Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
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 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
Total Program Element	1,247.384	82.575	77.909	82.159	-	82.159	94.060	90.438	86.252	88.239	Continuing	Continuing
2270: *Exp Indirect Fire Gen Supt Wpn Sys*	223.727	27.623	22.059	25.381	-	25.381	26.441	25.852	26.102	26.675	Continuing	Continuing
2273: *Air Ops Cmd & Control (C2) Sys*	405.175	8.070	7.713	11.946	-	11.946	11.571	11.762	12.026	12.333	Continuing	Continuing
2274: *Command & Control Warfare Sys*	25.117	7.833	8.940	6.531	-	6.531	8.138	8.232	7.052	7.213	Continuing	Continuing
2275: *Marine Corps Tactical Radio Systems*	29.853	6.577	3.351	12.661	-	12.661	9.300	8.004	7.063	7.124	Continuing	Continuing
2276: *Comms Switching and Control Sys*	39.081	1.754	2.006	2.216	-	2.216	3.277	3.249	3.187	3.258	Continuing	Continuing
2277: *System Engineering and Integration*	30.054	11.946	5.085	4.861	-	4.861	4.866	4.855	5.247	5.361	Continuing	Continuing
2278: *Air Defense Weapons System*	41.281	3.453	1.721	2.795	-	2.795	1.807	2.880	2.925	2.992	Continuing	Continuing
2510: *MAGTF CSSE & SE*	274.353	7.128	2.998	2.345	-	2.345	1.216	0.934	0.963	0.984	Continuing	Continuing
3099: *Radar System*	178.743	8.191	11.036	13.423	-	13.423	27.444	24.670	21.687	22.299	Continuing	Continuing
9999: *Congressional Adds*	0.000	0.000	13.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.000

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 582

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

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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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	73.982	67.763	78.512	-	78.512
Current President's Budget	82.575	77.909	82.159	-	82.159
Total Adjustments	8.593	10.146	3.647	-	3.647
• Congressional General Reductions	-	-0.483			
• Congressional Directed Reductions	-	-2.371			
• Congressional Rescissions	-	-			
• Congressional Adds	-	13.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	9.488	0.000			
• SBIR/STTR Transfer	-0.894	0.000			
• Program Adjustments	0.000	0.000	17.815	-	17.815
• Rate/Misc Adjustments	-0.001	0.000	-14.168	-	-14.168

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2015	FY 2016
Project: 9999: *Congressional Adds*		
Congressional Add: *Radar Enhancements*	0.000	13.000
Congressional Add Subtotals for Project: 9999	0.000	13.000
Congressional Add Totals for all Projects	0.000	13.000

Change Summary Explanation

The funding increase of $4.250M from FY16 to FY17 can be attributed to the initiation of new product development and testing efforts, primarily for the Marine Air Ground Task Force (MAGTF) Command and Control (C2) Systems and Applications (MAGTF C2 SA), Networking on the Move (NOTM), and Composite Tracking Network (CTN).

MAGTF C2 SA funds development, integration and testing of software applications and enhancements for Software Release 4.X, Marine Corps Enterprise information Technology Services (MCEITS) and Marine Corps Software Resource Center (MCSRC)to enable more effective information sharing and the ability for Marines to make informed and timely decisions.

NOTM will initiate Engineering Change Proposals (ECPs), technology refreshes to extend the system life and maintain interoperability and major product improvements, as well as initiate development of NOTM Airborne and NOTM Internally Transportable Vehicle variants.

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CTN will support Common Array Block-Expeditionary (CAB-E) Antenna Engineering Development Model (EDM) developmental and field testing, which is priority due to the CAB-E being the replacement for the current Compact Solid State Antenna (CSSA) that will become obsolete by FY 2018. CTN will also support Ground/Air Task-Oriented Radar (G/ATOR) Developmental Tests (DTs) and Operational Assessment (OA) to test its interoperability with G/ATOR, the TPS-59 Mode V antenna, and the Common Aviation Command and Control System (CAC2S).

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy										Date: February 2016		
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 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
2270: *Exp Indirect Fire Gen Supt Wpn Sys*	223.727	27.623	22.059	25.381	-	25.381	26.441	25.852	26.102	26.675	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Marine Air Ground Task Force (MAGTF) Command and Control (C2) Systems and Applications (MAGTF C2 SA) - MAGTF C2 SA merges the development, integration and testing of 45 existing C2 systems and applications into one common enterprise capability. They reside in all Combat Operations Centers (COCs) and related USMC C2 platforms. This effort provides greater economies of scale/affordability with system developers, technical design agents, integration agents and individual program offices. MAGTF C2 SA efforts are in alignment with the combat developers requirements for: Net-Centric systems, Development of reusable Open Architecture components, Data exposure, Enhancing the Warfighter's Situational Awareness and Increasing/Maximizing the Commander's decision space. The increase of $2.744M from FY16 to FY17 will fund improvements and enhancements to Software Release 4.X, Marine Corps Enterprise Information Technology Services (MCEITS), and Marine Corps Software Resource Center (MCSRC).

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 aircraft, ground vehicles and dismounted personnel. Increase of $0.331M from FY16 to FY17 is to provide additional test and evaluation support for Handhelds.

Global Command and Control System - Tactical Command Operations System (GCCS-TCO) - GCCS-TCO is the principal tool within the Marine Air Ground Task Force (MAGTF) for situational awareness through distribution of the Common Tactical Picture (CTP). It supports tactical operations providing information via high speed computer systems in a timely manner and includes the Intel Operations Workstations/Servers. R&D funds provide science and technology advanced concepts to be applied to the system for an increase in functional capabilities to the warfighter, to include Joint Command and Control (JC2) development efforts within Tactical Service Oriented Architecture (TSOA). Decrease of $1.081M from FY16 to FY17 reflects the program movement into the operations and sustainment phase.

Identity Dominance System-MC (IDS-MC) - 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 will enable 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 will display 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 in accordance with current MAGTF policy. The primary mission of IDS-MC is to provide the MAGTF 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 and law enforcement operations 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, law enforcement, displaced persons' management and aiding in humanitarian

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assistance missions. IDS-MC supports the tactical application of identity dominance and fully supports a forward presence, crisis response and contingency response capability. Increase of $0.181M from FY16 to FY17 will fund continuing software development and procure test articles for technology assessment for IDS-MC Increment 2.

Advanced Field Artillery Tactical Data Family of Systems (AFATDS FoS) - AFATDS FoS consists of three programs, AFATDS, Back Up Computer System (BUCS) and Mobile Tactical Shelter (MTS). The AFATDS automates the fire planning, tactical fire direction, and fire support coordination required to support maneuver from the sea and subsequent operations ashore. AFATDS integrates all supporting arms assets within the MAGTF such as mortars, cannon artillery, rockets and missiles, close air support, and naval surface fire support systems. BUCS is a hand-held computer system designed to provide a backup to the AFATDS in computing ballistic firing solutions, as well as provide survey and Meteorological functions in support of artillery. Additionally BUCS is the primary ballistic firing solution system during Ship To Objective Maneuver (STOM) and for the Expeditionary Fire Support System (EFSS). The MTS is a Lightweight Multi-purpose Shelter mounted on a High Mobility Multipurpose Wheeled Vehicle (HMMWV) which protects both the AFATDS and operators from the environment. MTS enables rapid emplacement and displacement of fire support elements and provides networked 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 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 in 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).

Handheld Command and Control (H2C2) - H2C2 project vision outlines a collective and efficient mobile computing Acquisition Strategy to ensure economies of scale and scope. 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 every network regardless of the operational environment. The emerging technologies will enable access to both classified and unclassified systems on a single device. 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: MAGTF C2: Product Development	10.764	5.340	7.198	0.000	7.198
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Completed Deployment of build 6 and initiate and deploy build 7, continued to improve and enhance MAGTF interoperability by reducing inefficiencies between disparate tactical data systems by linking them via the TSOA. -Continued presentation layer application development in conjunction with Warfighter input via the Agile Application Development (A2D) process.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continued Select Command and Control Personal Computer (C2PC)/Joint Common Operational Picture Tactical Workstation (JTCW) application functionality to be transitioned into services hosted on the Tactical Service Oriented Architecture framework and C2 software packages. -Continued research and development to transfer legacy stove-piped MAGTF C2 systems and functionality to interoperable applications in order to create more efficient Joint and Coalition C2 environment for the MAGTF. JTCW support, development, improvement and transition to TSOA environment. -Completed deployment of the Marine Corps Software Resource on MCEITS. ***FY 2016 Plans:*** -Continue improving and enhancing MAGTF interoperability using the service oriented architecture provided by the TSOA. This greatly enhances the efficiency of data distribution between architecturally disparate tactical data systems. -Continue developing presentation layer applications in conjunction with Warfighter input using the Agile Application Development (A2D) process. -Complete transition of selected Command and Control Personal Computer (C2PC)/Joint Common Operational Picture Tactical Workstation (JTCW) application functionality into services hosted on the TSOA framework and C2 software packages. -Continue research and development for transfer of legacy stove-piped MAGTF C2 systems to modern interoperable applications resulting in a more efficient Joint and Coalition C2 environment for the MAGTF. Funding will provide for the development of one major release and one Rapid Response and Integration (R2I) application. ***FY 2017 Base Plans:*** -Continue the addition of Authoritative Data Sources from Intelligence, Logistics and Operations to the TSOA in order to meet identified Marine Corps gaps. -Continue improving and enhancing MAGTF interoperability using the service oriented architecture provided by the TSOA. -Continue developing applications for the Marine Corps Software Resource Center to enable more effective information sharing and the ability for Marines to make more informed and timely decisions. -Continue research and development for the deployment of the TSOA to additional Marine Corps platforms (NOTM and MCEITS).					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- The increase of $1.858M from FY16 to FY17 will fund improvements and enhancements to Software Release 4.X, Marine Corps Enterprise Information Technology Services (MCEITS), and Marine Corps Software Resource Center (MCSRC). ***FY 2017 OCO Plans:*** N/A					
Title: MAGTF C2: Support Costs ***Articles:*** ***FY 2015 Accomplishments:*** Continued system engineering support for system integration, configuration management and technical assessments. ***FY 2016 Plans:*** Continue system engineering support for system integration, configuration management and technical assessments. ***FY 2017 Base Plans:*** Continue system engineering support for system integration, configuration management and technical assessments. ***FY 2017 OCO Plans:*** N/A	1.649 -	1.022 -	1.208 -	0.000 -	1.208 -
Title: MAGTF C2: Test and Evaluation ***Articles:*** ***FY 2015 Accomplishments:*** -Continued test support for the Joint Tactical Common Operational (COP) Workstation (JTCW). -Continued conducting developmental testing of JTCW and Joint interoperability testing in conjunction with the Joint Interoperability Test Command (JITC). -Continued to participate in technical working groups in support of test and engineering. -Continued 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 2016 Plans:***	1.068 -	1.000 -	1.425 -	0.000 -	1.425 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continue test support for the Joint Tactical Common Operational (COP) Workstation (JTCW). -Continue conducting developmental testing of JTCW and Joint interoperability testing in conjunction with the Joint Interoperability Test Command (JITC). -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 2017 Base Plans:*** -Continue test support for the Joint Tactical Common Operational (COP) Workstation (JTCW). -Continue conducting developmental testing of JTCW and Joint interoperability testing in conjunction with the Joint Interoperability Test Command (JITC). -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 2017 OCO Plans:*** N/A					
Title: MAGTF C2: Management Services	0.518	1.000	1.275	0.000	1.275
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continued 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). ***FY 2016 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). ***FY 2017 Base Plans:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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). ***FY 2017 OCO Plans:*** N/A					
Title: GCCS-TCO: Product Development ***Articles:*** ***FY 2015 Accomplishments:*** - Continued the development of services linking the COP from GCCS-TCO to other COP viewing tools as a service inside the Combat Operations Center (COC). - Continued to improve interoperability allowing COP and Situational Awareness data to be shared between GCCS-TCO and other C2 systems. ***FY 2016 Plans:*** - Complete the development of services linking the COP from GCCS-TCO to other COP viewing tools as a service inside the Combat Operations Center. The GCCS-TCO software will improve interoperability with the Tactical Service Oriented Architecture, allowing COP and Situational Awareness data to be shared between the GCCS-TCO and other C2 systems. ***FY 2017 Base Plans:*** N/A ***FY 2017 OCO Plans:*** N/A	0.441 -	0.650 -	0.000 -	0.000 -	0.000 -
Title: GCCS-TCO: Test and Evaluation ***Articles:*** ***FY 2015 Accomplishments:*** Continued testing and validation of advanced concepts and technologies. ***FY 2016 Plans:*** Complete testing and validation of advanced concepts and technologies. ***FY 2017 Base Plans:***	0.260 -	0.431 -	0.000 -	0.000 -	0.000 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A ***FY 2017 OCO Plans:*** N/A					
Title: AFATDS: Software Development and Integration ***Articles:*** ***FY 2015 Accomplishments:*** -Initiated development of 6.8.1.1, adding USMC capabilities and interface enhancements with other C2 systems. -Initiate interoperability testing for AFATDS and Back Up Computer System (BUCS) (Centaur and Sensor Programs) software. ***FY 2016 Plans:*** -Initiate development of 7.0, adding USMC capabilities and interface enhancements with other C2 systems. -Initiate interoperability testing for AFATDS and BUCS (Centaur and Sensor Programs) software. ***FY 2017 Base Plans:*** -Increase of $2.243M will support enhancement of software version 6.8.1.2 and continued development of AFATDS 7.0. ***FY 2017 OCO Plans:*** N/A	3.721 -	3.743 -	5.986 -	0.000 -	5.986 -
Title: AFATDS: Test and Evaluation ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** Initiate interoperability testing for AFATDS and BUCS software ***FY 2017 Base Plans:*** N/A ***FY 2017 OCO Plans:*** N/A	0.000 -	0.246 -	0.000 -	0.000 -	0.000 -
Title: THS: Product Development	2.812	2.843	2.273	0.000	2.273

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Initiated integration and continued development of government owned software to incorporate THS capability requirements into a software application to replace the current fielded system. ***FY 2016 Plans:*** -Continue capability requirements analysis and validation and conduct analysis of future interoperability and capability requirements. -Initiate development of emerging requirements and incorporate software patches to improve interoperability. ***FY 2017 Base Plans:*** -Complete development of the first software version to support fielding and replace THS V1.2, which will be obsolete and unsupportable after FY17. Funds will also be used to begin the development of the next iteration of THS software. ***FY 2017 OCO Plans:*** N/A					
Title: THS: Testing and Evaluation	0.566	0.295	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Completed testing of software version SL V1.2 and the Slate systems. ***FY 2016 Plans:*** -Continue interoperability testing of software on new hardware configuration -Initiate and conduct Information Assurance Vulnerability Assessment (IAVA) activities. ***FY 2017 Base Plans:*** N/A ***FY 2017 OCO Plans:*** N/A					
Title: THS: Management Services	0.536	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2015 Accomplishments:					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue Federally Funded Research and Development Center (FFRDC) engineering support to conduct capability requirements analysis and validation. ***FY 2016 Plans:*** N/A ***FY 2017 Base Plans:*** N/A ***FY 2017 OCO Plans:*** N/A					
Title: JBC-P: Software and Product Development/Integration	0.671	1.190	0.930	0.000	0.930
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Continued the coordination with the software and product development teams to assist in the development and integration of the JBC-P and handheld/end user device (EUD) software capability and associated testing. -Continued software engineering support to provide appropriate government direction in design and development of software. Support provided to assist and serve as subject matter experts in this effort. Existing documentation and logistics support will be analyzed for supportability of JBC-P and follow on increments of the capability. ***FY 2016 Plans:*** -Continue coordination with the software and product development teams to assist in the development and integration of the JBC-P and handheld/end user device (EUD) software capability and associated testing. -Continue software engineering support to provide appropriate government direction in design and development of software. Existing documentation and logistics support will be analyzed for supportability of JBC-P and follow on increments of the capability. ***FY 2017 Base Plans:*** -Continue coordination with the software and product development teams to assist in the development and integration of the JBC-P and handheld/end user device (EUD) software capability and associated testing.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continue software engineering support to provide appropriate government direction in design and development of software. Existing documentation and logistics support will be analyzed for supportability of JBC-P and follow on increments of the capability. ***FY 2017 OCO Plans:*** N/A					
Title: JBC-P: Test and Evaluation ***Articles:*** ***FY 2015 Accomplishments:*** -Continued laboratories integration to facilitate test and network integration test events. -Continue support for developmental test (DT) and planning/support for operational test (OT) of JBC-P handheld device. -Continued information assurance activities to support certification and accreditation efforts of JBC-P software. -Purchased 82 EUD to support test and demonstrations events. ***FY 2016 Plans:*** -Continue laboratories integration to facilitate test and network integration test events. -Continue support for developmental test (DT) and planning/support for operational test (OT) of the JBC-P handheld device. ***FY 2017 Base Plans:*** -Continue laboratories integration to facilitate test and network integration test events. -Continue support for developmental test (DT) and planning/support for operational test (OT) of the JBC-P handheld device. ***FY 2017 OCO Plans:*** N/A	2.286 -	1.335 -	2.006 -	0.000 -	2.006 -
Title: JBC-P: Management Services ***Articles:*** ***FY 2015 Accomplishments:*** -Continued to provide Engineering Support personnel and travel. ***FY 2016 Plans:***	0.536 -	0.390 -	0.310 -	0.000 -	0.310 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continue to provide Engineering Support personnel and travel. ***FY 2017 Base Plans:*** -Continue to provide Engineering Support personnel and travel. ***FY 2017 OCO Plans:*** N/A					
Title: IDS-MC: Product Development ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** Continue software development and hardware integration including information assurance and cyber-security certification and accreditation. Continue system engineering and network integration of emerging requirements. ***FY 2017 Base Plans:*** Continue software development and hardware integration including information assurance and cyber-security certification and accreditation. Continue system engineering and network integration of emerging requirements. Initiate capability requirements analysis and initiate development for IDS-MC increment 2 ***FY 2017 OCO Plans:*** N/A	0.000 -	0.400 -	0.900 -	0.000 -	0.900 -
Title: IDS-MC: Support ***Articles:*** ***FY 2015 Accomplishments:*** Supported software integration and network engineering and integration including information assurance and cyber-security certification and accreditation. ***FY 2016 Plans:*** Continue software development aupport and hardware integration including information assurance and cyber-security certification and accreditation. Continue system engineering and network integration support for emerging requirements. ***FY 2017 Base Plans:***	0.422 -	0.447 -	0.000 -	0.000 -	0.000 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue software development support and hardware integration including information assurance and cyber-security certification and accreditation. Continue system engineering and network integration support for emerging requirements. Initiate capability requirements analysis and initiate development for IDS-MC increment 2 ***FY 2017 OCO Plans:*** N/A					
Title: IDS-MC: Test and Evaluation ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** N/A ***FY 2017 Base Plans:*** Initiate Engineering Change proposal testing IDS-MC Increment 2 technology demonstrations which includes purchasing hardware test articles for technology assessment for IDS-MC Increment 2. ***FY 2017 OCO Plans:*** N/A	0.000 -	0.000 -	0.128 -	0.000 -	0.128 -
Title: H2C2: Integration Engineering ***Articles:*** ***FY 2015 Accomplishments:*** -Initiated development, design, test and integration of various emerging capabilities across the H2C2 portfolio. -Initiated support for sustained engagement with various industry providers, quick look technology excursions, and experimentation demonstrations for high risk emerging technology. ***FY 2016 Plans:*** -Continue to develop, design, test, and integrate various emerging capabilities across the H2C2 portfolio. -Continue to provide support for sustained engagement with various industry providers, quick look technology excursions, and experimentation demonstrations for high risk emerging technology. ***FY 2017 Base Plans:*** -Continue to develop, design, test, and integrate various emerging capabilities across the H2C2 portfolio.	1.373 -	1.727 -	1.742 -	0.000 -	1.742 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continue to provide support for sustained engagement with various industry providers, quick look technology excursions, and experimentation demonstrations for high risk emerging technology. ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	27.623	22.059	25.381	0.000	25.381

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/6468AA: *GCCS-TCO*	0.108	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.219
• PMC/6438BB: *IDS-MC*	1.637	1.183	0.496	-	0.496	0.497	1.001	1.021	1.041	Continuing	Continuing
• PMC/4631CC: *GCCS-TCO*	0.040	7.156	6.005	-	6.005	3.264	4.666	7.262	9.501	Continuing	Continuing
• PMC/4631DD: *AFATDS*	1.769	2.722	2.826	-	2.826	15.520	15.244	15.562	15.865	Continuing	Continuing
• PMC/4631FF: *JBC-P*	2.627	12.552	34.558	-	34.558	29.740	8.421	8.593	8.760	Continuing	Continuing
• PMC/4631GG: *THS*	6.320	4.001	0.000	-	0.000	0.000	2.391	2.440	2.487	Continuing	Continuing

Remarks

D. Acquisition Strategy

MAGTF C2 SA: MAGTF C2 SA is delivering command and control capabilities through bi-annual software releases with an initial release in FY15 through multiple programs of record. In FY16 there will be multiple releases to modernize the service oriented infrastructure and pull in more services from Authoritative Data Sources. In FY17 there will be multiple releases to pull in more services and deploy to additional platforms beyond the Combat Operations Center. Currently the initial focus is developing the Tactical Service Oriented Architecture (TSOA) software, which provides a common software infrastructure through which services and applications from other programs of record can begin the process of interfacing with in order to maximize software commonality across echelons and missions. The long term goal is a software capability that will enable data discovery and data sharing across mission areas, a common standards-based viewer, core services and applications, and access to the Global Information Grid (GIG) and other Joint networks, data and services.

