) Standard 6017E within the THSv2 software. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.010M from FY 2022 to FY 2023 supports the transition from Link 16 development to VMS Standard 6017E implementation with THSv2.					
Accomplishments/Planned Programs Subtotals	9.237	8.047	7.974	0.000	7.974

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PMC/473300: *Family of Target Acq Systems (FTAS)*	3.002	3.049	3.118	-	3.118	3.181	3.238	3.303	3.369	0.000	27.777
• PMC/473301: *Advanced Field Artillery Tactical Data Family of Systems (AFATDS FoS)*	14.067	14.214	15.218	-	15.218	15.454	15.521	15.764	16.066	0.000	131.842
• PMC/473302: *Target Handoff System (THS)*	2.487	2.527	2.475	-	2.475	2.630	2.577	2.629	2.682	0.000	25.485

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3773 / *Fire Coordination and Sensors*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Family of Target Acquisition Systems (FTAS): FTAS consists of 3 major components: AN/TPQ-46 Firefinder Radar, AN/TPQ-49 Lightweight Counter Mortar Radar (LCMR), and the Ground Counter Fire Sensor (GCFS). The replacement of the AN/TPQ-46 by the Ground/Air Task Oriented Radar (G/ATOR) began in 2018. AN/TPQ-46 activities since 2020 limited to maintaining the authority to operate (ATO) accreditation and supporting remaining systems. USMC activities on the AN/TPQ-49 are escalating due to the fact the US Army divested from the AN/TPQ-49, and the USMC assumed the responsibilities of the primary inventory control activity (PICA).

Advance Field Artillery Tactical Data System (AFATDS): AFATD software is managed through the Army Futures Command, Fire Support Command and Control, Aberdeen Proving Ground MD. R&D efforts for the next AFATDS v7.0.X.X, will be a combined effort between the software developer, the Army PM, and the USMC for software through the Defense Information Systems Agency (DISA). Current software enhancements are performed by the U.S. Army, Fort Sill, OK for v6.8.X.X. MCV was designated as an ACAT IV (M) program in September 2020. MCV competitively awarded Other Transactions Authority agreements for prototyping and development and will transition to a FAR contract for production. MCSC will administer both OTA and FAR contracting actions.

THS: The acquisition of components (software/hardware) for the THS initiative will maximize the use of existing Commercial-Off-The-Shelf (COTS), Government-Off-The-Shelf (GOTS), Non-Developmental Item (NDI), and Government Furnished Equipment (GFE). Software must maintain compatibility with five Programs of Record (POR) and seven Operational Flight Programs (OFP). Equipment is purchased from multiple vendors with Space and Missile Defense Command (SMDC) acting as the lead integrator for the USMC.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3773 / *Fire Coordination and Sensors*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FTAS	MIPR	AMRDEC : Huntsville, AL	1.362	0.831	Jun 2021	0.776	Mar 2022	0.494	Dec 2022	-		0.494	0.000	3.463	-
FTAS	MIPR	TYAD : Tobyhanna, PA	0.412	0.096	Nov 2020	0.098	Mar 2022	0.167	Dec 2022	-		0.167	0.000	0.773	-
THS	MIPR	Army (AVMC) : Huntsville, AL	1.088	0.000		0.000		0.000		-		0.000	0.000	1.088	-
THS	MIPR	SMDC : Huntsville, AL	0.000	0.404	Jan 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
THS	MIPR	NAWC : China Lake	0.000	0.000		0.417	Nov 2021	0.427	Nov 2022	-		0.427	0.000	0.844	-
AFATDS v6.8.1.3 SW Dev	MIPR	DISA/CECOM : Belleville, IL	3.464	1.059	Feb 2021	0.046	Feb 2022	0.000		-		0.000	0.000	4.569	-
AFATDS v7.0 SW Dev	C/FFP	CECOM/MITRE : Aberdeen, MD	4.827	0.668	Dec 2020	0.546	Dec 2021	0.712	Dec 2022	-		0.712	0.000	6.753	-
AFATDS v7.0 SW Dev	C/CPFF	DISA/DITCO : Aberdeen, MD	0.000	0.851	Mar 2021	0.867	Nov 2021	2.264	Nov 2022	-		2.264	0.000	3.982	-
AFATDS v7.0 SW Dev	MIPR	NIWC/LANT : Charleston, SC	0.000	0.000		0.000		1.081	Jan 2023	-		1.081	0.000	1.081	-
AFATDS MCV Development	C/CPFF	Oshkosh : Oshkosh, WI	0.000	1.496	May 2021	1.291	Nov 2021	0.000		-		0.000	0.000	2.787	-
AFATDS MCV Prototype	C/CPFF	Oshkosh : Oshkosh, WI	0.000	2.075	May 2021	1.883	Nov 2021	0.000		-		0.000	0.000	3.958	-
All Prior Year Cumulative Funds	Various	Various : Various	3.345	0.000		0.000		0.000		-		0.000	0.000	3.345	-
		Subtotal	14.498	7.480		5.924		5.145		-		5.145	Continuing	Continuing	N/A

Remarks

AFATDS - The net decrease of $0.576M from FY 2022 to FY 2023 is a result of the completion of the MCV prototype development in FY 2022 and the AFATDS v7.0 Software development in FY 2023.

FTAS - Net decrease of $0.213M from FY 2022 to FY 2023 is a result of the completion of the initial build of the Correlation/Fusion Engine and initiation of the LCMR replacement development

THS - Increase from FY 2022 to FY 2023 of $0.010M supports the transition from Link 16 development to VMS Standard 6017E implementation with THSv2.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3773 / *Fire Coordination and Sensors*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FTAS Engineering Support	WR	NSWCDD : Dahlgren, VA	0.513	0.554	Mar 2021	0.429	Mar 2022	0.403	Nov 2022	-		0.403	0.000	1.899	-
FTAS Test and Evaluation Support	C/FFP	MCTSSA : Camp Pendleton, CA	0.000	0.000		0.000		0.270	Mar 2023	-		0.270	0.000	0.270	-
		Subtotal	0.513	0.554		0.429		0.673		-		0.673	0.000	2.169	N/A

Remarks

FTAS - Net increase of $0.244M from FY 2022 to FY 2023 supports additional MCTSSA evaluation of software patches for the suite of FTAS equipment.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFATDS SW Testing	C/FFP	ARDEC : Ft. Sill, OK	0.000	0.424	Feb 2021	0.444	Apr 2022	0.467	Apr 2023	-		0.467	0.000	1.335	-
AFATDS SW Testing	C/CPFF	NIWC : Charleston, SC	0.000	0.000		0.335	May 2022	0.820	May 2023	-		0.820	0.000	1.155	-
AFATDS MCV Testing	C/CPFF	MCSC : MCSC: Various	0.000	0.333	Jun 2021	0.540	Nov 2021	0.487	Feb 2023	-		0.487	0.000	1.360	-
		Subtotal	0.000	0.757		1.319		1.774		-		1.774	0.000	3.850	N/A

Remarks

AFATDS - The net increase of $0.455M in FY 2023 is due to a decrease in MCV testing efforts and an increase in AFATDS software testing requirements to ensure Marine Corps specific requirements have been validated during testing.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FTAS	C/CPFF	CECOM/MITRE : Ft. Monmouth, NJ	0.370	0.446	Nov 2020	0.375	Dec 2021	0.382	Nov 2022	-		0.382	0.000	1.573	-
		Subtotal	0.370	0.446		0.375		0.382		-		0.382	0.000	1.573	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 3773 / *Fire Coordination and Sensors*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	15.381	9.237		8.047		7.974		-		7.974	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3773 / *Fire Coordination and Sensors*