JBC-P: JBC-P FoS is leveraging the Army's development of the JBC-P and handheld software, and 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. The Marine Corps' program office will participate in all design and readiness reviews and joint operational testing events.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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*

GCCS-TCO: Contracting is performed with various vendors for software test and integration, Commercial-Off-The-Shelf (COTS) evaluation and documentation to develop advanced concepts and additional functional capabilities. The Program Management Office conducts quarterly performance reviews. Specific hardware is also procured for test purposes which include environmental, shock, compatibility, and interoperability testing.

Identity Dominance System (IDS): Currently, the IDS-MC Program Office acquisition strategy is to leverage the Navy's IDS Program and provide funding to meet Marine Corps requirements. The Marine Corps' program office will participate in all design and technical reviews as well as the FOT&E activities. The long-term goal is to equip the Marine with a user-friendly biometric authentication technology that will be employed throughout DoD to deny the enemy freedom of movement within the populace and positively identify known insurgents within an Area of Responsibility (AOR). R&D efforts will be a combined effort between the S/W developers (Aware), the Navy PM and the USMC for S/W enhancement for the next planned increments of IDS-MC and for the quarterly updates.

AFATDS: AFATDS is managed through Army CECOM, Aberdeen Proving Ground, MD. R&D efforts for the next AFATDS version will be a combined effort between the software developer, the Army PM, and the USMC for software enhancements through DISA. Current software enhancements are performed at Army, Ft. Sill, OK.

THS: The acquisition of components (software/hardware) for the THS initiative will maximize the use of existing COTS, Government-Off-The-Shelf (GOTS), Non-Developmental Item (NDI), and Government Furnished Equipment (GFE). Software is transitioning to a government owned baseline. Software must maintain compatibility with five Programs of Record (POR) and seven Operational Flight Programs (OFP).

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.

E. Performance Metrics

Milestone Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF C2	C/CPFF	MCTSSA : Camp Pendleton, CA	0.000	0.200	Jan 2015	0.000		0.000		-		0.000	0.000	0.200	-
MAGTF C2	C/CPFF	Northrop Grumman : Washington, DC	0.000	1.850	Sep 2015	0.000		0.000		-		0.000	0.000	1.850	-
MAGTF C2	C/CPFF	SPAWAR : Charleston, SC	44.671	2.895	May 2015	1.217	Mar 2016	1.598	Jan 2017	-		1.598	Continuing	Continuing	Continuing
MAGTF C2	WR	NSWC : Panama City, FL	0.736	0.000		0.250	Jan 2016	0.000		-		0.000	Continuing	Continuing	Continuing
MAGTF C2	WR	NSWC : Dahlgren, VA	7.597	1.941	Jan 2015	1.500	Feb 2016	1.800	Nov 2016	-		1.800	Continuing	Continuing	Continuing
MAGTF C2	C/CPFF	SPAWAR : San Diego, CA	3.111	1.121	Jan 2015	1.123	Mar 2016	1.000	Dec 2016	-		1.000	Continuing	Continuing	Continuing
MAGTF C2	WR	SSC A : Charleston, SC	3.179	2.164	Nov 2014	1.250	Feb 2016	1.800	Nov 2016	-		1.800	Continuing	Continuing	Continuing
MAGTF C2	WR	ARL : Washington, DC	0.650	0.333	May 2015	0.000		0.700	Nov 2016	-		0.700	Continuing	Continuing	Continuing
MAGTF C2	C/CPFF	NSWC2 : Dahlgren, VA	0.000	0.260	May 2015	0.000		0.300	Jan 2017	-		0.300	Continuing	Continuing	Continuing
GCCS-TCO	C/CPFF	SPAWAR : Charleston, SC	5.250	0.441	Jul 2015	0.650	Mar 2016	0.000		-		0.000	Continuing	Continuing	Continuing
AFATDS	MIPR	PM Mission Cmd (Army) : Aberdeen Proving Ground, MD	27.919	3.721	Jan 2015	3.743	Jan 2016	0.000		-		0.000	0.000	35.383	-
AFATDS	MIPR	DISA : Belleville, IL	0.000	0.000		0.000		4.486	Mar 2017	-		4.486	Continuing	Continuing	Continuing
AFATDS	MIPR	Army/SEC : Fort Sill, OK	0.000	0.000		0.000		1.500	Mar 2017	-		1.500	Continuing	Continuing	Continuing
THS	SS/CPFF	Stauder Tech : St. Louis, MO	23.769	0.000		1.250	Feb 2016	0.000		-		0.000	Continuing	Continuing	Continuing
THS	C/CPFF	MCSC : Quantico, VA	0.000	0.000		1.313	Mar 2016	0.000		-		0.000	Continuing	Continuing	Continuing
THS	WR	NSWC : Dahlgren, VA	0.000	0.380	Nov 2014	0.280	Nov 2015	0.000		-		0.000	0.000	0.660	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
THS	MIPR	AMRDEC : Huntsville, AL	0.000	2.432	Mar 2015	0.000		2.273	Jan 2017	-		2.273	Continuing	Continuing	Continuing
JBC-P	WR	SPAWAR : Charleston, SC	2.711	0.279	Feb 2015	0.490	Feb 2016	0.444	Dec 2016	-		0.444	Continuing	Continuing	Continuing
JBC-P	C/CPFF	SPAWAR2 : Charleston, SC	0.193	0.193	Jun 2015	0.700	Feb 2016	0.271	Dec 2016	-		0.271	Continuing	Continuing	Continuing
JBC-P	WR	NSWC : Crane, IN	0.000	0.199	Apr 2015	0.000		0.215	Nov 2016	-		0.215	Continuing	Continuing	Continuing
IDS-MC	MIPR	NAVSEA/PMS-408 : Washington, DC	1.971	0.000		0.400	Apr 2016	0.900	Nov 2016	-		0.900	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	Various : Various	64.782	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	186.539	18.409		14.166		17.287		-		17.287	-	-	-

Remarks

IDS FY16: IDS-MC will utilize NAVSEA/PMS408 to provide software development, information assurance updates and engineering change proposals in support of USMC requirements.
IDS FY17: IDS-MC will utilize NAVSEA/PMS 408 to provide Lab support and test articles for technology assessment for IDS-MC increment 2 or technology refresh.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF C2	C/FFP	MCTSSA : Camp Pendleton, CA	0.000	0.754	Dec 2014	0.000		0.000		-		0.000	0.000	0.754	-
MAGTF C2	WR	SPAWAR : San Diego, CA	3.031	0.895	Jun 2015	1.022	Feb 2016	1.208	Nov 2016	-		1.208	Continuing	Continuing	Continuing
H2C2 Integration Eng	WR	SPAWAR : Charleston, SC	0.000	1.192	Jan 2015	1.053	Feb 2016	0.937	Jan 2017	-		0.937	Continuing	Continuing	Continuing
H2C2 Integration Eng	C/FFP	SPAWAR : Charleston, SC	0.000	0.181	Jan 2015	0.674	Feb 2016	0.295	Jan 2017	-		0.295	Continuing	Continuing	Continuing
H2C2 Integration Eng	WR	NSWC Crane : Crane, IN	0.000	0.000		0.000		0.510	Nov 2016	-		0.510	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IDS-MC	WR	NSWC Dahlgren : Dahlgren, VA	2.678	0.043	Apr 2015	0.447	Jan 2016	0.000		-		0.000	0.000	3.168	-
IDS-MC	C/FFP	COTF2 : Norfolk, VA	0.000	0.031	Jun 2015	0.000		0.000		-		0.000	0.000	0.031	-
IDS-MC	C/FFP	SPAWAR : Charleston, SC	0.000	0.036	Apr 2015	0.000		0.000		-		0.000	0.000	0.036	-
IDS-MC	C/FFP	SPAWAR2 : Charleston, SC	0.000	0.014	Nov 2015	0.000		0.000		-		0.000	0.000	0.014	-
IDS-MC	WR	NSWC Dahlgren2 : Dahlgren, VA	0.000	0.200	Jun 2015	0.000		0.000		-		0.000	0.000	0.200	-
IDS-MC	C/FFP	NAVSEA-PMS408 2 : Washington-DC	0.000	0.069	Sep 2015	0.000		0.000		-		0.000	0.000	0.069	-
IDS-MC	C/FFP	COTF : Norfolk, VA	0.000	0.029	May 2015	0.000		0.000		-		0.000	0.000	0.029	-
Prior Years Cumulative Funding	Various	Various : Various	5.666	0.000		0.000		0.000		-		0.000	0.000	5.666	-
		Subtotal	11.375	3.444		3.196		2.950		-		2.950	-	-	-

Remarks

IDS FY15-FY16: IDS-MC will utilize NSWC Dahlgren to provide engineering support, research studies, validation and verification of software and engineering change proposals.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF C2	WR	MCTSSA : Camp Pendleton, CA	0.000	0.095	Jun 2015	0.000		0.000		-		0.000	0.000	0.095	-
MAGTF C2	WR	NRL : Washington, DC	1.409	0.674	Nov 2014	0.250	Feb 2016	0.825	Nov 2016	-		0.825	Continuing	Continuing	Continuing
MAGTF C2	C/ FFPLOE	MCTSSA. : Camp Pendleton, CA	1.842	0.299	Apr 2015	0.750	Mar 2016	0.600	Dec 2016	-		0.600	Continuing	Continuing	Continuing
GCCS-TCO	C/CPFF	SSC-Lant : Charleston, SC	1.282	0.213	Jul 2015	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GCCS-TCO	MIPR	DISA/JITC : Ft. Huachuca, AZ	0.675	0.047	Feb 2015	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
GCCS-TCO	WR	SPAWAR : Charleston, SC	0.017	0.000		0.431	Mar 2016	0.000		-		0.000	Continuing	Continuing	Continuing
AFATDS	WR	SPAWAR : Charleston, SC	2.986	0.000		0.246	Dec 2015	0.000		-		0.000	Continuing	Continuing	Continuing
THS	MIPR	DISA/JITC : Ft. Huachuca, AZ	0.488	0.201	Feb 2015	0.035	Feb 2016	0.000		-		0.000	Continuing	Continuing	Continuing
THS	WR	NSWC : Dahlgren, VA	0.000	0.000		0.260	Nov 2015	0.000		-		0.000	0.000	0.260	-
THS	WR	NSWC : Crane, IN	0.000	0.365	Oct 2014	0.000		0.000		-		0.000	0.000	0.365	-
JBC-P	C/CPFF	MCTSAA : Camp Pendleton, CA	0.445	0.534	Nov 2014	0.400	Feb 2016	0.380	Nov 2016	-		0.380	Continuing	Continuing	Continuing
JBC-P	WR	SPAWAR : Charleston, SC	1.654	0.000		0.235	Feb 2016	0.271	Dec 2016	-		0.271	Continuing	Continuing	Continuing
JBC-P	MIPR	DISA/JITC : Ft Huachuca, AZ	0.130	0.000		0.105	Feb 2016	0.000		-		0.000	Continuing	Continuing	Continuing
JBC-P	C/CPFF	MCOTEA : Quantico, VA	1.040	0.000		0.080	Dec 2015	0.000		-		0.000	Continuing	Continuing	Continuing
JBC-P	WR	NSWC : Crane, IN	0.663	1.082	Oct 2014	0.515	Feb 2016	1.197	Nov 2016	-		1.197	0.000	3.457	-
JBC-P	C/CPFF	NSWC2 : Crane, IN	0.000	0.136	Dec 2014	0.000		0.158	Dec 2016	-		0.158	0.000	0.294	-
JBC-P	C/CPFF	PMSWAR : Fort Belvoir, VA	0.000	0.534	Apr 2015	0.000		0.000		-		0.000	0.000	0.534	-
IDS-MC	WR	NSWC : Crane, IN	0.000	0.000		0.000		0.128	Nov 2016	-		0.128	0.000	0.128	-
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	6.335	0.000		0.000		0.000		-		0.000	0.000	6.335	-
		Subtotal	18.966	4.180		3.307		3.559		-		3.559	-	-	-

Remarks

IDS FY17: NSWC Crane Lab support for ECP testing of Software Changes.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF C2	C/CPFF	CECOM/MITRE : Ft. Monmouth, NJ	4.734	0.518	Jan 2015	1.000	Apr 2016	1.275	Dec 2016	-		1.275	Continuing	Continuing	Continuing
THS	C/CPFF	CECOM/MITRE : Ft. Monmouth, NJ	0.244	0.536	Nov 2014	0.000		0.000		-		0.000	0.000	0.780	-
JBC-P	C/CPFF	CECOM/MITRE : Ft. Monmouth, NJ	1.258	0.536	Jan 2015	0.290	Jan 2016	0.310	Mar 2017	-		0.310	Continuing	Continuing	Continuing
JBC-P	Various	MCSC : Quantico, VA	0.536	0.000		0.100	Mar 2016	0.000		-		0.000	0.000	0.636	-
Prior Years Cumulative Funding	Various	Various : Various	0.075	0.000		0.000		0.000		-		0.000	0.000	0.075	-
		Subtotal	6.847	1.590		1.390		1.585		-		1.585	-	-	-

	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	223.727	27.623		22.059		25.381		-		25.381	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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*