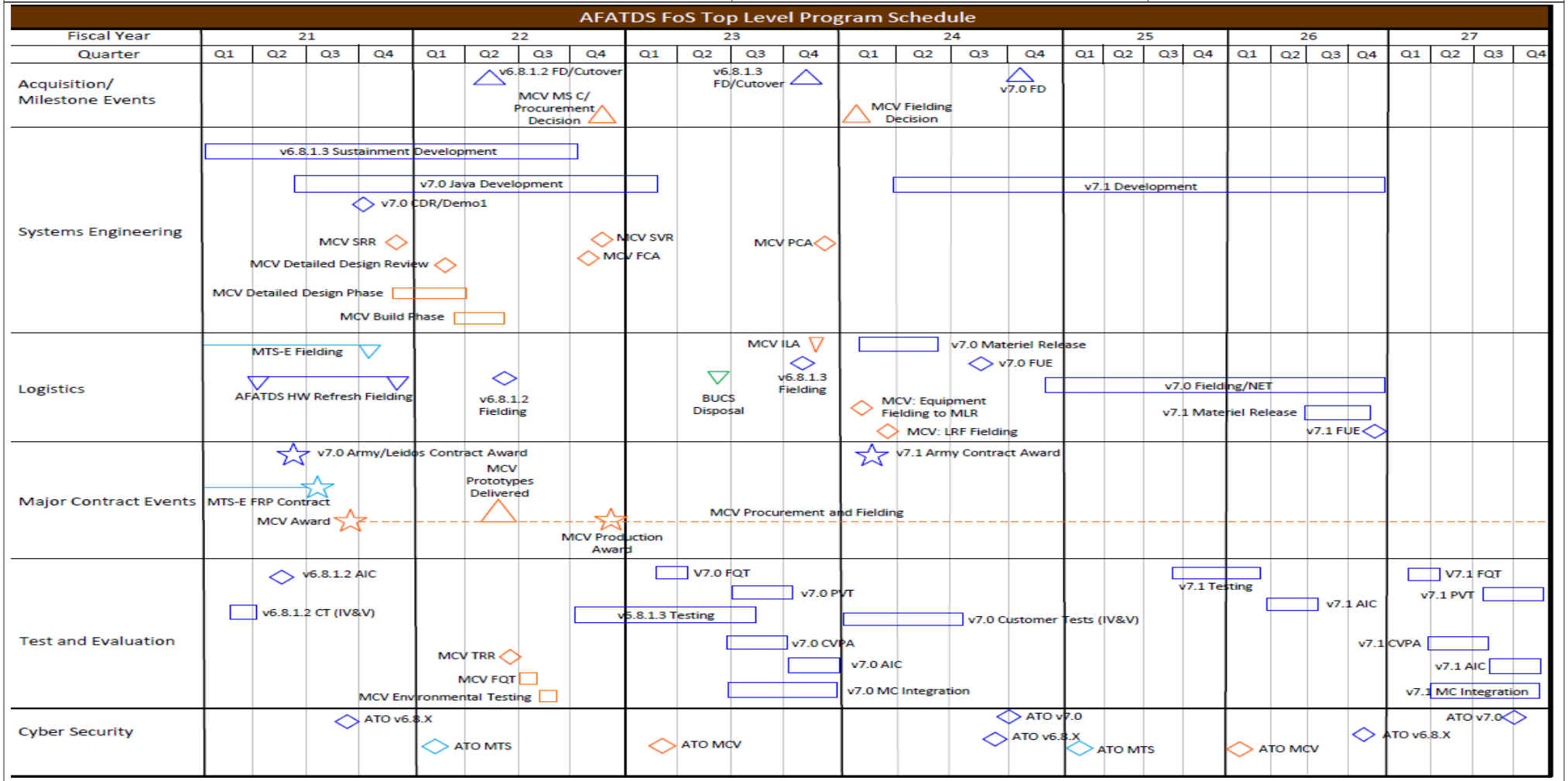


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3773 / *Fire Coordination and Sensors*