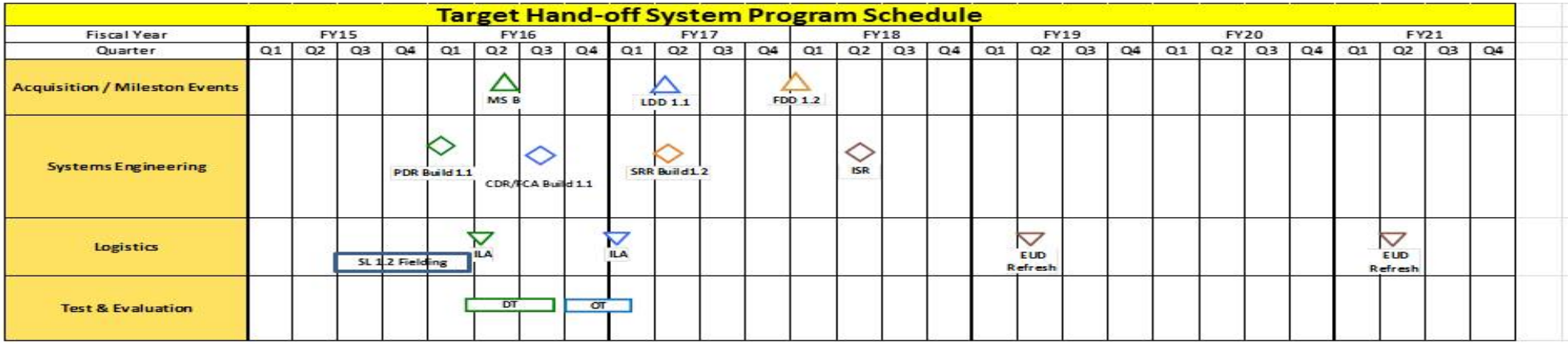

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

Joint Battle Command Platform (JBC-P) FoS Program Schedule

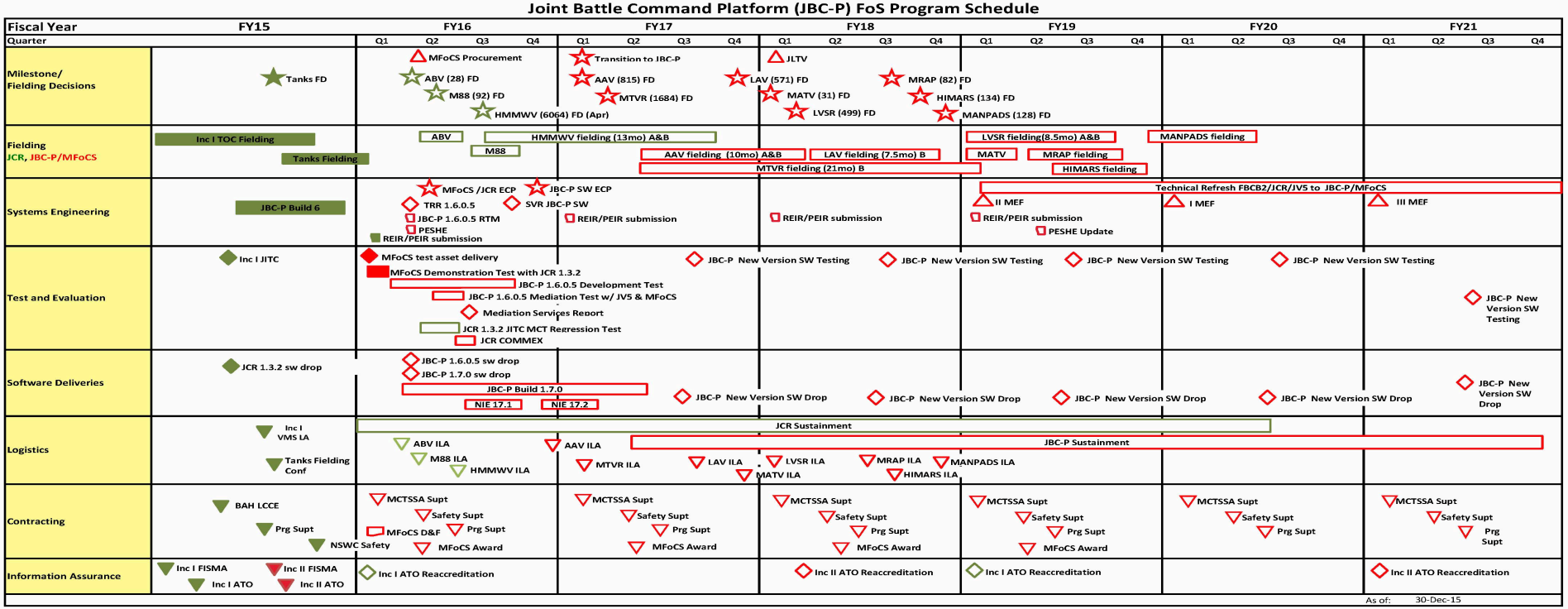

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

Handheld Command and Control (H2C2) Program Schedule

Date Updated: 30 Decemeber 2015

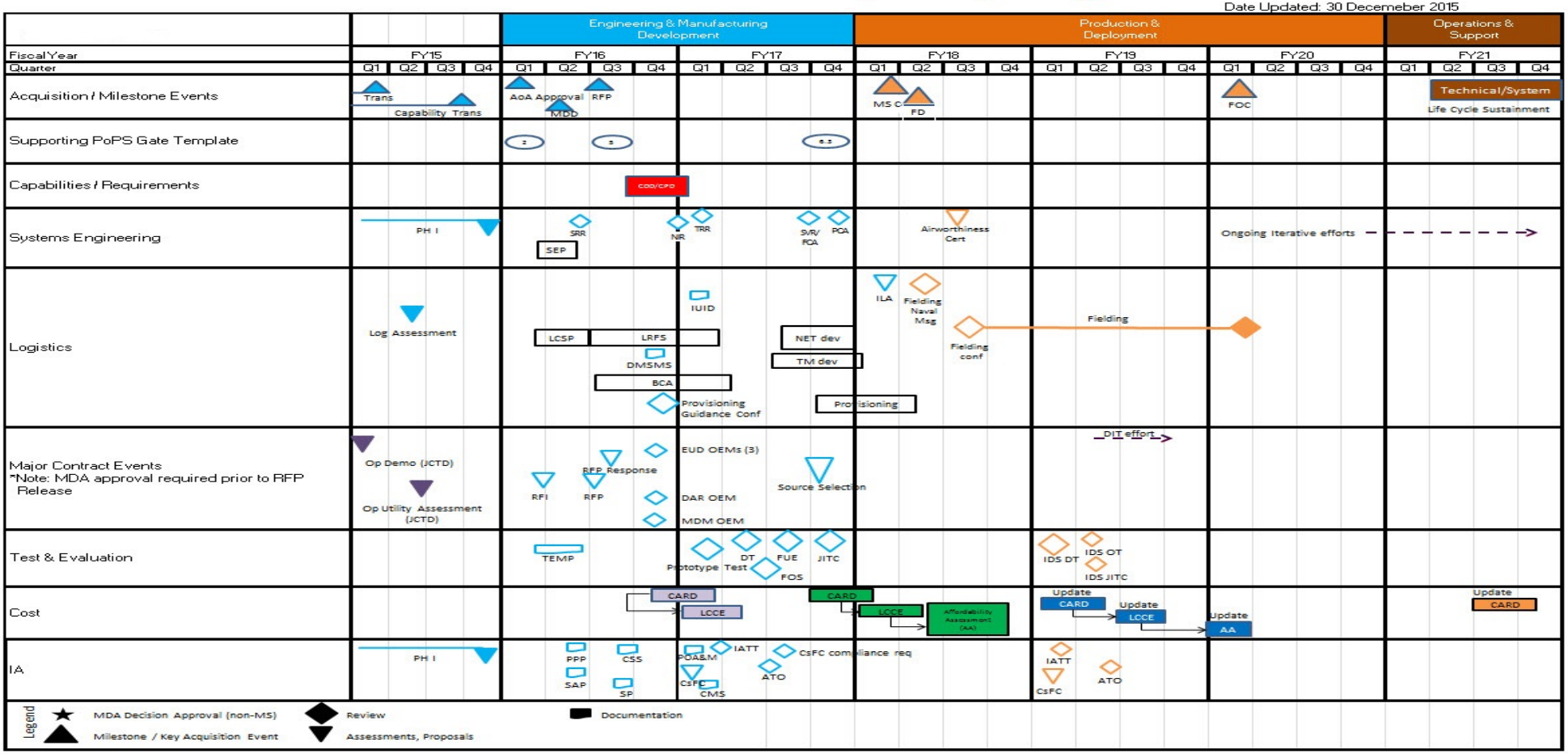

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

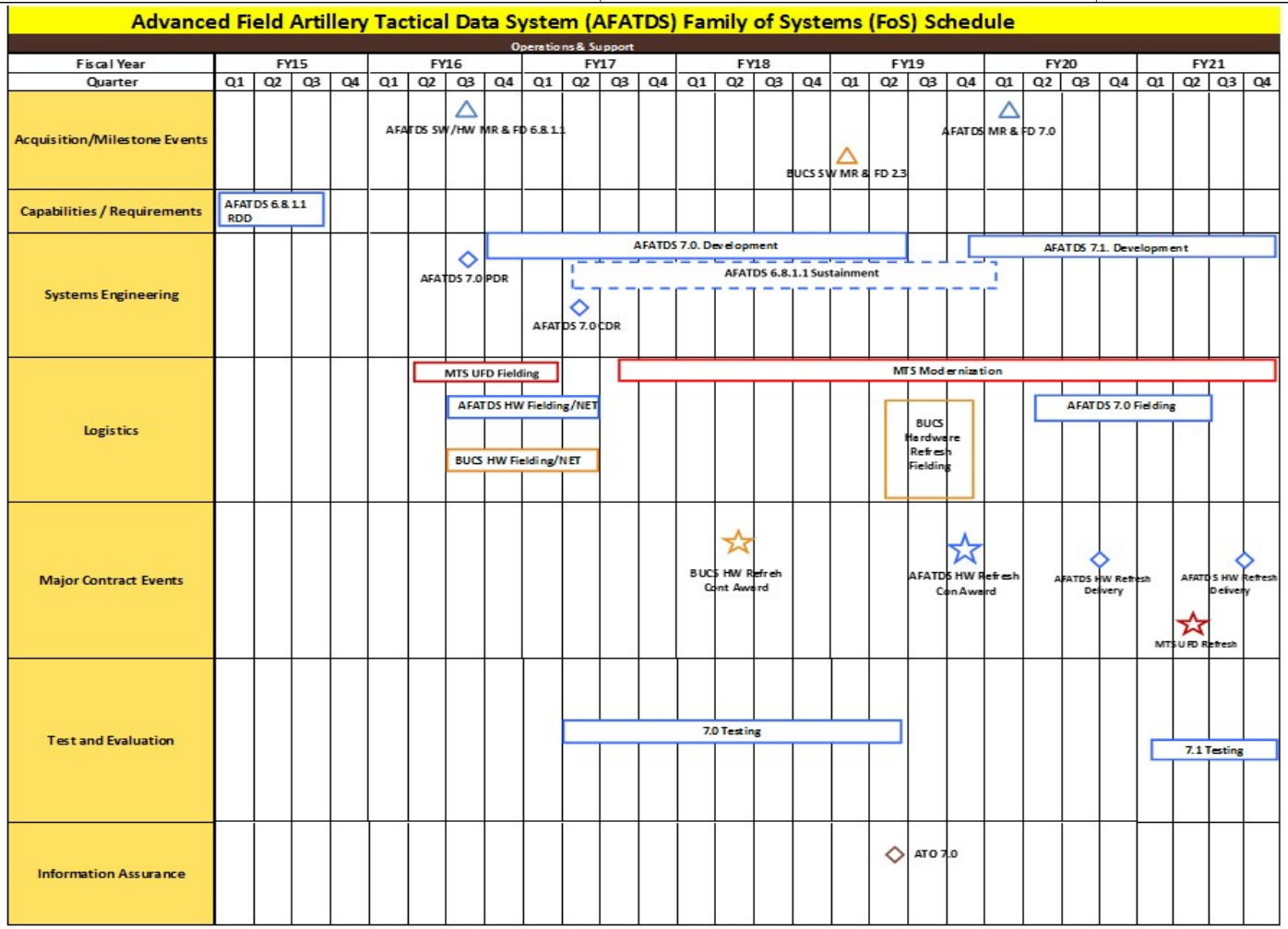

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

IDS-MC SCHEDULE

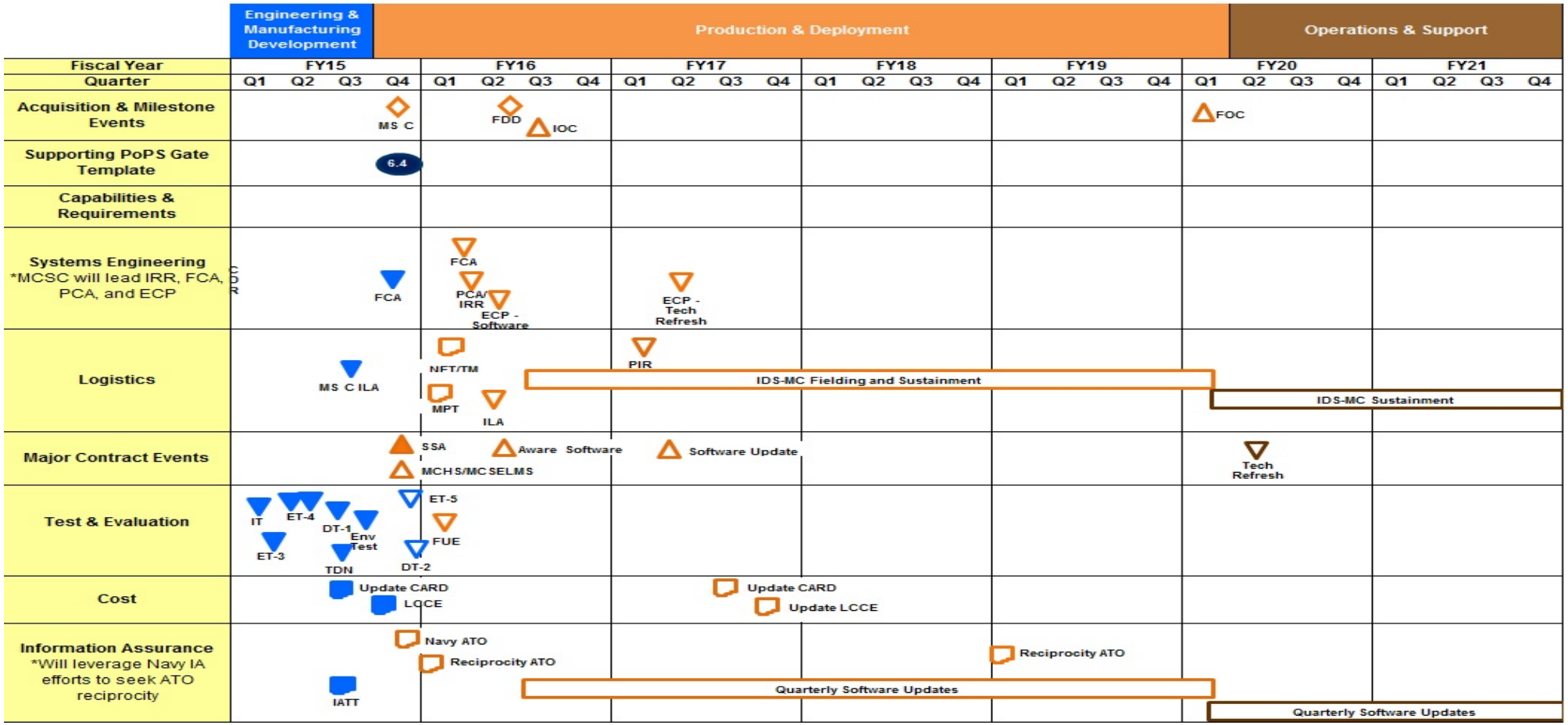

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

GCCS- TCO SCHEDULE

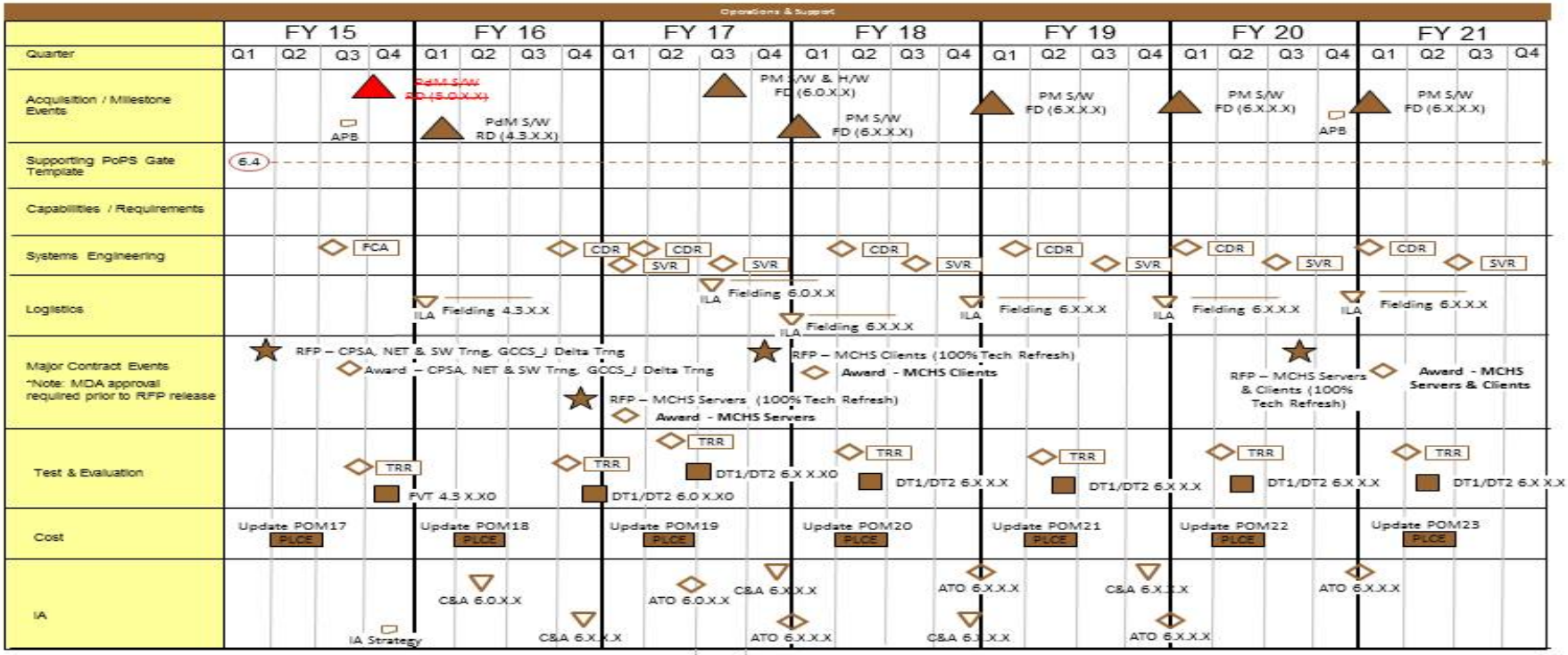

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

MAGTF C2 Schedule

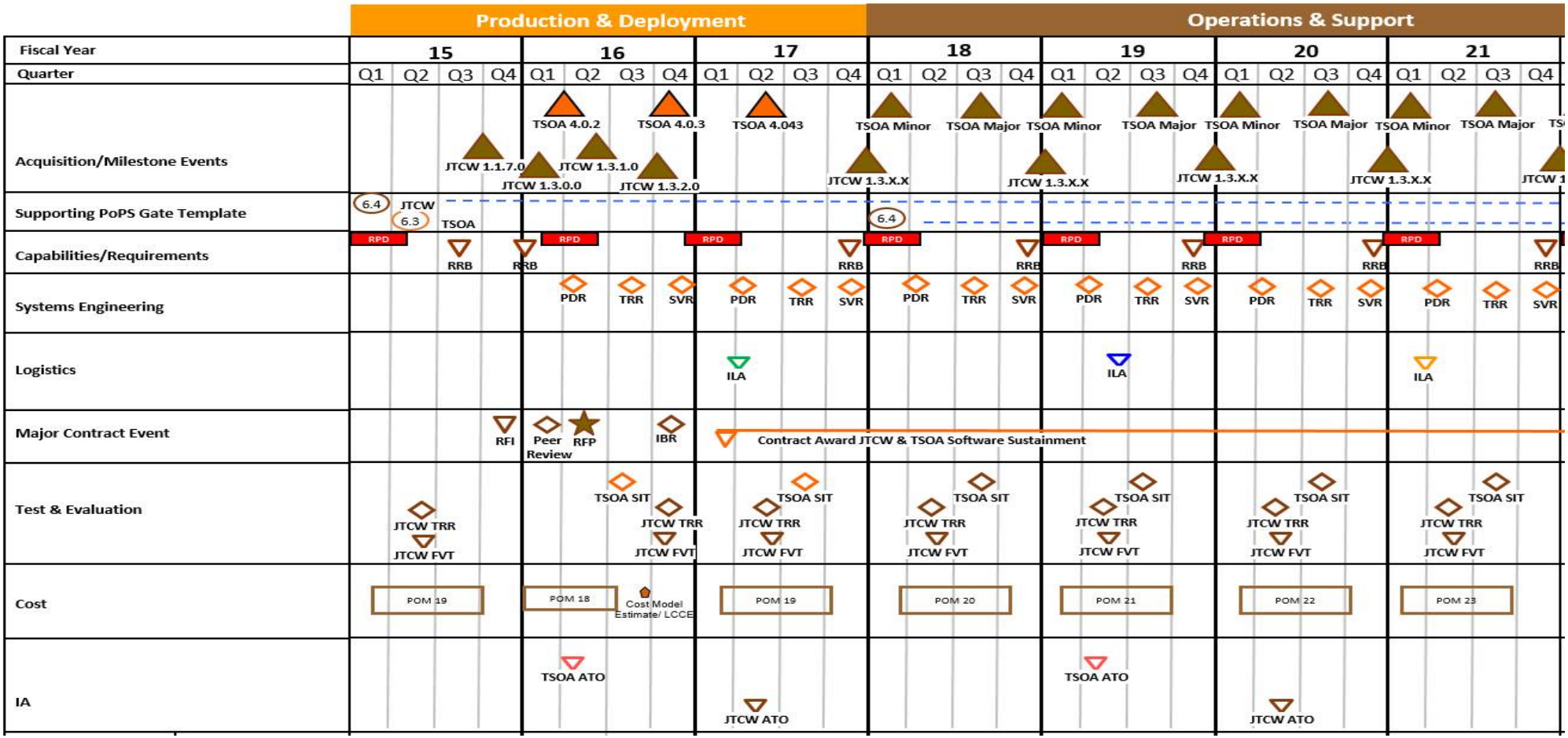

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2270				
MAGTF C2 JTCW MDA Review	4	2015	4	2015
MAGTF C2 TSOA MDA Review	4	2016	4	2016
MAGTF C2 TSOA SIT	3	2017	3	2017
GCCS-TCO SW RD (4.3.X.X)	1	2016	1	2016
GCCS TCO RFP	4	2016	4	2016
GCCS-TCO SW/HW FD (6.0.0.0)	3	2017	3	2017
GCCS TCO MCHS SERVERS AWARD	1	2017	1	2017
AFATDS 7.0 Software Development	4	2016	2	2019
AFATDS BUCS Fielding	3	2016	2	2017
AFATDS HW Fielding	3	2016	2	2017
AFATDS Critical Design Review	2	2017	2	2017
AFATDS 7.0 Testing	2	2017	2	2019
THS - THS V2 Milestone B	2	2016	2	2016
THS - THS V2 Final Deployment	1	2018	2	2018
JBC-P FoS Inc I Platform Fielding Decision- ABV	2	2016	2	2016
JBC-P FoS Inc I Platform Fielding Decision- M88	2	2016	2	2016
JBC-P FoS Inc I Platform Fielding Decision-HMMWV	3	2016	3	2016
H2C2 DT	2	2017	2	2017
H2C2 FUE	3	2017	3	2017
IDS-MC Milestone C	4	2015	4	2015
IDS-MC DevelopmentalTesting (DT) 1	3	2015	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
IDS-MC DevelopmentalTesting (DT) 2	4	2015	1	2016

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
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 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
2273: *Air Ops Cmd & Control (C2) Sys*	405.175	8.070	7.713	11.946	-	11.946	11.571	11.762	12.026	12.333	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 582

Note

Funding for the Common Aviation Command and Control System (CAC2S) program was moved to PE 0206335M Common Aviation Command and Control System (CAC2S), Project 3373 beginning in FY15. Prior Year funding is located in PE 0206313M Marine Corps Comms Systems, Project 2273 Air Ops Cmd & Control (C2) Systems.

The FY 2017 funding request was reduced by $0.500 million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

Theater Battle Management Core System (TBMCS) - Joint mandated Air War planning tool for the generation, dissemination and execution of the Air Tasking Order (ATO). TBMCS is an Air Force led program, which provides the automated tools necessary to manage tactical air operations, execute area air defense and airspace management in the tactical area of operation, and coordinate operations with components of other military services. TBMCS is located at the Tactical Air Command Center (TACC), with remotes located throughout the area of operation. It is scalable, allowing for joint, coalition and service specific operations. It is an evolutionary acquisition program. Increase from FY16 to FY17 of $1.376M funds development and test and evaluation of USMC developed software releases that support the software baseline for Cyber Security upgrades as well as Cyber Security Accreditation.