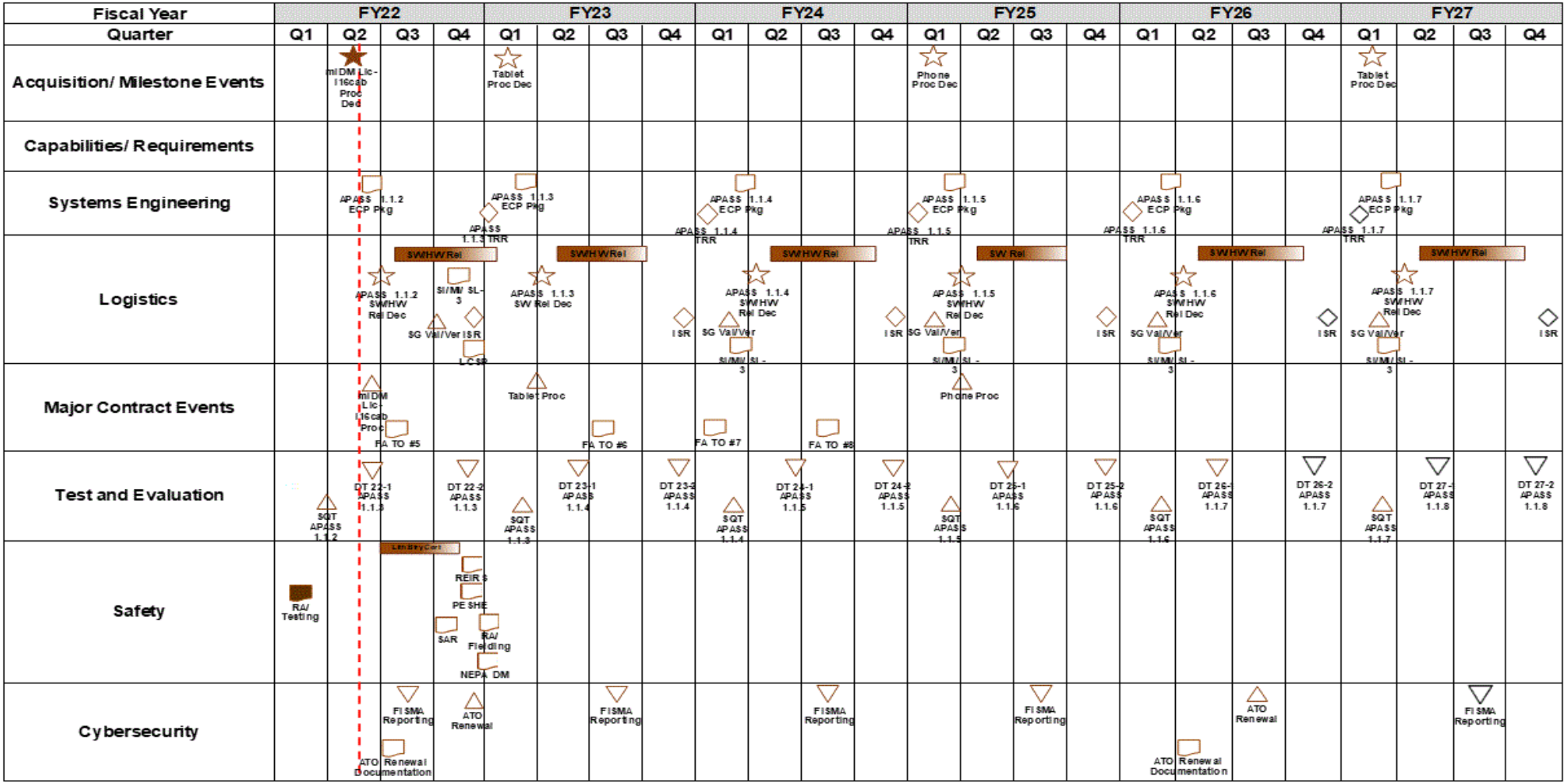


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3773 / *Fire Coordination and Sensors*