Composite Tracking Network (CTN) - Provides a ground based sensor netting solution that significantly improves situational awareness by correlating sensor measurement data (target position, speed, heading, Identification Friend and Foe (IFF), etc.) from local and remote radars in the Cooperative Engagement Capability (CEC) network. This data is then provided to the warfighter in the form of composite, real-time, air surveillance tracks to the Marine Air Command and Control node and is integral in providing an accurate representation of the airspace to reduce ground to air and air to air fratricide, facilitate more effective integration of air and surface fires, extend the air defensive capability of the Naval force in the littorals and enable integrated fire control (IFC) for the Marine Corps. The funding increase from FY16 to FY17 of $3.273M is to support Common Array Block-Expeditionary (CAB-E) Antenna Engineering Development Model (EDM) developmental and field testing, which is priority due to the CAB-E being the replacement for the current Compact Solid State Antenna (CSSA) that will become obsolete by FY 2018. The increase also is for CTN to support Ground/Air Task-Oriented Radar (G/ATOR) Developmental Tests (DTs) and Operational Assessment (OA) to test its interoperability with G/ATOR, the TPS-59 Mode V antenna, and the Common Aviation Command and Control System (CAC2S).

The Marine Air Command and Control System (MACCS) Sustainment - Consists of various command and control agencies designed to provide the Aviation Combat Element (ACE) commander with the ability to monitor, supervise and influence the application of Marine aviation assets in support of Air/Ground operations. The

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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MACCS Sustainment provides funding to keep these fielded systems ready, relevant and capable until their functions are replaced by the Common Aviation Command and Control System (CAC2S).

Combat Operations Center (COC) - AN/TSQ-239 (V)1/2/3/4 are a deployable, self-contained, modular, centralized and scalable facility ((V)1 MEF-size, (V)2 MSC/ Div-size, (V)3 Regiment-size, (V)4 Battalion-size) which provides digital, shared Command and Control/Situational Awareness functionalities to enhance the Common Operational Picture (COP) for the Command Element, Ground Command Element, Air Combat Element, and Logistics Combat Element. It is a commercial-off-the-shelf integrated hardware solution using unit provided radios, re-hosted tactical data systems, and available Marine Corps prime movers to transport the system. Funds support testing and Information Assurance (IA) certification activities, integration of emerging technology, and On The Move (OTM) capabilities. The increase of $1.098M from FY16 to FY17 will begin funding market research in anticipation of hardware refresh to begin in FY18.

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), 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 warfighter with 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, and F/A-18. Data is displayed to Forward Observers (FO), Joint Fires Observers (JFO), Joint Terminal Attack Coordinators (JTAC), and Forward Air Controller (FAC). The RVVT family of systems is reported as an IT system in the NC36 budget submission. (RDTE: 0206313M). The decrease of $1.020M from FY16 to FY17 is due to a decreased requirement.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: COC: Continued Capability Solution	1.591	2.605	3.983	0.000	3.983
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Continued to conduct analysis of technologies and software interoperability for integration in COC Baseline. ***FY 2016 Plans:*** -Initiate market research, test and software integration efforts needed to align with other C2 systems. ***FY 2017 Base Plans:*** -Continue testing and software integration efforts needed to align with other C2 systems. -Initiate market research in anticipation of hardware refresh beginning in FY18. ***FY 2017 OCO Plans:*** N/A					
Title: COC: Management Services	0.000	0.853	0.573	0.000	0.573
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
FY 2015 Accomplishments: N/A ***FY 2016 Plans:*** -Initiate engineering support for system optimization and system enhancements ***FY 2017 Base Plans:*** -Continue engineering support for system optimization and system enhancements. ***FY 2017 OCO Plans:*** N/A					
Title: Composite Tracking Network (CTN): Support and Management Services	0.960	0.458	0.746	0.000	0.746
Articles:	-	-	-	-	-
FY 2015 Accomplishments: - Continued S/W Maintenance Support, USG-4B Analysis/Extraction, Data Analysis, Safety, System Engineering. - Continued data Collection and Analysis. - Continued systems engineering and updates to the software baseline. - Continued travel, engineering support, test support, and S/W support.					
FY 2016 Plans: - Continue Software Maintenance Support and Certification. - Continue Data Collection and Analysis. - Continue systems engineering and updates to the software baseline. - Continue travel, engineering support, and test support.					
FY 2017 Base Plans: - Continue Software Maintenance Support and Certification. - Continue Data Collection and Analysis. - Continue systems engineering and updates to the software baseline. - Continue travel, engineering support, and test support. - Initiate Common Array Block - Expeditionary (CAB-E) support efforts to replace current Compact Solid State Antenna (CSSA) which will be obsolete and unreliable by FY18.					
FY 2017 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A					
Title: Composite Tracking Network (CTN): Certification of Interfaces	0.059	0.150	1.667	0.000	1.667
Articles:	-	-	-	-	-
FY 2015 Accomplishments: - Continued Common Array Block (CAB-E) testing/verification/updates as well as associated engineering support. - Continued to support updates for Accelerated Mid-term Interoperability Improvement Program (AMIIP). ***FY 2016 Plans:*** - Continue CAB-E testing/verification/updates. - Continue to support updates for AMIIP. ***FY 2017 Base Plans:*** - Continue CAB-E testing/verification/updates. - Continue to support updates for AMIIP. - Initiate software certification to maintain interoperability with Cooperative Engagement Capability (CEC) Network to include associated engineering support. - Initiate Independent Verification and Validation support as well as Information Assurance (IA) tactical side hardening regression testing. ***FY 2017 OCO Plans:*** N/A					
Title: Composite Tracking Network (CTN): Engineering Development	1.188	0.686	2.154	0.000	2.154
Articles:	-	-	-	-	-
FY 2015 Accomplishments: - Continued CAB-E Antenna developmental activities as well as associated engineering support. - Continued integration and interoperability developmental testing with the Common Aviation Command and Control System (CAC2S), Ground/Air Task-Oriented Radar (G/ATOR), and the TPS-59 Mode V antenna. - Continued Information Assurance (IA) developmental activities. ***FY 2016 Plans:*** - Continue Common Array Block-Expeditionary (CAB-E) antenna testing/verification/updates and developmental Activities.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Continue integration and interoperability developmental testing with CAC2S, G/ATOR, and the TPS-59 Mode V. - Continue Information Assurance (IA) developmental activities. ***FY 2017 Base Plans:*** - Conduct developmental testing in support of Common Array Block-Expeditionary (CAB-E) to include associated engineering support. - Continue Common Array Block-Expeditionary (CAB-E) antenna testing/verification/updates and developmental activities. - Continue integration and interoperability developmental testing with CAC2S, G/ATOR, and the TPS-59 Mode V. - Continue Information Assurance (IA) developmental activities. ***FY 2017 OCO Plans:*** N/A					
Title: Marine Air Command and Control System (MACCS) Service Life Extension Program (SLEP)/Sustainment: Product Development, Support and Mgmt Services, and T&E	1.046	0.494	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2015 Accomplishments: - Continued Tactical Air Command Center (TACC) and Tactical Air Operations Center (TAOC) Life Cycle Support through ongoing Post Development Software Support (PDSS) activities. - Continued active refresh of obsolete hardware items from MACCS systems. - Completed production of COTS Refresh kit for the Mobile Tactical Air Operations Module (MTAOM) and fielding to the Operational Forces. - Completed the Service Level Test for the MTAOMs COTS refresh. - Continued Information Assurance updates (tri-annual drops). - Initiated and completed software updates including delivery of new operating system. ***FY 2016 Plans:*** - Continue TACC and TAOC Life Cycle Support through ongoing Post Development Software Support (PDSS) activities. - Continue active refresh of obsolete hardware items from MACCS systems.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Continue Information Assurance updates (tri-annual drops). ***FY 2017 Base Plans:*** N/A ***FY 2017 OCO Plans:*** N/A					
Title: RVVT: Preparation ***Articles:*** ***FY 2015 Accomplishments:*** - Completed the development of Full Motion Video (FMV) requirements to support the RVVT family of systems. ***FY 2016 Plans:*** - Continue Analysis of Alternatives (AOA) for family of RVVT systems. ***FY 2017 Base Plans:*** - Complete analysis for MC/2 and MC/3 replacement. ***FY 2017 OCO Plans:*** N/A	1.008 -	1.183 -	0.163 -	0.000 -	0.163 -
Title: TBMCS - Test and Evaluation ***Articles:*** ***FY 2015 Accomplishments:*** -Continued test and evaluation support for TBMCS upgrades for Joint Interoperability. ***FY 2016 Plans:*** -Continue test and evaluation support for TBMCS upgrades for Joint Interoperability. ***FY 2017 Base Plans:*** -Continue test and evaluation support for TBMCS upgrades for Joint Interoperability. -Initiate development test and evaluation support of USMC developed software releases which support the software baseline for Cyber Security upgrades as well as Cyber Security Accreditation. ***FY 2017 OCO Plans:***	2.218 -	1.284 -	2.660 -	0.000 -	2.660 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A					
Accomplishments/Planned Programs Subtotals	8.070	7.713	11.946	0.000	11.946

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/4640CT: *CTN*	1.479	0.015	1.515	-	1.515	5.359	5.561	3.527	0.000	0.000	66.988
• PMC/4640CU: *MACCS*	0.907	0.884	2.855	-	2.855	0.062	0.050	0.051	0.052	Continuing	Continuing
• PMC/4640DX: *TBMCS*	3.799	2.304	1.299	-	1.299	1.388	1.418	1.402	1.401	Continuing	Continuing
• PMC/419000: *COC*	5.025	21.330	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	224.678
• PMC/464023: *RVVT*	1.784	0.204	10.248	-	10.248	10.665	8.152	8.244	8.403	Continuing	Continuing
• PMC/463100: *COC*	0.000	0.000	9.827	-	9.827	10.177	10.806	11.281	11.797	Continuing	Continuing

Remarks

PMC funding for Common Aviation Command and Control (CAC2S) program was moved to PE 0206335M, BLI 4644 CAC2S beginning FY 2015. Prior year funding is located in PE 0206313M, BLI 4640 Air Operations C2 Systems.
PMC funding for Combat Operations Center (COC) program was moved from BLI 4190 to 4631 starting in FY17.

D. Acquisition Strategy

TBMCS is an ACAT III, USAF Program with joint interest/oversight. It was mandated by the Chairman, Joint Chiefs of Staff in July 93 for Air Tasking Order (ATO) Interoperability among all services. USMC will continue following the USAF lead when fielding only the joint modules of TBMCS. As USMC unique requirements are identified the USMC will deviate accordingly when required to sufficiently sustain systems. Over the course of the FYDP, TBMCS is to separately manage 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.

MACCS - The acquisition strategy implemented by the MACCS Sustainment Program Office is to maintain the readiness, relevance, and capabilities of the portfolio of post-Milestone C systems through Post Deployment Software Support (PDSS) activities, active refresh of obsolete hardware items, and the implementation of system improvements/modifications in accordance with approved systems engineering processes. Engineering changes to the systems make maximum use of Commercial Off-The-Shelf (COTS), Government Off-The-Shelf (GOTS), and Non-Developmental Items (NDI) in order to decrease risk, leverage developed capabilities and support apparatus, and minimize investment expenditures. These activities are performed by Original Equipment Manufacturer (OEM) commercial entities under contract to Marine Corps Systems Command (MCSC) or by Naval Surface Warfare Center (NSWC) Crane as the MACCS Sustainment Program In-Service Engineering Agent (ISEA). The next major milestone for the MACCS Sustainment Programs is Phase-out or Disposal as the replacement Common Aviation Command and Control System (CAC2S) reaches full operational capability.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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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. The next major efforts are the development of the Common Array Block-Expeditionary (CAB-E) Antenna to replace the Composite Solid State Antenna (CSSA), which will become obsolete in FY 2018, and completion of interfaces with Ground/Air Task Oriented Radar (G/ATOR) and CAC2S.

RVVT - The RVVT acquisition strategy is to continually improve the Video Down-Link (VDL) products by enhancing the encryption, range, and reducing the power and weight requirements through competition. Long term efforts are to integrate FMV to support JFOs and JTACs beginning in FY17. In FY18, begin development of a system to replace the MC/2, MC/3 configurations. RVVT utilizes competitively-procured components. RDTE funds are used to identify and analyze operational requirements and allocate performance requirements for competitive procurements.

COC - The COC AN/TSQ-239 (V)2/3/4 is the foundation of USMC C2, meeting near term communications and network requirements across the OpFor and supports pre-deployment training requirements in support of OEF. There is a continuing developmental effort to evolve the COC into a fully integrated MAGTF C2 capability. FY15 supported continual tech refresh, technology insertion, modernization and software upgrade releases and alignment with associated Command and Control programs as required by OpFor Commanders. FY16 and FY17 continues to maintain industry standard and interoperability with disparate C2 systems across the joint forces.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	253.462	0.000		0.000		0.000		-		0.000	0.000	253.462	-
CTN Engineering Devlopment	C/CPFF	NAVSEA PEO IWS : Washington, DC	13.134	1.188	Feb 2015	0.686	Feb 2016	2.154	Feb 2017	-		2.154	Continuing	Continuing	Continuing
MACCS Engineering Development	WR	NSWC : Crane, IN	2.140	0.200	Nov 2014	0.000		0.000		-		0.000	0.000	2.340	-
COC	WR	NSWC : Dahlgren,VA	5.035	0.395	Feb 2015	2.063	Mar 2016	1.077	Feb 2017	-		1.077	0.000	8.570	-
COC	C/FFP	NSWC : Dahlgren, VA	0.000	0.000		0.000		1.475	Jan 2017	-		1.475	0.000	1.475	-
COC Energy Initiatives	WR	NSWC : Crane, IN	0.312	0.117	Jun 2015	0.000		0.000		-		0.000	0.000	0.429	-
COC	WR	SSC-LANT : Charleston, SC	0.000	1.079	Dec 2014	0.302	Mar 2016	1.000	Dec 2016	-		1.000	0.000	2.381	-
COC SIM/STIM	C/FFP	NSWC : Dahlgren, VA	0.180	0.000		0.240	Mar 2016	0.431	Mar 2017	-		0.431	0.000	0.851	-
RVVT	MIPR	ARDEC : Picatinny, NJ	0.000	0.000		1.183	Jan 2016	0.000		-		0.000	0.000	1.183	-
RVVT	MIPR	AMRDEC : Huntsville, AL	0.000	1.008	Apr 2015	0.000		0.163	Dec 2016	-		0.163	0.000	1.171	-
		Subtotal	274.263	3.987		4.474		6.300		-		6.300	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	41.560	0.000		0.000		0.000		-		0.000	0.000	41.560	-
CTN Engineering Support	WR	NSWC : Dahlgren, VA	4.557	0.800	Jan 2015	0.231	Jan 2016	0.682	Jan 2017	-		0.682	Continuing	Continuing	Continuing
CTN Engineering Support	WR	NSWC : PHD, CA	0.377	0.138	Feb 2015	0.054	Feb 2016	0.040	Feb 2017	-		0.040	Continuing	Continuing	Continuing
CTN Engineering Support	WR	NSWC : Crane, IN	1.201	0.000		0.150	Nov 2015	0.000		-		0.000	0.000	1.351	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CTN Engineering Support	Various	Travel-TAD : Not Specified	1.055	0.022	Sep 2015	0.023	Sep 2016	0.024	Sep 2017	-		0.024	Continuing	Continuing	Continuing
MACCS Engineering Support	WR	NSWC : Crane, IN	1.038	0.300	Nov 2014	0.031	Nov 2015	0.000		-		0.000	0.000	1.369	-
MACCS Life Cycle Support	Reqn	NGES : Woodland Hills, CA	1.884	0.288	Sep 2015	0.364	Sep 2016	0.000		-		0.000	0.000	2.536	-
MACCS Engineering Support	C/FFP	SPAWAR Charleston : Charleston, SC	0.999	0.138	Nov 2014	0.076	Nov 2015	0.000		-		0.000	0.000	1.213	-
		Subtotal	52.671	1.686		0.929		0.746		-		0.746	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	32.896	0.000		0.000		0.000		-		0.000	0.000	32.896	-
TBMCS Software Development	C/FFP	Lockheed Martin : Colorado Springs, CO	5.109	1.876	Mar 2015	1.067	Mar 2016	2.660	Mar 2017	-		2.660	Continuing	Continuing	Continuing
TBMCS Software Development	MIPR	Englin AFB : Englin AFB, FL	0.504	0.342	Jun 2015	0.217	Jun 2016	0.000		-		0.000	Continuing	Continuing	Continuing
CTN Developmental Testing	WR	NSWC Corona : Corona, CA	1.557	0.000		0.000		0.333	Feb 2017	-		0.333	0.000	1.890	-
CTN Developmental Testing	WR	NSWC DD : Dahlgren, VA	1.262	0.059	Jan 2015	0.150	Jan 2016	0.000		-		0.000	0.000	1.471	-
CTN Engineering/IA Development	C/CPFF	NAVSEA PEO IWS : Washington DC	0.333	0.000		0.000		1.334	Jan 2017	-		1.334	0.000	1.667	-
MACCS Information Assurance Upgrades	Reqn	NGES : Woodland Hills, CA	3.919	0.100	Sep 2015	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
MACCS Interoperability Testing	MIPR	DISA : Washington, DC	0.758	0.020	Jan 2015	0.023	Jan 2016	0.000		-		0.000	0.000	0.801	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	46.338	2.397		1.457		4.327		-		4.327	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	28.671	0.000		0.000		0.000		-		0.000	0.000	28.671	-
COC Engineering Support	FFRDC	U.S. Army, MITRE : Stafford, VA	3.232	0.000		0.853	Mar 2016	0.573	Dec 2016	-		0.573	0.000	4.658	-
		Subtotal	31.903	0.000		0.853		0.573		-		0.573	0.000	33.329	-

	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	405.175	8.070		7.713		11.946		-		11.946	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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*