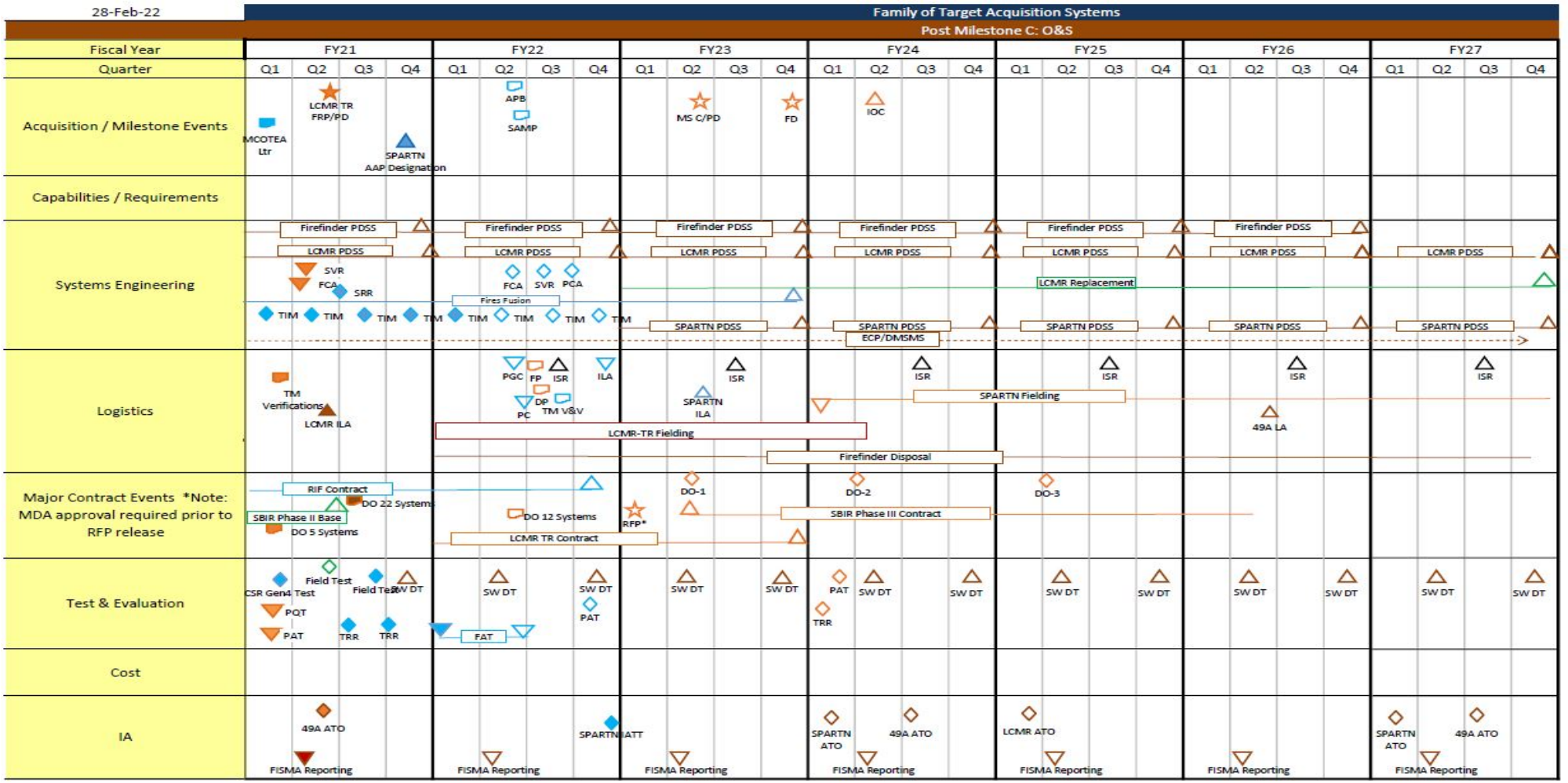


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3773 / *Fire Coordination and Sensors*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3773				
AFATDS 7.0 Software Development	2	2021	1	2023
AFATDS MCV Shelter Development	3	2021	2	2022
AFATDS MCV Shelter Environmental Test and User Evaluation	2	2022	3	2022
MCV Procurement Decision	4	2022	4	2022
FTAS LCMR Replacement Development	1	2023	4	2027
FTAS Correlation/Fusion Engine Development	1	2021	4	2023
FTAS ECP Kit Development	1	2021	4	2027
FTAS Software Patch Evaluation	1	2023	1	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	0.000	20.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	20.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) Ground Family of Systems (MEGFoS) - MEGFOS consists of critical Force Design programs and this funding supports expanded research and development of Electronic Warfare-related capabilities required for MEGFoS platform development. This capability will provide essential force protection by providing Counter Radio-Controlled Improvised Explosive Device (RCIED) and Counter Unmanned Aerial System (C-UAS) capabilities as well as the capability to sense threat spectrum usage within an area of responsibility. The Congressional Add of $20.000M in FY 2022 will fund the purchase of hardware prototypes for the MEGFoS team portable, dismounted and mounted variants which will support integration of a common operating picture, allowing each element of the MAGTF to gain and maintain awareness of the electromagnetic spectrum within their area of responsibility.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022
Congressional Add: Multi-function electronic warfare	0.000	20.000
FY 2021 Accomplishments: N/A		
FY 2022 Plans: -Initiate the purchase of prototypes for the MEGFoS team portable, dismounted and mounted variants to support the integration of common open hardware backplane based off the C4ISR Modular Open Suites of Standards (CMOSS), and a Sensor Open Systems Architecture (SOSA). -Initiate the purchase of Military Communication equipment to support the development of a networking capability for dismounted and team portable systems to provide a high level of situational awareness to commanders and Marines at the company level and fully realize advanced EA/ES capabilities for MEGFoS -Initiate the purchase of prototype hardware components for the MEGFoS team portable, dismounted and mounted variants.		
Congressional Adds Subtotals	0.000	20.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• 6520: *MEGFoS*	0.000	72.071	160.248	-	160.248	217.270	236.591	85.827	87.328	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 9999 / *Congressional Adds*

D. Acquisition Strategy

Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) Ground Family of Systems (MEGFoS): MEGFoS will provide a significant improvement in capability when compared to MFEW and what is commercially available today. The MEGFoS Team Portable system was authorized for Middle Tier of Acquisition Rapid Prototyping in 3Q FY 2020, with planned prototyping completion in 3Q FY 2023. Upon successful prototyping of the Team Portable variant, MEGFoS will procure 40 systems. The intent is to use the MEGFoS Team Portable solution as the basis for the Dismounted and Mounted variants. Procurement of the Dismounted systems is planned for FY 2024-2025, while the MEGFoS Mounted systems are being developed. The iterative development approach for MEGFoS, focusing on a common hardware and software standard, provides the opportunity to integrate all EW sensors into a common operating picture, allowing all elements of the MAGTF to gain and maintain awareness in the electromagnetic spectrum. This will include, but is not limited to, Cyber, Communications, Signature Management, and advanced signals detection and attack techniques.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 9999 / *Congressional Adds*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MEGFoS	MIPR	ARMY- Intel & Security Command : Fort Belvoir, VA	0.000	0.000		5.000	Aug 2022	0.000		-		0.000	0.000	5.000	-
MEGFoS	MIPR	ARMY- PEO IEW&S APG : Aberdeen, MD	0.000	0.000		3.500	Jun 2022	0.000		-		0.000	0.000	3.500	-
MEGFoS	MIPR	NSWC Crane : Crane, IN	0.000	0.000		7.000	Jun 2022	0.000		-		0.000	0.000	7.000	-
MEGFoS	MIPR	NIWC-LANT : Charleston, SC	0.000	0.000		4.500	Aug 2022	0.000		-		0.000	0.000	4.500	-
		Subtotal	0.000	0.000		20.000		0.000		-		0.000	0.000	20.000	N/A

Remarks

The Congressional Add of $20.000M in FY 2022 will fund the purchase of hardware prototypes for the MEGFoS team portable, dismounted and mounted variants which will support integration of a common operating picture, allowing each element of the MAGTF to gain and maintain awareness of the electromagnetic spectrum within their area of responsibility.