Program Schedule-COC (V)1-4

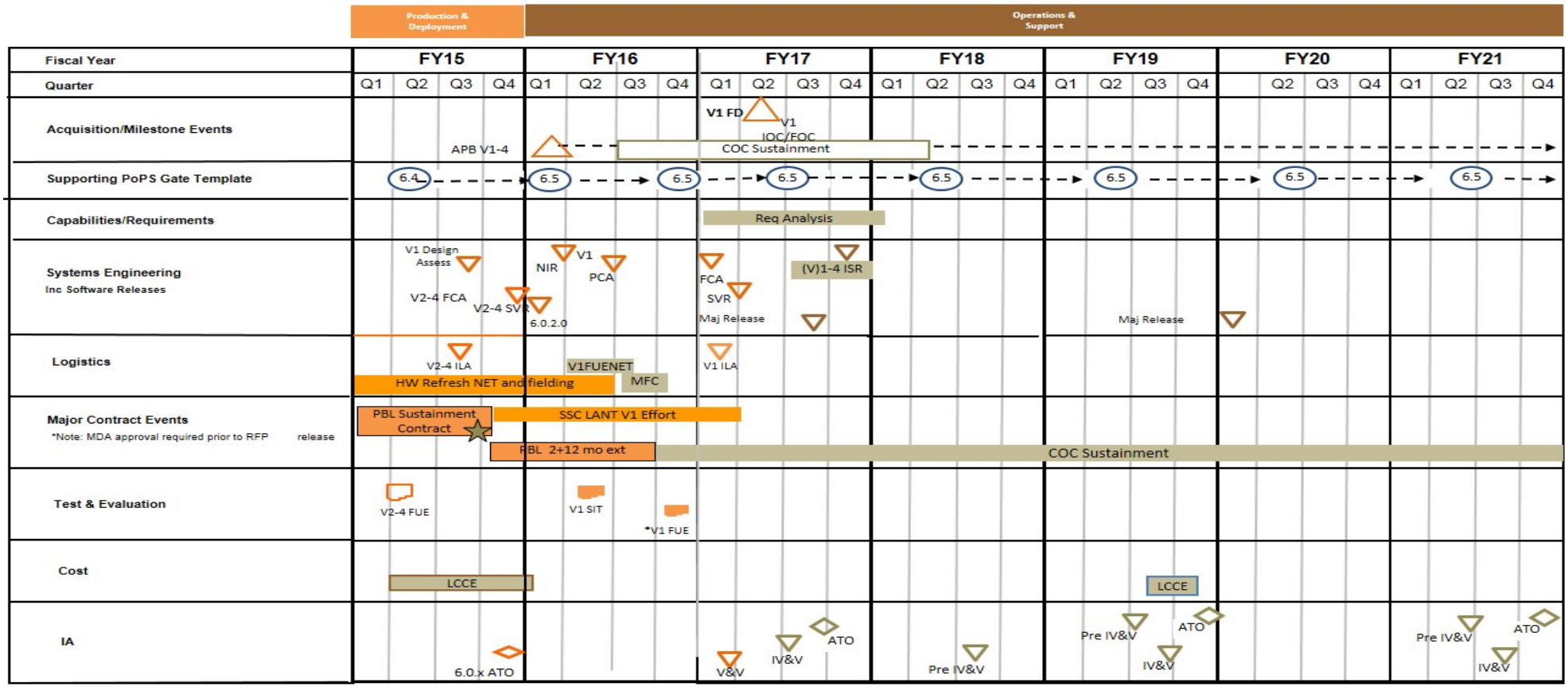

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

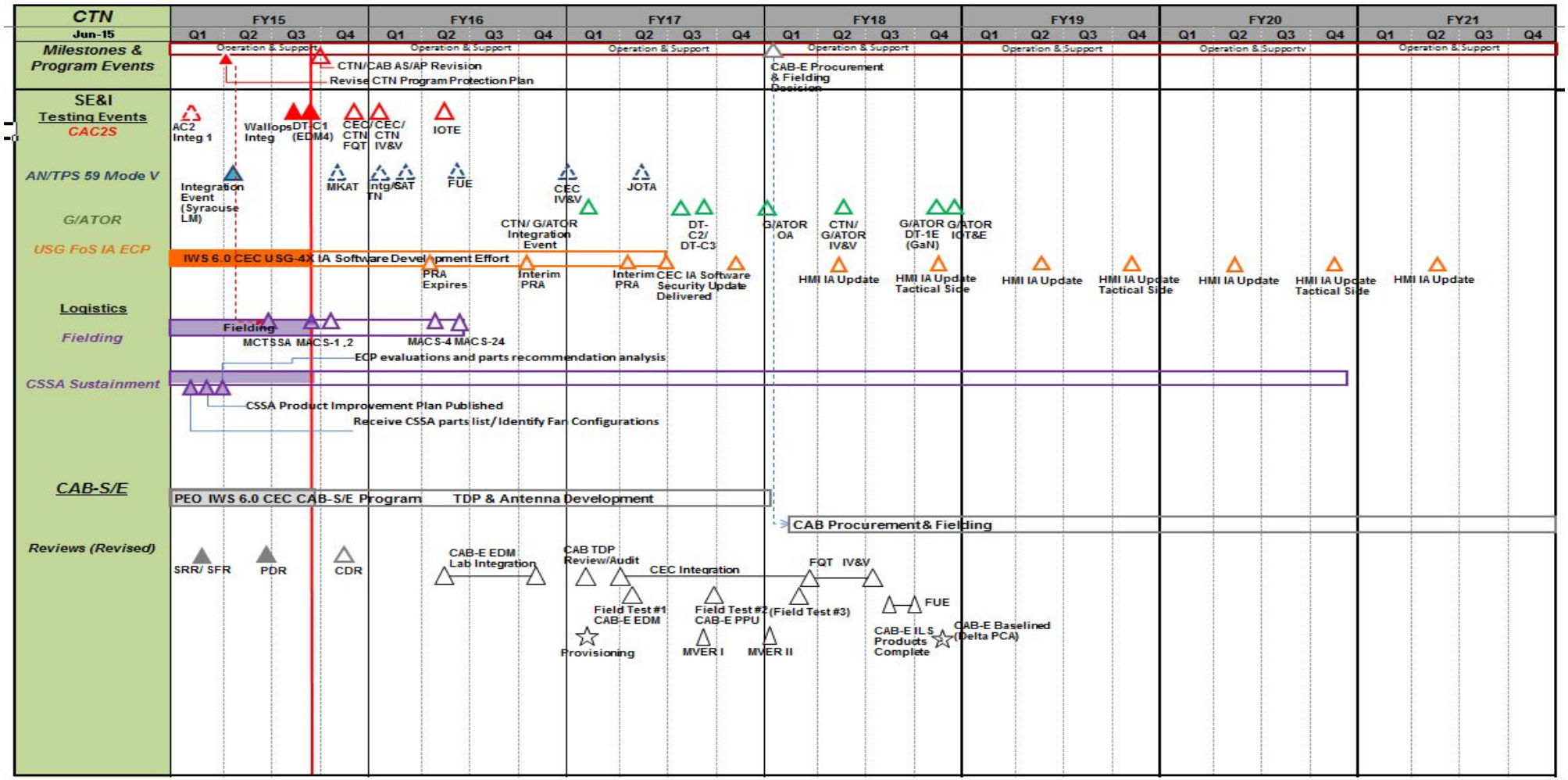

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

MACCS Schedule

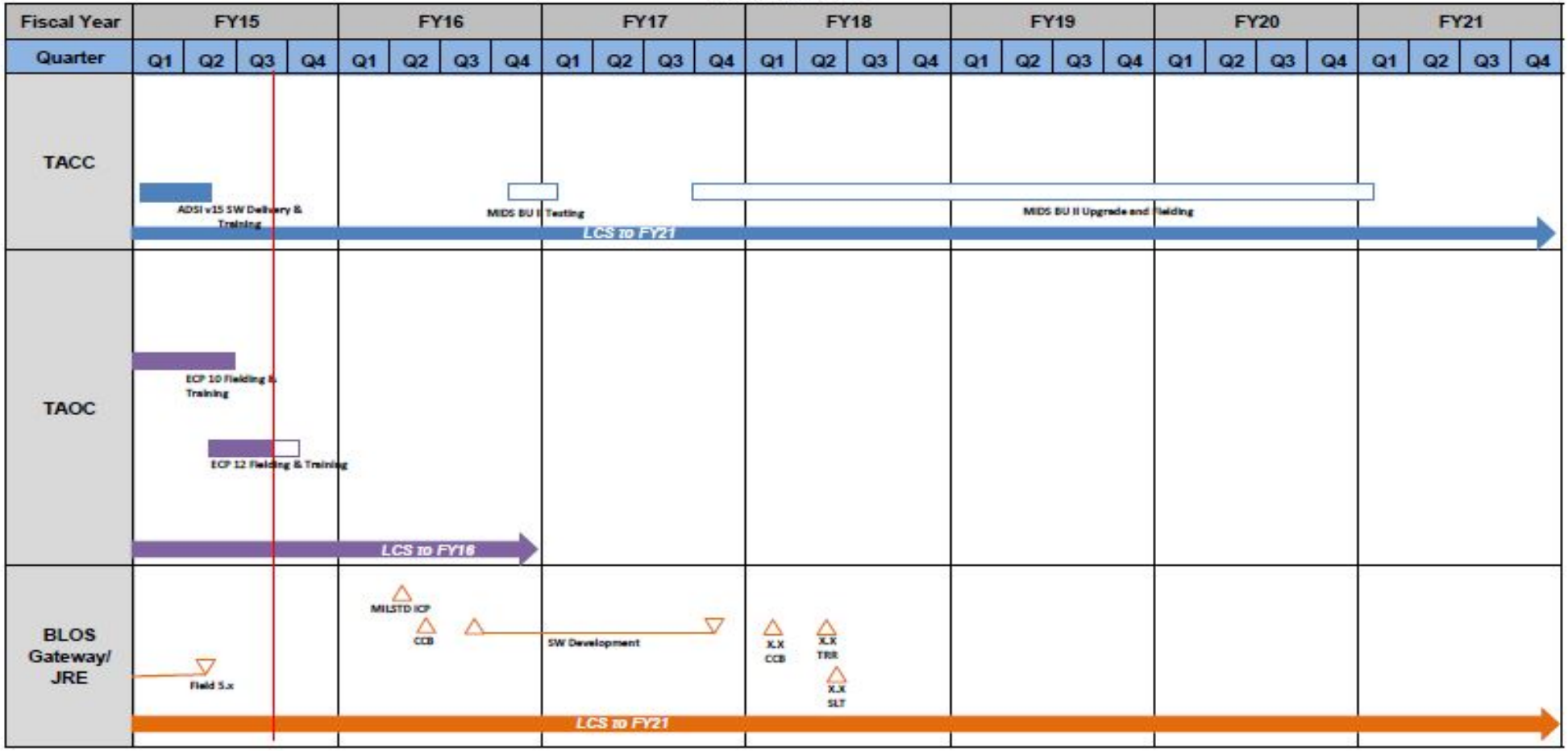

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

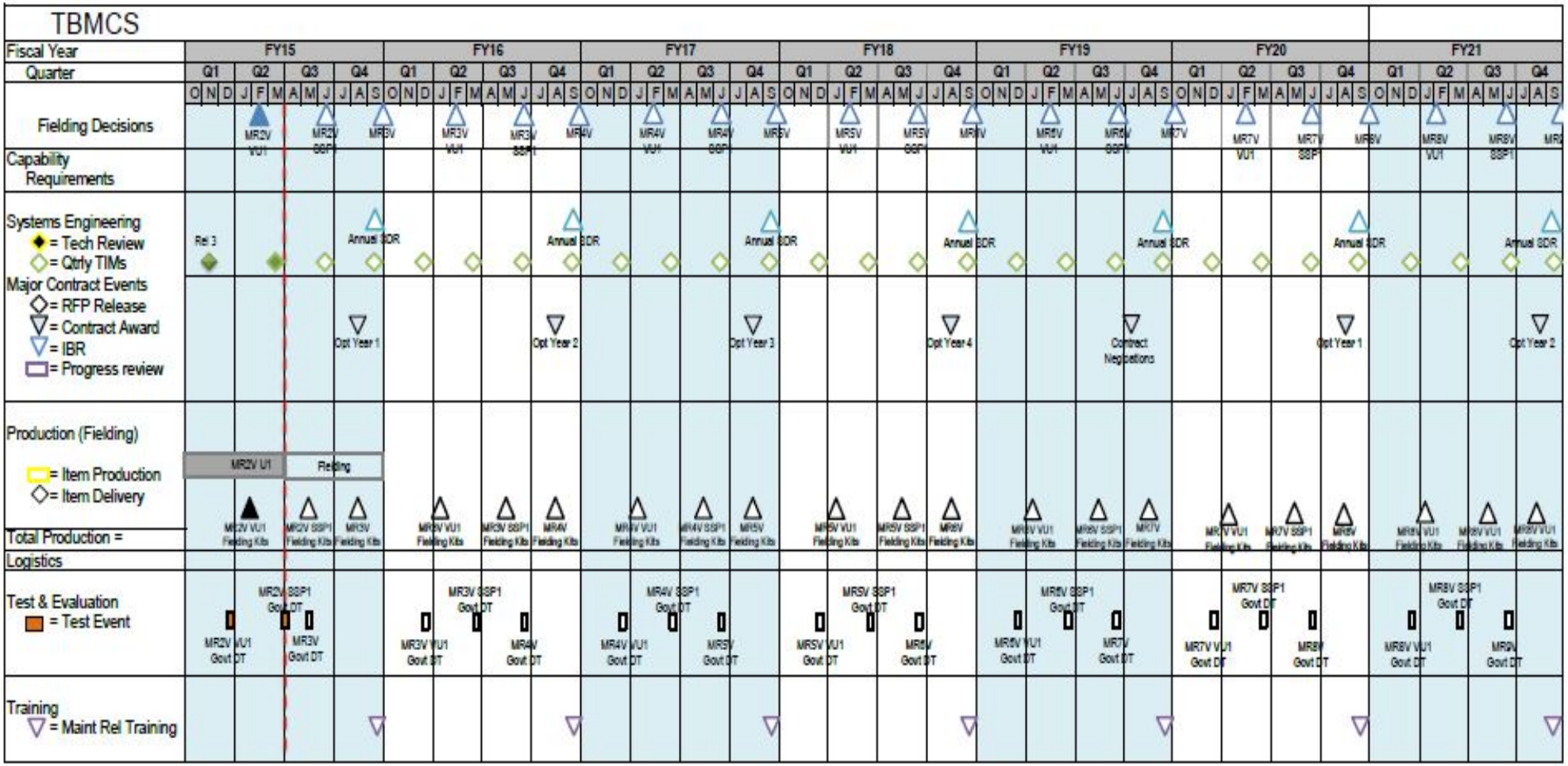

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

RVVT Schedule

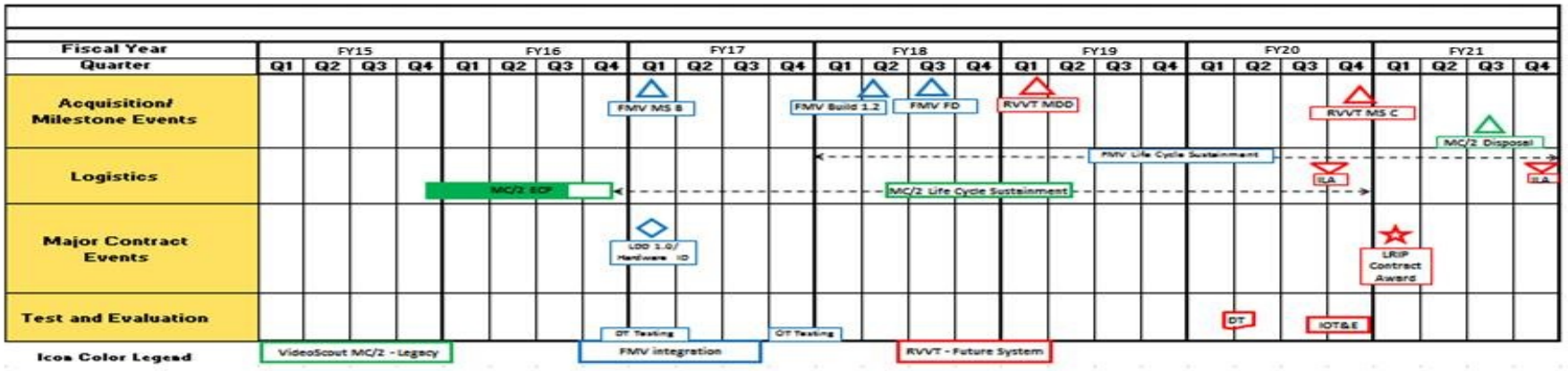

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2273				
TBMCS MR4V Fielding Decisions	4	2016	3	2017
TBMCS MR5V Fielding Decision	4	2017	3	2018
TBMCS MR4V DT Events	3	2016	2	2017
TBMCS MR5V DT Events	3	2017	2	2018
TBMCS MR4V Fielding Kits (PMC 4640)	4	2016	3	2017
TBMCS MR5V Fielding Kits (PMC 4640)	4	2017	3	2018
CTN Integration Event with G/ATOR	1	2017	1	2017
CTN - AN/TPS 59 Mode V JOTA	2	2017	2	2017
CTN - DT-C2 G/ATOR	3	2017	3	2017
CTN - DT-C3 G/ATOR	3	2017	3	2017
CTN - CAB-E Development	1	2015	1	2018
CTN - CAB-E Procurement and Fielding (PMC 4640)	1	2018	4	2021
MACCS Software Development	3	2016	4	2017
MACCS MIDS BU II Upgrades and Fielding (PMC 4640)	3	2017	1	2021
RVVT FMV Milestone B	1	2017	1	2017
RVVT Limited Deployment Decision (LDD)	1	2017	1	2017
RVVT Materiel Development Decision (MDD)	1	2019	1	2019
RVVT Future System Milestone C	4	2020	4	2020
COC V1 Fielding Decision	1	2017	1	2017
COC V1 IOC	2	2017	2	2017
COC V1 FOC	2	2017	2	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
COC Blk 1 Req Analysis	1	2017	1	2018

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2274: *Command & Control Warfare Sys*	25.117	7.833	8.940	6.531	-	6.531	8.138	8.232	7.052	7.213	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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. Legacy CREW systems are currently deployed to meet threats in the multiple theaters of operation and fielded to selected MEUs in support of worldwide deployment. To continue to support the various worldwide missions, each CREW unit receives customized programming (loadsets) to counter the area's RCIED threats. The testing, programming development, and product improvement research are funded with the CREW's RDTE,N funding and prioritized to meet the demand of all deployed CREW assets. The decrease of $2.409M from FY16 to FY17 reflects reduced test and evaluation efforts and reduced management support of development efforts.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: *USMC CREW - Product Development	1.788	1.597	1.932	0.000	1.932
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Continued the development of waveform loadsets, including the development of the CREW MEU mounted and dismounted system's waveform loadsets into the group of required CREW systems supported. The increase in system variants will also result in the need to continue the development of waveform/loadsets for UTS across multiple deployment theaters. -Continued to develop vehicle installation kits for the CREW MEU and MARCENT mounted systems in order to support the integration and installation of the upgrade kits into Marine Corps vehicle platform while completing the development of the CVRJ(V)2 integration kits.					
FY 2016 Plans: -Continue development of software waveform loadsets for USMC CREW Systems including mounted and dismounted system's waveforms used specifically to counter IED threat worldwide. -Continue software waveform loadsets for Universal Test Sets (UTS) across multiple deployment theaters. -Continue development of additional software threat loads to overcome system capability issues on individual platform types.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continue to develop vehicle installation kits for the CREW mounted systems in order to support the integration and installation of the upgrade kits into Marine Corps vehicle platform. -Conduct system level verification testing on the CREW MEU and CVRJ(V)2 augmentation systems to counter RICED threats. ***FY 2017 Base Plans:*** -Continue development of software waveform loadsets for USMC CREW Systems including mounted and dismounted system's waveforms used specifically to counter IED threat worldwide. -Continue software waveform loadsets for Universal Test Sets (UTS) across multiple deployment theaters. -Continue development of additional software threat loads to overcome system capability issues on individual platform types. -Continue to develop vehicle installation kits for the CREW mounted systems in order to support the integration and installation of the upgrade kits into Marine Corps vehicle platform. ***FY 2017 OCO Plans:*** N/A					
Title: *USMC CREW - Support	0.595	0.622	0.649	0.000	0.649
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Continued to conduct systems engineering and integration support required for the mounted CREW integrations into Marine Expeditionary Units (MEU)/Marine Expeditionary Force (MEF) mission profiles by developing vehicle installation kits for these mounted units. -Continued system support for CVRJ (V)1 and (V)2, Thor III, CREW MEU, Modi systems, and the Universal Test Sets by analyzing CREW performance impacts resulting from compatibility and environmental risk impacts. ***FY 2016 Plans:*** -Continue to conduct systems engineering and integration support required for the mounted CREW into Marine Expeditionary Units (MEU)/Marine Expeditionary Force (MEF) mission profiles by developing vehicle installation kits for these mounted units. -Continue system support for CVRJ (V)2, Thor III, Modi, and Universal Test Sets by analyzing CREW performance impacts resulting from compatibility and environmental risk impacts. ***FY 2017 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continue to conduct systems engineering support for the CREW family of systems and integration support required for the mounted CREW into Marine Expeditionary Units (MEU)/Marine Expeditionary Force (MEF) mission profiles by developing vehicle installation kits for these mounted units. -Continue system support for CVRJ (V)2, Thor III, Modi, and Universal Test Sets by analyzing CREW performance impacts resulting from compatibility and environmental risk impacts. ***FY 2017 OCO Plans:*** N/A					
Title: *USMC CREW - Test and Evaluation	2.180	2.952	0.261	0.000	0.261
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Continued to conduct test events in support of the CVRJ (V)1 and (V)2, Thor III, CREW MEU, Modi and Universal Test Set (UTS) systems regarding its ability to defeat the RCIED threat in multiple worldwide locations. -Continued to conduct compatibility testing against USMC and other services devices to ensure Marine Corps CREW systems maintained required performance capabilities. -Continued to characterize operational limitations regarding the CREW systems and standoff restrictions for its operation. -Completed mounted and dismounted CREW improvements testing to distinguish possible design limitations that can be improved to optimize the Marine use of the system. ***FY 2016 Plans:*** -Continue test events in support of the CVRJ (V)2, Thor III, Modi and Universal Test Set (UTS) systems regarding its ability to defeat the RCIED threat in multiple worldwide locations. -Continue testing of the mounted and dismounted CREW production units that will be fielded for MEU use. -Continue compatibility testing against USMC and other services devices to ensure Marine Corps CREW systems maintain required performance capabilities. -Continue characterizing operational limitations regarding the CREW systems and standoff restrictions for its operation. -Continue mounted and dismounted CREW improvements testing to distinguish possible design limitations that can be improved to optimize the Marine use of the system. ***FY 2017 Base Plans:*** -Continue test events in support of the CVRJ (V)2, Thor III, Modi and Universal Test Set (UTS) systems regarding its ability to defeat the RCIED threat in multiple worldwide locations.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continue testing of the mounted and dismounted CREW production units that will be fielded for MEU use. -Continue compatibility testing against USMC and other services devices to ensure Marine Corps CREW systems maintain required performance capabilities. -Complete characterizing operational limitations regarding the CREW systems and standoff restrictions for its operation. -Complete mounted and dismounted CREW improvements testing to distinguish possible design limitations that can be improved to optimize the Marine use of the system. ***FY 2017 OCO Plans:*** N/A					
Title: *USMC CREW - Management	3.270	3.769	3.689	0.000	3.689
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Continued to manage the new RCIED techniques development group and hardware engineering team to enhance loadsets upgrades to counter the evolving threat and prevent technology obsolescence for CVRJ (V)1 and (V)2, Thor III, Modi, CREW MEU mounted/dismounted systems, and the Universal Test Set systems. Conducted system level configuration management activities for all CREW systems. ***FY 2016 Plans:*** -Continue to manage the new RCIED techniques development group and hardware engineering team to enhance loadsets upgrades to counter the evolving threat and prevent technology obsolescence for CVRJ (V)1 and (V)2, Thor III, Modi and the Universal Test Set systems. Conducting system level configuration management activities for all CREW systems. ***FY 2017 Base Plans:*** -Continue to manage the new RCIED techniques development group and hardware engineering team to enhance loadsets upgrades to counter the evolving threat and prevent technology obsolescence for CVRJ (V)1 and (V)2, Thor III, Modi and the Universal Test Set systems. Conducting system level configuration management activities for all CREW systems. ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	7.833	8.940	6.531	0.000	6.531

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/652000: *CREW*	0.050	0.000	0.000	75.000	75.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/700000: *CREW*	3.146	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	3.146

Remarks

D. Acquisition Strategy

COUNTER RADIO-CONTROLLED IMPROVISED EXPLOSIVE DEVICE (RCIED) ELECTRONIC WARFARE (USMC CREW): CREW 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 in all current and future operations. The program will continue to develop new 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 installation kit designs, integration of the enhancements/Vehicle Installation Kits (VIKs) and the tests/government studies required to support these changes. 3100 CVRJ(V1) mounted systems were upgraded to a Band C (V2) capability and fielded in FY13. The Thor III are dismounted systems fielded to OEF and to selected MEU units in FY12/FY13. The Modi is a dismounted system which will commence initial replacement of the Thor III. 40 Modi are expected to be fielded in FY16. The Modi II program consists 565 dismounted systems and was initiated as an ongoing effort to develop new techniques, improve capabilities, enhance software and develop waveform loadsets to counter evolving threats and prevent technology obsolescence for the THOR III dismounted systems. The 565 dismounted systems were procured in FY15 with expected delivery in FY16. In FY17 the USMC will procure 500 replacement mounted systems within enhance capabilities to augment the CRVJ V2.

E. Performance Metrics

Milestone Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
USMC CREW	WR	NSWC CD : CRANE IN	2.380	1.277	Jun 2015	1.597	Feb 2016	1.932	Jan 2017	-		1.932	Continuing	Continuing	Continuing
USMC CREW	SS/FFP	NAVSEA : BALTIMORE, MD	5.189	0.250	Jan 2015	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
USMC CREW	WR	SSC-A : CHARLESTON, SC	0.978	0.261	Jun 2015	0.000	Jun 2016	0.000	Jan 2017	-		0.000	Continuing	Continuing	Continuing
Prior Year Cumulative Funding	Various	VARIOUS : VARIOUS	0.871	0.000		0.000		0.000		-		0.000	0.000	0.871	-
		Subtotal	9.418	1.788		1.597		1.932		-		1.932	-	-	-

Remarks

USMC CREW FY15: USMC CREW utilized NAVSEA (Johns Hopkins University Applied Physics Laboratories) to develop waveform loadsets for all CREW systems to continue to counter the evolving RCIED Threats.
USMC CREW FY15: USMC CREW will utilized SSC-A (SPAWAR, Charleston) to develop mounting solutions in order to integrate mounted systems into Marine Corps Vehicle platforms.
USMC CREW FY15 - FY17: USMC CREW will utilize NSWC CRANE (Crane, IN) to design, develop and contract engineering changes to the CREW systems and to develop waveform loadsets for all CREW systems to continue to counter the evolving RCIED Threats.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
USMC CREW	WR	SSC-A : CHARLESTON, SC	0.553	0.295	Jan 2015	0.308	Feb 2016	0.322	Jan 2017	-		0.322	Continuing	Continuing	Continuing
USMC CREW	WR	NSWC DD : DAHLGREN, VA	1.008	0.300	Jan 2015	0.314	Dec 2015	0.327	Jan 2017	-		0.327	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	3.800	0.000		0.000		0.000		-		0.000	0.000	3.800	-
		Subtotal	5.361	0.595		0.622		0.649		-		0.649	-	-	-

Remarks

USMC CREW NSWC Dahlgren FY15 - FY17: RADHAZ (Radio Hazard) Studies and Configuration Management Support
USMC CREW SSC-Atlantic FY15 - FY17: System Engineering and validation and verification

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
USMC CREW	MIPR	YPG : YUMA, AZ	3.821	2.000	Dec 2014	2.292	Feb 2016	0.261	Apr 2017	-		0.261	Continuing	Continuing	Continuing
USMC CREW	MIPR	APG : ABERDEEN, MD	0.000	0.098	Jan 2016	0.000		0.000		-		0.000	0.000	0.098	-
USMC CREW	WR	NSWC DD : DAHLGREN, VA	0.000	0.082	Dec 2015	0.000		0.000		-		0.000	0.000	0.082	-
USMC CREW	MIPR	SOCOM : TAMPA, FL	0.000	0.000		0.200	Jun 2016	0.000		-		0.000	0.000	0.200	-
USMC CREW	Various	VARIOUS : VARIOUS	1.090	0.000		0.460	Aug 2016	0.000		-		0.000	0.000	1.550	-
Prior Years Cumulative Funding	Various	VARIOUS : VARIOUS	2.256	0.000		0.000		0.000		-		0.000	0.000	2.256	-
		Subtotal	7.167	2.180		2.952		0.261		-		0.261	-	-	-

Remarks

USMC CREW FY15 - FY17: USMC CREW will utilize YPG (Yuma Proving Grounds, AZ) to provide test ranges and results analysis for all CREW systems.
USMC CREW FY15: USMC CREW will utilize APG (Aberdeen Proving Ground, MD) to provide test support for Modi II systems.
USMC CREW FY15: USMC CREW will utilize NSWC DD to provide test support and reports.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
USMC CREW	C/FFP	CECOM : APG, MD	0.000	1.117	Sep 2015	0.000		0.000		-		0.000	0.000	1.117	-
USMC CREW	WR	NSWC CD : CRANE, IN	2.336	1.493	Jan 2015	3.034	Feb 2016	2.927	Jan 2017	-		2.927	Continuing	Continuing	Continuing
USMC CREW	WR	NSWC DD : DAHLGREN, VA	0.480	0.660	Dec 2014	0.735	Feb 2016	0.000		-		0.000	Continuing	Continuing	Continuing
USMC CREW	WR	SSC-A : CHARLESTON, SC	0.355	0.000		0.000		0.762	Jan 2017	-		0.762	0.000	1.117	-
		Subtotal	3.171	3.270		3.769		3.689		-		3.689	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks USMC CREW NSWC CRANE FY15 - FY17: Engineering and Acquisition support USMC CREW CECOM FY15: MITRE Engineering Support and technical analysis															

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	25.117	7.833		8.940		6.531		-		6.531	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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*

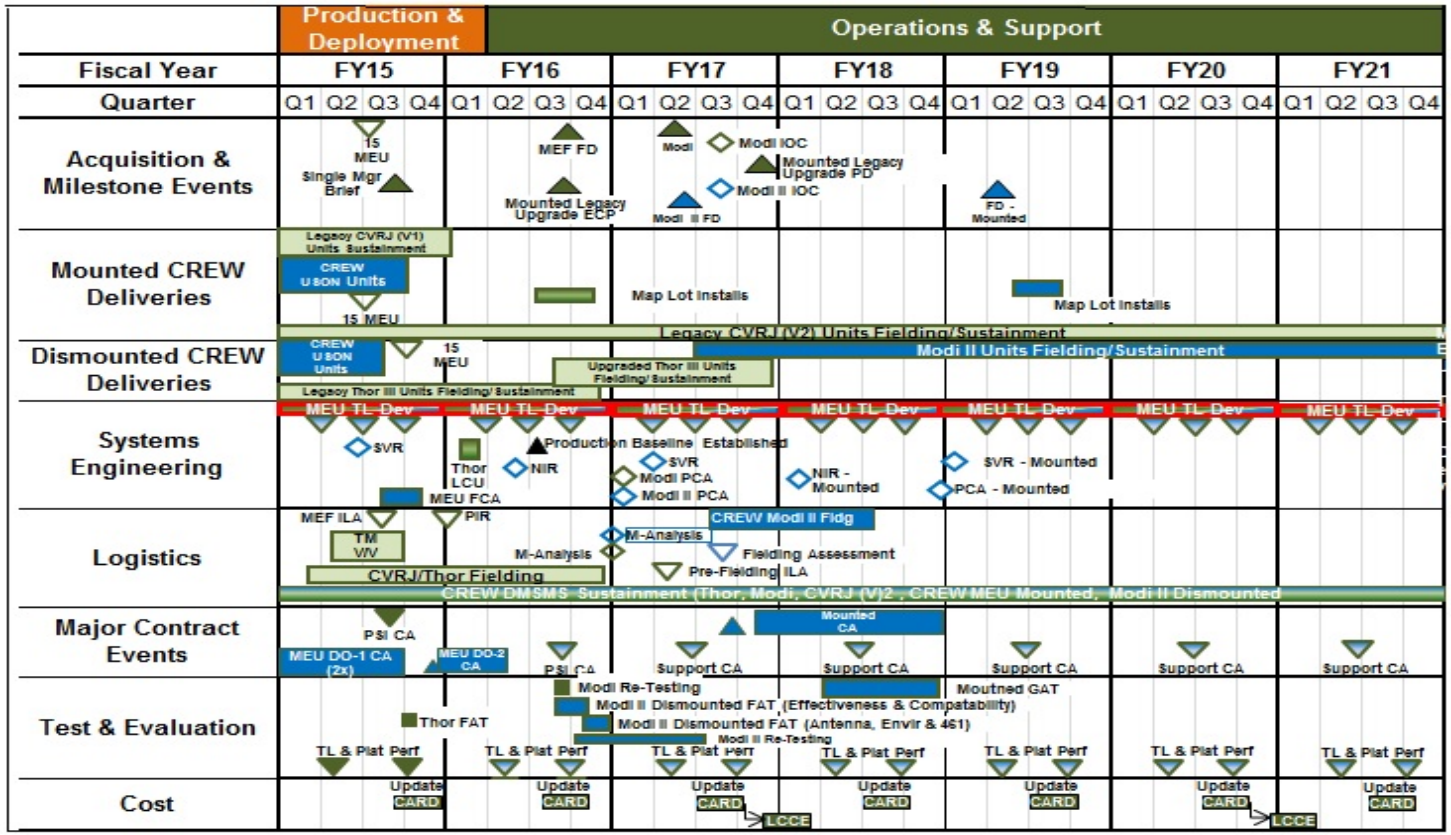

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2274 / *Command & Control Warfare Sys*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2274				
USMC CREW Waveform Development	1	2015	4	2021
USMC CREW MEU Dismounted Contract Award	4	2015	4	2015
CREW MEU Fielding Decision	3	2017	3	2017
CREW Mounted Contract Award	3	2017	3	2017

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2275: *Marine Corps Tactical Radio Systems*	29.853	6.577	3.351	12.661	-	12.661	9.300	8.004	7.063	7.124	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Tactical Communications Modernization (TCM): TCM provides tactical voice and data radio systems for mounted and dismounted operations within all echelons of the MAGTF. TCM procurements enable an initial joint networking capability and support National Security Agency (NSA) Communications Security (COMSEC) Modernization requirements. Funding provides engineering and test support for both the Mobile User Objective System (MUOS) requirement, and AN/MRC-145B service life extension program.

Networking on the Move (NOTM): NOTM provides a robust command and control (C2) capability by integrating tactical data systems with on the move satellite communications (SATCOM) for beyond line-of-sight ability that allows battlefield commanders to have uninterrupted two-way access to digital data, anywhere on the battlefield. NOTM provides MAGTF commanders and staffs with full Common Operational Picture (COP) access, virtually unlimited situational awareness and a powerful ability to issue digital orders (fires, maneuver, planning) to GCE, ACE and LCE units at all echelons while on-the-move or at-the-halt. NOTM also provides Marine units the capability to link with and extend Defense Information System Network (DISN) services; SIPRNet, NIPRNet, and Defense Switched Networks (DSN). Integrated full motion video (receipt and retransmission), tactical voice communications plus three options for secure wireless local area network (LAN) connectivity between staff members makes this amphibious capability a crucial asset to all elements of the Marine Air-Ground Task Force (MAGTF). NOTM achieved initial operational capability at I MEF in March 2013 and continued fielding a total of 56 systems at I MEF, II MEF, III MEF and the support establishment through August 2014. The funding increase of $8.468M from FY16 to FY17 will fund Engineering Change Proposals (ECPs), technology refreshes to extend the systems life and maintain interoperability and major product improvements to complete the AAO of 140 systems as well as initiate development of NOTM-Airborne and NOTM-Internally Transportable Vehicle (NOTM-ITV) systems.

Very Small Aperture Terminal (VSAT): VSAT is an integrated Commercial Off-the-Shelf (COTS) satellite communications terminal with a modular architecture that supports drop and insert architecture through scalable and flexible applications. VSAT uses commercial Ku and military Ka and X frequency bands to provide beyond line-of-sight (BLOS) connectivity to support intra-MAGTF communications (NIPRNET, SIPRNET, and telephony) down to the battalion/squadron level. With the addition of the VSAT-Expeditionary (VSAT-E) the VSAT Family of Systems (FoS) now comes in four modular variants, depending on MAGTF-size and mission.

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. SMART-T will be upgraded for compatibility with Advanced Extremely High Frequency (AEHF) waveforms and data rates and will replace the legacy SMART-T terminals. Out of warranty repair for legacy components will be executed, when necessary, using the Army National Maintenance Contract. The SMART-T program will procure and field its Terminal Operating Unit (TOU) upgrades and finish fielding its AEHF upgrades.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 is a capabilities portfolio of terrestrial based wideband transmission systems (formerly known as AN/TRC-170). Portfolio includes Beyond Line of Sight (BLOS) system (AN/TRC-170) and Line of Sight (LOS) systems AN/MRC-142 Family of Systems (FoS).
- The AN/TRC-170 is a transportable BLOS, terrestrial, self-enclosed troposcatter terminal (multichannel) capable of transmitting and receiving digital data over varying distances up to 100 miles. Next Generation Troposcatter (NGT) is a transit case solution which will replace the AN/TRC-170.
- AN/MRC-142B provides ship to shore communication.
- AN/MRC-142C FoS provides LOS, two-way, secure voice and data communications up to 35 miles.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: TCM: Product Development	0.000	0.150	0.200	0.000	0.200
Articles:	-	-	-	-	-
FY 2015 Accomplishments: N/A					
FY 2016 Plans: Funds will procure MUOS FW upgrade test assets and test antennas.					
FY 2017 Base Plans: Initiate efforts to procure prototypes for initial testing in support of new requirement for High Frequency Radio (HFR) Family of Systems (FOS).					
FY 2017 OCO Plans: N/A					
Title: TCM: Engineering and Program Support	0.108	0.200	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continued support for engineering and test efforts.					
FY 2016 Plans: Continue support for engineering and test efforts.					
FY 2017 Base Plans: N/A					
FY 2017 OCO Plans: N/A					
Title: TCM: Test and Evaluation Support	0.115	0.150	0.788	0.000	0.788

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Completed modeling and simulation test and EMI assessment for MRC 145B antenna bracket. ***FY 2016 Plans:*** Complete test and evaluation support for the Mobile User Objective System (MUOS). ***FY 2017 Base Plans:*** Initiate support of test events for the HFR FOS such as software development test, road shock, shake and vibration testing. ***FY 2017 OCO Plans:*** N/A					
Title: TCM: Management Services	0.238	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continued FFRDC support for engineering and testing efforts. ***FY 2016 Plans:*** N/A ***FY 2017 Base Plans:*** N/A ***FY 2017 OCO Plans:*** N/A					
Title: NOTM: Product Development	1.950	0.256	7.501	0.000	7.501
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continued product development to reduce Size, Weight, and Power (SWaP) and incorporated Engineering Change Proposals (ECPs) that will provide system efficiencies for shipboard integration. ***FY 2016 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue product development for SATCOM denied environment. ***FY 2017 Base Plans:*** Continue Engineering Change Proposals (ECPs), technology refreshes to extend the systems life and maintain interoperability and major product improvements to complete the AAO of 140 systems. Initiate development of NOTM Airborne and NOTM Internally Transportable Vehicle test articles. The increase of $7.245M from FY16 to FY17 is associated with the initiation of NOTM Airborne and NOTM ITV development efforts and increased effort for NOTM ECPs and technology refreshes. ***FY 2017 OCO Plans:*** N/A					
Title: NOTM: Test and Evaluation Support ***Articles:*** ***FY 2015 Accomplishments:*** Continued to support Vehicle Platform Integration and X-band SATCOM accreditation, certification and laboratory testing. ***FY 2016 Plans:*** Continue test and evaluation support and testing. ***FY 2017 Base Plans:*** Continue test and evaluation support and testing. Increase of $1.223M from FY16 to FY17 supports test and evaluation of NOTM Size, Weight and Power (SWaP) reduction ECPs. ***FY 2017 OCO Plans:*** N/A	2.879 -	0.362 -	1.585 -	0.000 -	1.585 -
Title: VSAT: Engineering and Program Support ***Articles:*** ***FY 2015 Accomplishments:***	0.369 -	0.372 -	0.452 -	0.000 -	0.452 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Initiated support for Engineering Change Proposals (ECP) to include X-band capability in addition to upgrading ancillary subsystems and ensured interoperable with US Army, and continues Information Assurance support. ***FY 2016 Plans:*** Continue to support ECPs that include interoperability with US Army, modem modernization, and continues Information Assurance support. ***FY 2017 Base Plans:*** Continue ECP engineering support to include Quad-Band Satellite Emulator (QBSE) development. ***FY 2017 OCO Plans:*** N/A					
Title: VSAT Test and Evaluation ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** Funds external antenna testing for inter and intra-theater wideband communications. ***FY 2017 Base Plans:*** Initiates Quad-Band Satellite Emulator (QBSE) prototype procurement and testing. ***FY 2017 OCO Plans:*** N/A	0.000 -	0.336 -	0.250 -	0.000 -	0.250 -
Title: VSAT: Management Services ***Articles:*** ***FY 2015 Accomplishments:*** Funded FFRDC systems engineering, interoperability analysis, and acquisition planning support for technology research and obsolescence. ***FY 2016 Plans:*** N/A ***FY 2017 Base Plans:***	0.261 -	0.000 -	0.000 -	0.000 -	0.000 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A ***FY 2017 OCO Plans:*** N/A					
Title: SMART-T: Engineering and Program Support ***Articles:*** ***FY 2015 Accomplishments:*** Continued technical support for SMART-T system upgrades that include the Handheld Terminal Unit (HTU) and the Remote Operator Unit (ROU). Completed support of Advanced Extremely High Frequency (AEHF) Multi-Service Operational Test and Evaluation. ***FY 2016 Plans:*** Finalize ECP work and Procure Terminal Operating Units (TOU) for the AEHF SMART-T. ***FY 2017 Base Plans:*** Initiate ECPs to update the Operating systems of the AEHF SMART-T, TOU, and Tactical Mission Planning Subsystems (TMPSS). Continued Information Assurance support activities. ***FY 2017 OCO Plans:*** N/A	0.427 -	0.191 -	0.189 -	0.000 -	0.189 -
Title: TWTS: Product Development ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** Initiate development of a Next Generation Tropo (NGT) prototype. ***FY 2017 Base Plans:*** Continue development of Next Generation Tropo (NGT). ***FY 2017 OCO Plans:*** N/A	0.000 -	0.950 -	0.923 -	0.000 -	0.923 -
Title: TWTS: Engineering and Program Support	0.230	0.201	0.463	0.000	0.463

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continued to provide engineering support to finalize and approve engineering change proposals (ECPs) for AN/MRC-142. ***FY 2016 Plans:*** Initiate engineering and program support for the Next Generation Tropo (NGT). ***FY 2017 Base Plans:*** Continue engineering and program support for the Next Generation Tropo (NGT). ***FY 2017 OCO Plans:*** N/A					
Title: TWTS: Test and Evalution Support	0.000	0.183	0.310	0.000	0.310
Articles:	-	-	-	-	-
FY 2015 Accomplishments: N/A ***FY 2016 Plans:*** Initiate engineering and program support for the Next Generation Tropo (NGT). ***FY 2017 Base Plans:*** Continue test and evaluation of Next Generation Tropo (NGT). ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	6.577	3.351	12.661	0.000	12.661

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/4633-2: *VSAT*	8.698	2.004	1.989	-	1.989	1.060	3.056	3.133	3.194	Continuing	Continuing
• PMC/4633-3: *TCM*	55.752	58.700	36.778	2.725	39.503	60.052	35.972	145.834	273.865	Continuing	Continuing
• PMC/4633-4: *SMART-T*	0.610	0.491	0.537	-	0.537	0.549	0.571	0.593	0.605	Continuing	Continuing
• PMC/4633-5: *TWTS*	2.486	7.400	2.300	-	2.300	11.995	2.987	3.068	3.128	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/4631-1: *NOTM*	23.202	1.418	37.461	-	37.461	42.114	30.326	30.828	3.912	Continuing	Continuing
• PMC/7000-1: *SMART-T Spares*	0.000	0.198	0.201	-	0.201	0.205	0.209	0.213	0.217	Continuing	Continuing

Remarks

D. Acquisition Strategy

Tactical Communications Modernization (TCM): TCM will be testing and evaluating the next generation tactical radio systems supporting: MUOS terminals and the High Frequency Radios (HFR). TCM will procure 10 MUOS licenses as test articles and then procure another 6,000 licenses once the capability passes testing. In FY17 TCM will be testing the HFR. All the other systems are currently in sustainment.