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		20.000		0.000		-		0.000	0.000	20.000	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 9999 / *Congressional Adds*

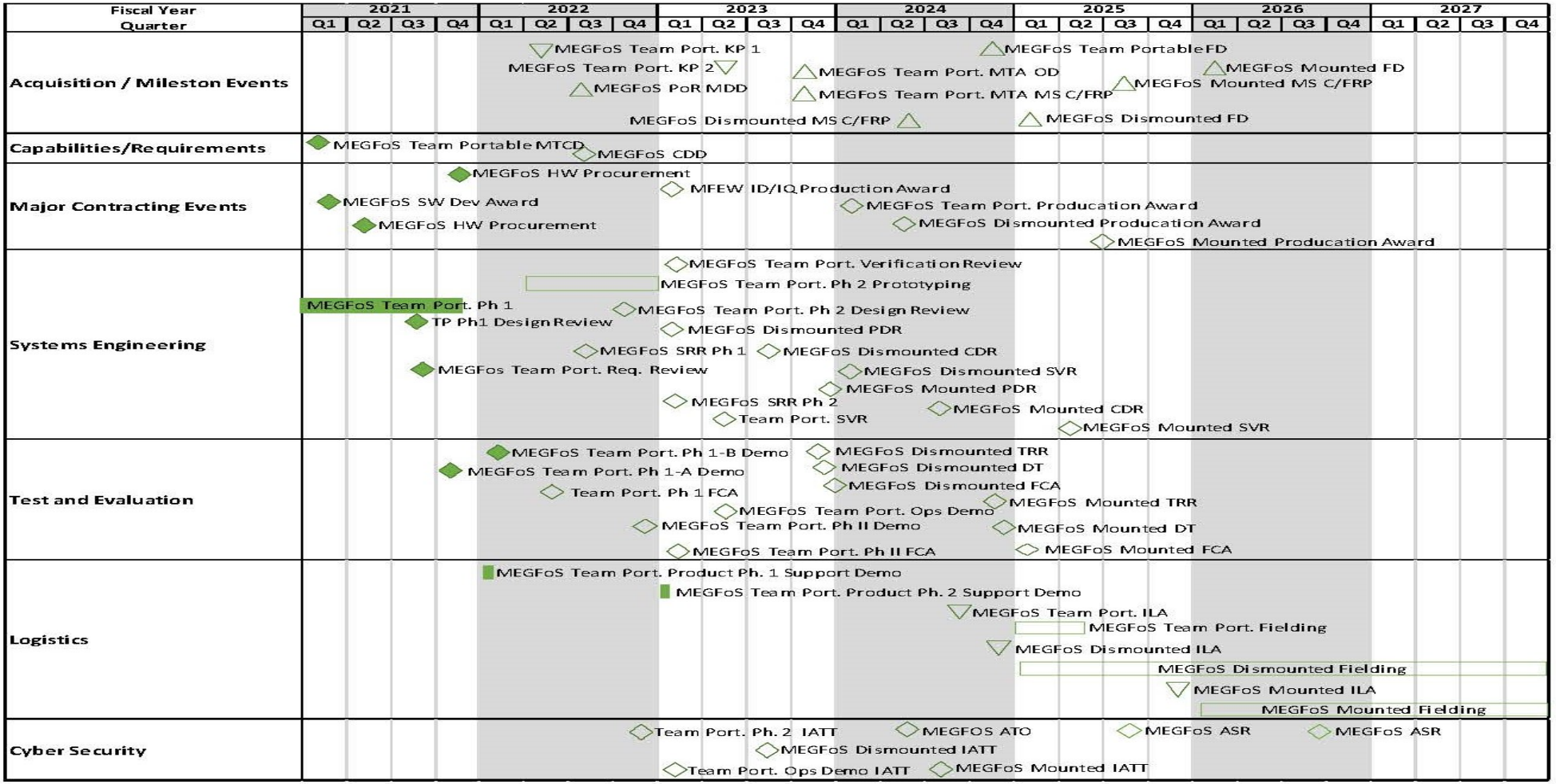


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
MEGFoS Program of Record MDD	3	2022	3	2022
MEGFoS Team Portable Phase II Test and Ops Demo	2	2023	2	2023
MEGFoS Team Portable Milestone C/FRP	4	2023	4	2023
MEGFoS Dismounted Milestone C/FRP	2	2024	2	2024
MEGFoS Team Portable Fielding Decision	4	2024	4	2024