Networking on the Move (NOTM): NOTM will use an evolutionary acquisition strategy and pursue a competitive contract 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 capability to ensure compatibility with other systems, create lighter 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.

Very Small Aperture Terminal (VSAT): As part of a SATCOM Systems Consolidation Strategy, the VSAT Family of Systems (FoS) is currently being modified to be capable of using military Ka (VSAT-S/M) and X (VSAT-L) frequency bands. The Consolidation Strategy also adds the requirement to enable the VSAT-L to interface with an External Antenna and provide a Quad Band Satellite Emulator. VSAT systems primarily support operations on costly commercial SATCOM bandwidth. VSAT-L operated on commercial Ku and military Ka-band and VSAT Small/Medium operated on commercial Ku-band. Fielding X-Band capability to the VSAT Large (VSAT-L), trailer mounted systems to alleviate reliance on commercial SATCOM bandwidth procurements is ongoing. Fielding military Ka-band on the VSAT Small and Medium (VSAT SM/M) is ongoing. Both are expected to be completely fielded in 4QFY16. The External Antenna will enable simultaneous inter and intra-theater wideband communications at the Major Subordinate Command level and higher. The Quad Band Satellite Emulator provides the ability to perform maintenance actions and training on VSAT FoS without the need for an actual satellite. The External Antenna Engineering Change Proposal (ECP) is planned for 4QFY15 followed by integration, testing, production and fielding (beginning in FY17). The Quad Band Satellite Emulator Engineering Change Proposal (ECP) is planned for Q2FY16 followed by the procurement of test articles and test and evaluation activities in FY17. Production and fielding is planned FY17-19.

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. SMART-T will be upgraded for compatibility with Advanced Extremely High Frequency (AEHF) waveforms and data rates and will replace the legacy SMART-T terminals. Out of warranty repair for legacy components will be executed, when

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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necessary, using the Army National Maintenance Contract. The SMART-T program will procure and field its Terminal Operating Unit (TOU) upgrades and finish fielding its AEHF upgrades.

Tactical Wideband Communication Systems (TWTS): AN/TRC-170, the current Marine Corps troposcatter capability, was initially fielded in FY92. Next Generation Tropo-scatter (NGT) will replace AN/TRC-170 due to the system's obsolescence and an approved NGT Statement of Need requirement. The Marine Corps plans to join the US Army Program office via a Request to Participate letter thereby leveraging US Army's NGT efforts. Marine Corps RDT&E funds plan to include purchasing NGT prototypes and planning for Marine Corps unique developmental activity testing.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NOTM Development	C/FFP	SSC-LANT : Charleston, SC	1.101	1.138	Sep 2015	0.000		0.000		-		0.000	0.000	2.239	-
NOTM Development	WR	SSC-Pacific : San Diego, CA	0.000	0.473	Mar 2015	0.256	Mar 2016	1.151	Jan 2017	-		1.151	0.000	1.880	-
NOTM HMSAS	WR	SSC-Pacific : San Diego, CA	0.000	0.100	Apr 2015	0.000		0.000		-		0.000	0.000	0.100	-
NOTM SWAP	MIPR	DTIC : Fort Belvoir, VA	0.178	0.220	Apr 2015	0.000		0.000		-		0.000	0.000	0.398	-
NOTM CBT	C/FFP	MCSC : Quantico, VA	0.000	0.019	Sep 2015	0.000		0.000		-		0.000	0.000	0.019	-
NOTM-A	C/FFP	TBD : TBD	0.000	0.000		0.000		3.650	Feb 2017	-		3.650	0.000	3.650	-
NOTM-ITV	C/FFP	TBD : TBD	0.000	0.000		0.000		2.700	Feb 2017	-		2.700	0.000	2.700	-
TCM HFR prototypes	C/FFP	SSC-LANT : Charleston, SC	0.555	0.000		0.000		0.200	Nov 2016	-		0.200	0.000	0.755	-
TCM Assets	C/FFP	MCSC : Quantico, VA	0.000	0.000		0.100	Jan 2016	0.000		-		0.000	0.000	0.100	-
TCM Test Antennas	C/FFP	MCSC : Quantico, VA	0.000	0.000		0.050	Mar 2016	0.000		-		0.000	0.000	0.050	-
TWTS NGT	C/FFP	CECOM : Aberdeen, VA	0.000	0.000		0.950	May 2016	0.923	May 2017	-		0.923	0.000	1.873	-
Prior Years Cumulative Funding	Various	Various : Various	9.986	0.000		0.000		0.000		-		0.000	0.000	9.986	-
		Subtotal	11.820	1.950		1.356		8.624		-		8.624	0.000	23.750	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SMART-T IMS Support	C/FFP	NAWC TSD : Orlando, FL	0.000	0.250	Aug 2015	0.000		0.000		-		0.000	0.000	0.250	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SMART-T Support	WR	SSC-LANT : Charleston, SC	0.000	0.177	Apr 2015	0.191	Feb 2016	0.189	Feb 2017	-		0.189	0.000	0.557	-
TCM VRC-114 Engineering Support	C/FFP	SSC-L : Charleston, SC	0.000	0.000		0.094	Jan 2016	0.000		-		0.000	0.000	0.094	-
TCM Engineering Support	C/FFP	NAVAIR : Pax River, MD	0.000	0.108	Sep 2015	0.103	Mar 2016	0.000		-		0.000	0.000	0.211	-
TCM JENM Engineering Support	C/FFP	SSC-P : San Diego, CA	0.000	0.000		0.003	Mar 2016	0.000		-		0.000	0.000	0.003	-
VSAT Antenna Dev/Int	MIPR	CECOM : Aberdeen, MD	0.000	0.325	Aug 2015	0.000		0.000		-		0.000	0.000	0.325	-
VSAT Engineering Support	WR	SSC-LANT : Charleston, SC	0.000	0.000		0.239	Feb 2016	0.452	Feb 2017	-		0.452	0.000	0.691	-
VSAT GUI Support	MIPR	CECOM : Aberdeen, MD	0.000	0.044	Mar 2015	0.133	Aug 2016	0.000		-		0.000	0.000	0.177	-
TWTS Govt Eng Support	WR	NSWC : Dahlgren, VA	0.000	0.030	May 2015	0.000		0.000		-		0.000	0.000	0.030	-
TWTS Engineering Support	C/CPFF	NSWC : Dahlgren, VA	0.000	0.200	Jul 2015	0.000		0.000		-		0.000	0.000	0.200	-
TWTS Engineering Support	WR	SSC-P : San Diego, CA	0.000	0.000		0.201	Feb 2016	0.463	Feb 2017	-		0.463	0.000	0.664	-
Prior Years Cumulative Funding	Various	Various : Various	0.213	0.000		0.000		0.000		-		0.000	0.000	0.213	-
		Subtotal	0.213	1.134		0.964		1.104		-		1.104	0.000	3.415	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NOTM Vehicle Integration Testing	WR	SSC-LANT : Charleston, SC	0.000	0.828	Apr 2015	0.000		0.000		-		0.000	0.000	0.828	-
NOTM Engineering Support/X-Band SATCOM	WR	SSC-PAC : San Diego, CA	0.000	1.850	Oct 2014	0.000		0.000		-		0.000	0.000	1.850	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NOTM BMDL	WR	NSWC Dahlgren : Dahlgren, VA	0.000	0.201	Mar 2015	0.000		0.000		-		0.000	0.000	0.201	-
NOTM EOL	C/FFP	SSC_LANT : Charleston, SC	0.000	0.000		0.236	Mar 2016	0.236	Mar 2017	-		0.236	0.000	0.472	-
NOTM Power Distribution Retrofit ECP	C/FFP	DTIC : Fort Belvoir, VA	0.000	0.000		0.126	Dec 2015	0.095	Dec 2016	-		0.095	0.000	0.221	-
NOTM SWAP Reduction ECP	C/FFP	SSC-LANT : Charleston, SC	0.000	0.000		0.000		1.254	Feb 2017	-		1.254	0.000	1.254	-
TWTS (NGT)	C/FFP	US Army, CECOM : Aberdeen, MD	0.000	0.000		0.183	May 2016	0.310	May 2017	-		0.310	0.000	0.493	-
TCM HFR environmental testing	WR	US Army, CECOM : Aberdeen, MD	0.000	0.000		0.000		0.300	Mar 2017	-		0.300	0.000	0.300	-
TCM MRC-145B M&S	C/CPFF	Nevada Automotive Test Center : Stafford, VA	0.000	0.095	Jun 2015	0.000		0.000		-		0.000	0.000	0.095	-
TCM HF Testing	WR	SSC Command : San Diego, CA	0.000	0.000		0.000		0.238	May 2017	-		0.238	0.000	0.238	-
TCM MUOS Test	WR	ATC : Aberdeen, Md	0.000	0.000		0.150	Jul 2016	0.000		-		0.000	0.000	0.150	-
TCM Test Support	WR	MCTSSA : Camp Pendleton,California	0.139	0.000		0.000		0.150	Nov 2016	-		0.150	0.000	0.289	-
TCM EMI Testing	WR	NSWC Dahlgren : Dahlgren, VA	0.074	0.020	Mar 2015	0.000		0.100	Jun 2017	-		0.100	0.000	0.194	-
VSAT Testing	MIPR	TBD : TBD	0.000	0.000		0.336	Aug 2016	0.250	Aug 2017	-		0.250	0.000	0.586	-
Prior Years Cumulative Funding	Various	Various : Various	7.217	0.000		0.000		0.000		-		0.000	0.000	7.217	-
		Subtotal	7.430	2.994		1.031		2.933		-		2.933	0.000	14.388	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TCM Engineering Support	FFRDC	US Army, MITRE : Stafford, VA	0.000	0.238	Sep 2015	0.000		0.000		-		0.000	0.000	0.238	-
VSAT Engineering Support	FFRDC	US Army, MITRE : Stafford, VA	4.692	0.261	Sep 2015	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Prior Year Cumulative Funding	FFRDC	US Army, MITRE : Stafford, VA	5.698	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	10.390	0.499		0.000		0.000		-		0.000	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	29.853	6.577		3.351		12.661		-		12.661	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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*

MARINE CORPS SYSTEMS COMMAND
HOME OF THE MARINE CORPS ACQUISITION PROFESSIONALS

MRC-142C ECP1261
NGT Increment 1 (C-Band)
NGT Increment 2 (X-Band)

TWTS Schedule

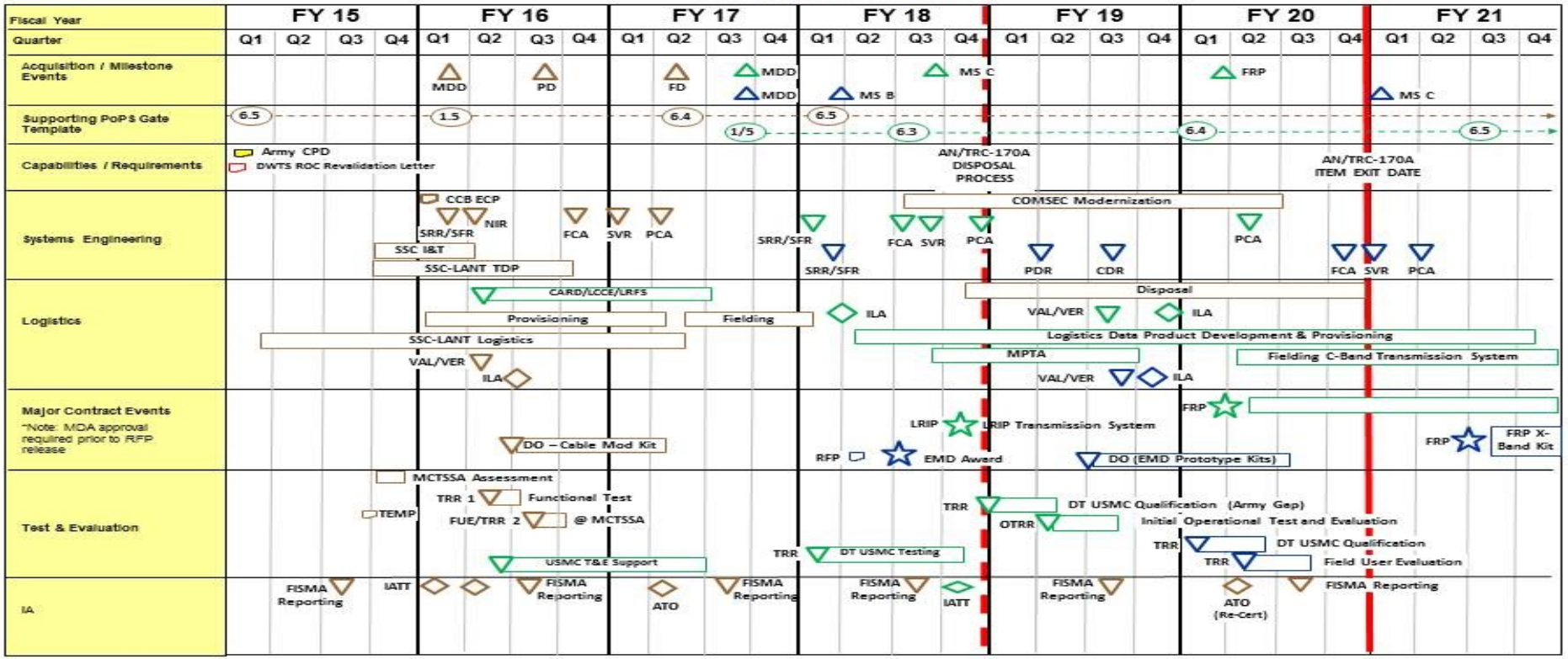

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

Program Schedule-NOTM

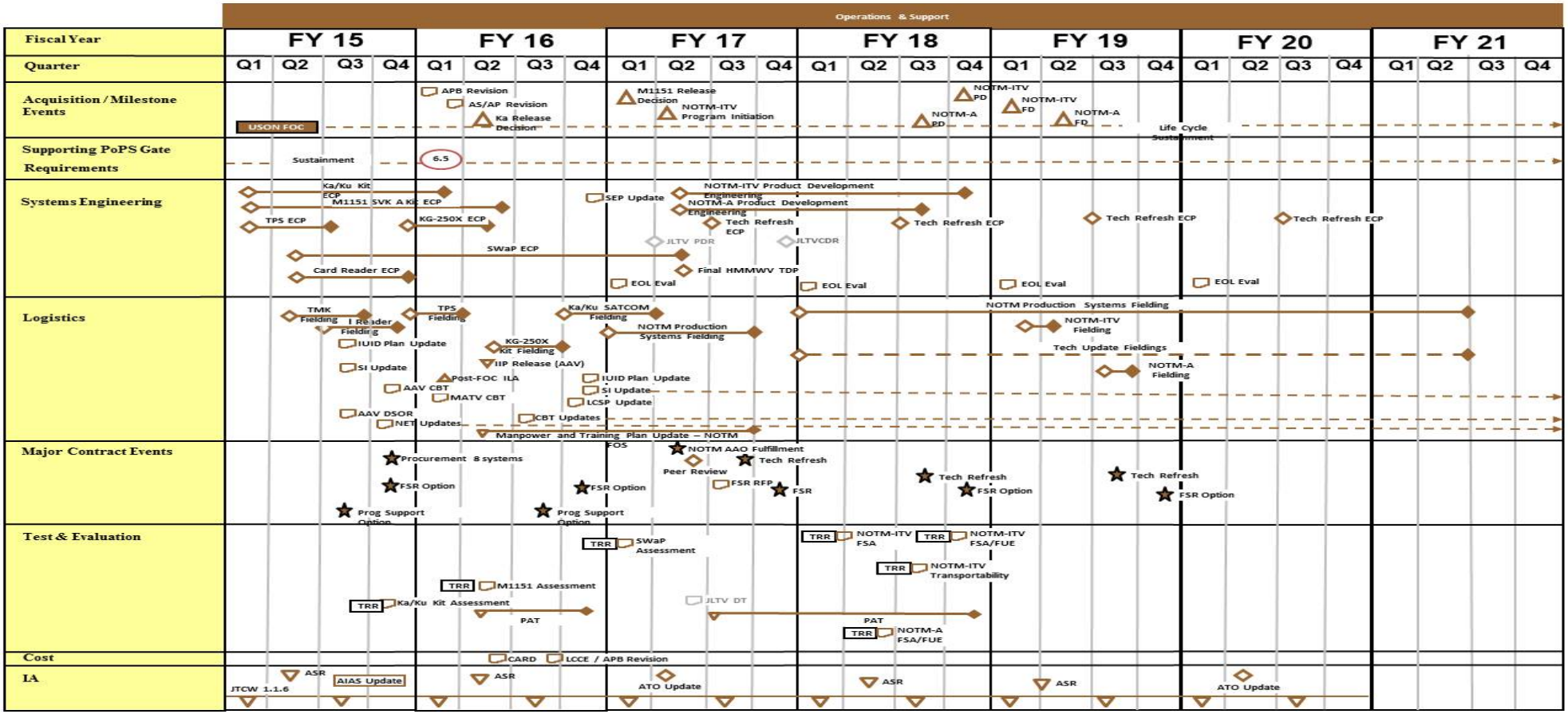

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

Program Schedule SMART-T

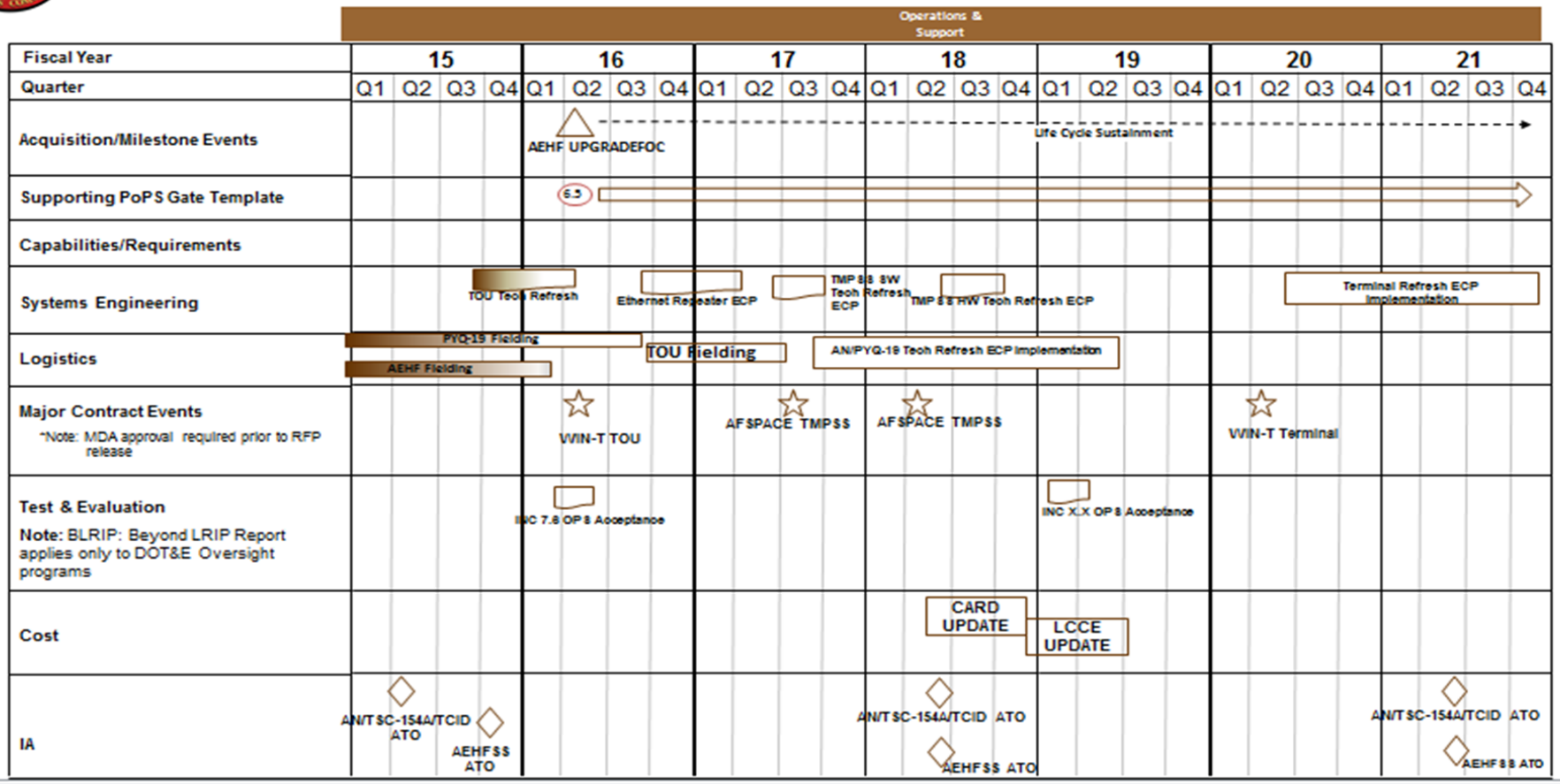

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

Program Schedule - VSAT

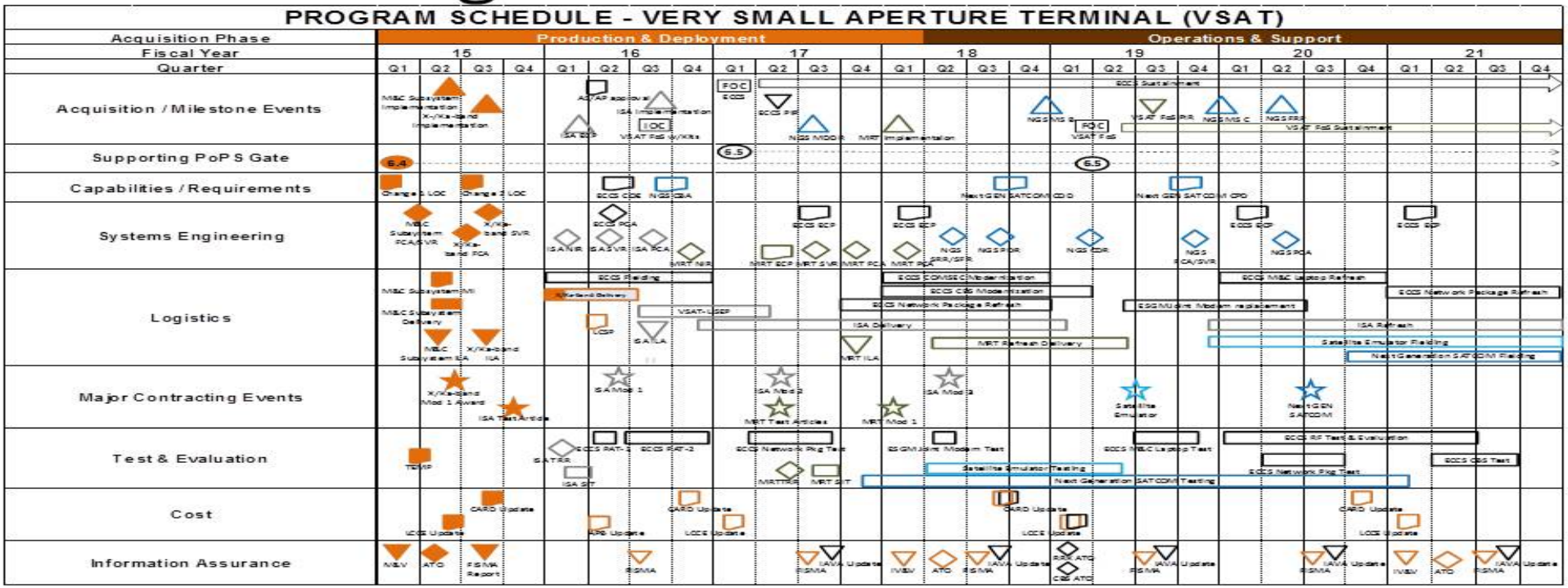

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

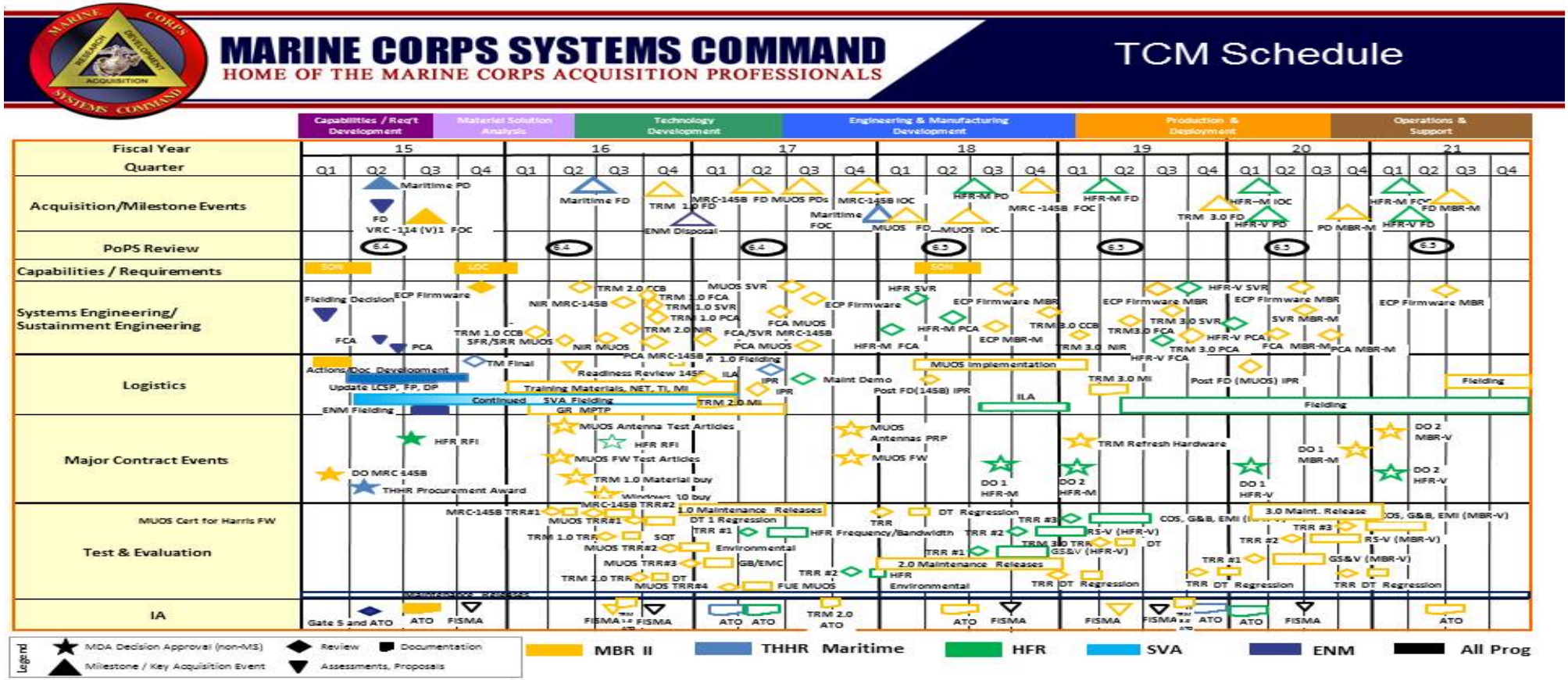

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2275				
SMART-T AEHF FOC	2	2016	2	2016
VSAT IOC	3	2016	3	2016
VSAT FOC	1	2019	2	2019
TCM Maritime Fielding Decision	2	2016	2	2016
TCM MRC-145B Fielding Decision	2	2017	2	2017
TCM MUOS Fielding Decision	1	2018	1	2018
TCM HFR-M Procurement Decision	3	2018	3	2018
NOTM Ka SATCOM ECP	1	2015	1	2016
NOTM M1151 SVK A Kit ECP	1	2015	2	2016
NOTM M1151 Assessment	2	2016	2	2016
TWTS MRC-142 FD	2	2017	2	2017
TWTS NGT Inc 1 & Inc 2 MDDs	3	2017	3	2017
TWTS NGT Inc 2 MS B	1	2018	1	2018
TWTS NGT Inc 1 MS C	3	2018	3	2018

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2276: *Comms Switching and Control Sys*	39.081	1.754	2.006	2.216	-	2.216	3.277	3.249	3.187	3.258	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

The FY 2017 funding request was reduced by $0.322 million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

(U) Network Planning & Management (NPM), is a portfolio of communications planning and Network Management applications for use throughout the Marine Air-Ground Task Force (MAGTF). NPM consists of items such as the Systems Planning Engineering and Evaluation Device (SPEED). NPM provides the Marine Forces (MARFOR) component planners with the ability to conduct high-level planning; detailed planning and engineering; monitoring; control and reconfiguration; and spectrum planning and management in support of Combatant Commander (COCOM) and Commander, Joint Task Force (CJTF) operations. SPEED provides High Frequency (HF) predictions, Line of Site (LOS) propagation, Radio Coverage Analysis (RCA), Satellite planning, Command and Control Personal Computer (C2PC) track interface, interference and de-confliction analysis, spectrum management, Radio Guard Charts, Comm-On-The-Move (COTM), and T/E (training & education) and force structure management.

(U) Tactical Voice Switching System (TVSS): Formerly known as Transition Switch Module (TSM), TVSS consists of three systems that provide a flexible Unit Level Switch that replaces legacy Tri-Tac switches with current commercial technology, providing maneuver elements with improved voice/data switching, data transport and bandwidth management capabilities. This program maintains USMC joint interoperability as all Services transition to Commercial Off-The-Shelf (COTS) switching technologies.

(U) Tactical Data Network (TDN) Data Distribution System - Modular (DDS-M): The DDS-M provides the Commander a modular, integrated, and interoperable Internet Protocol (IP)- based LAN and WAN data networking capability that forms the data communications backbone and data communications support to organizations within a MAGTF. The DDS-M provides extension of the Defense Information System Network (DISN), Secret Internet Protocol Router Network (SIPRNet), and Sensitive But Unclassified (SBU) Non-secure Internet Protocol Router Network (NIPRNet), a Coalition networking capability, access to strategic, supporting establishments, joint and other service component tactical data networks for Marine Corps Tactical Data Systems (TDSs), and other DDS-Ms. The DDS-M provides Marine Corps maneuver elements with a modular and scalable IP data transport capability that will replace, supplement, and be used with existing legacy data systems through the integration of computers, routers, data switches and cabling, Enhanced Position Location and Reporting System (EPLRS) radio net interface units, MODEMS, link encryption devices, and patch panels. Uninterrupted Power Supplies (UPS) provide for emergency power and continuity of operations. The DDS-M can operate from the SBU up to the TOP SECRET/SENSITIVE COMPARTMENTED INFORMATION (TS/SCI) level and contains integral In-line Network Encryption (INE) device supporting IP Security (IPSec) and Virtual Private Networking (VPN).

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: NPM: Product Development	0.193	0.985	0.914	0.000	0.914
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continued to provide additional enhancements and capabilities within the System Planning Engineering and Evaluation Device (SPEED) software testing.					
FY 2016 Plans: Continue to provide additional enhancements and capabilities within the System Planning Engineering and Evaluation Device (SPEED) software testing.					
FY 2017 Base Plans: Continue to provide additional enhancements and capabilities within the System Planning Engineering and Evaluation Device (SPEED) software testing.					
FY 2017 OCO Plans: N/A					
Title: TVSS: Engineering and Program Support	0.241	0.265	0.084	0.000	0.084
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Funding provided Joint Interoperability Testing.					
FY 2016 Plans: Continued interoperability testing at JITC.					
FY 2017 Base Plans: Initiate engineering, testing and technical support for end of life/end component upgrades.					
FY 2017 OCO Plans: N/A					
Title: TVSS: Test & Evaluation	0.000	0.000	0.098	0.000	0.098
Articles:	-	-	-	-	-
FY 2015 Accomplishments: N/A					
FY 2016 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A ***FY 2017 Base Plans:*** Initiate test and evaluation for end of life/end component upgrades. ***FY 2017 OCO Plans:*** N/A					
Title: TVSS: Management Services ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** N/A ***FY 2017 Base Plans:*** Engineering, testing and technical support for Information Assurance and end of life/end of support component upgrades. ***FY 2017 OCO Plans:*** N/A	0.000 -	0.000 -	0.087 -	0.000 -	0.087 -
Title: DDS-M: Test and Evaulation ***Articles:*** ***FY 2015 Accomplishments:*** Funded joint interoperability test certification efforts demonstrated through DoD Interoperability Communication Exercises. ***FY 2016 Plans:*** Continue to support joint interoperability test certification efforts demonstrated through DoD Interoperability Communication Exercises. ***FY 2017 Base Plans:*** Continue support for joint interoperability test certification efforts demonstrated through DoD Interoperability Communication Exercises. ***FY 2017 OCO Plans:***	0.236 -	0.105 -	0.108 -	0.000 -	0.108 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A					
Title: DDS-M: Product Development ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** Development and implementation of required hardware updates such as switches and servers. ***FY 2017 Base Plans:*** Continues development and implementation of required hardware updates. ***FY 2017 OCO Plans:*** N/A	0.000 -	0.152 -	0.388 -	0.000 -	0.388 -
Title: DDS-M: Management Services ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** N/A ***FY 2017 Base Plans:*** Funds will support FFRDC systems engineering, interoperability analysis, acquisition planning, support for technology research and obsolescence. ***FY 2017 OCO Plans:*** N/A	0.000 -	0.000 -	0.237 -	0.000 -	0.237 -
Title: DDS-M: Engineering and Program Support ***Articles:*** ***FY 2015 Accomplishments:*** Funded systems engineering, interoperability analysis, acquisition planning and integration, and support for technology research and obsolescence. ***FY 2016 Plans:***	1.084 -	0.499 -	0.300 -	0.000 -	0.300 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue to support systems engineering, interoperability analysis, acquisition planning and integration, and support for technology research and obsolescence. ***FY 2017 Base Plans:*** Continue to support systems engineering, interoperability analysis, acquisition planning and integration, and support for technology research and obsolescence. ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.754	2.006	2.216	0.000	2.216

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/4634-1: *TVSS*	0.000	6.011	20.844	-	20.844	14.050	10.150	10.365	10.567	Continuing	Continuing
• PMC/4634-5: *DDS-M*	50.197	55.111	43.967	-	43.967	56.713	55.400	48.209	49.148	Continuing	Continuing

Remarks

D. Acquisition Strategy

(U) Network Planning and Management (NPM): NPM will maximize use of existing Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) products. NPM will continue to be upgraded as technology advances. Major focus will be on the incorporation of additional capabilities and functionality into the SPEED software to meet user requirements. R&D effort will focus on the development, integration, and testing of improved versions of existing capabilities.

(U) Tactical Voice Switching System (TVSS) (formerly Transition Switch Module (TSM)): TVSS will maximize use of existing COTS, GOTS, and Government-Furnished Equipment (GFE). TVSS 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.

(U) TDN Data Distribution System - Modular (DDS-M): DDS-M will maximize use of existing COTS, GOTS, and GFE. DDS-M 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. DDS-M may reuse other Services' development and utilize external contracts that satisfy requirements and analysis of alternatives.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NPM (SPEED S/W Development)	C/FFP	MCSC : TBD	0.000	0.000		0.985	Apr 2016	0.914	Apr 2017	-		0.914	Continuing	Continuing	Continuing
NPM (SPEED S/W Development	C/CPFF	NSWC : Crane, IN	0.000	0.075	Apr 2015	0.000		0.000		-		0.000	0.000	0.075	-
NPM (SPEED S/W Development)	C/CPFF	NSWC2 : Crane, IN	0.000	0.118	Jun 2015	0.000		0.000		-		0.000	0.000	0.118	-
DDS-M ECP	C/CPFF	SSC-LANT : Charleston	1.775	0.000		0.152	Mar 2016	0.388	Feb 2017	-		0.388	0.000	2.315	-
Prior Year Cumulative Funding	Various	Various : Various	26.153	0.000		0.000		0.000		-		0.000	0.000	26.153	-
		Subtotal	27.928	0.193		1.137		1.302		-		1.302	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TVSS Support	C/CPFF	SSC-LANT : Charleston, SC	0.000	0.000		0.158	Mar 2016	0.084	Dec 2016	-		0.084	0.000	0.242	-
TVSS Support	WR	SSC-PAC : San Diego	0.000	0.241	Jun 2015	0.107	Jan 2016	0.000		-		0.000	0.000	0.348	-
DDS-M Support	C/CPFF	SSC-LANT : Charleston, SC	2.531	0.397	Apr 2015	0.300	Feb 2016	0.300	Feb 2017	-		0.300	0.000	3.528	-
DDS-M Engineering Support	WR	SSC-PAC : San Diego, CA	0.000	0.000		0.199	Feb 2016	0.000		-		0.000	0.000	0.199	-
DDS-M Engineering Support	C/CPFF	SSC-LANT : Charleston, SC	0.000	0.300	Apr 2015	0.000		0.000		-		0.000	0.000	0.300	-
DDS-M Safety Support	C/CPFF	NSWC : Indian Head, MD	0.000	0.231	Apr 2015	0.000		0.000		-		0.000	0.000	0.231	-
DDS-M Information Assurance	C/CPFF	NSWC : Dahlgran, VA	0.000	0.156	Jan 2015	0.000		0.000		-		0.000	0.000	0.156	-
Prior Year Cumulative Funding	Various	Various : Various	1.840	0.000		0.000		0.000		-		0.000	0.000	1.840	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	4.371	1.325		0.764		0.384		-		0.384	0.000	6.844	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TVSS Test & Evaluation	WR	JITC : Ft. Huachuca, AZ	0.000	0.000		0.000		0.098	Jun 2017	-		0.098	0.000	0.098	-
DDS-M Testing	WR	SSC PAC : San Diego, CA	0.000	0.166	Jun 2015	0.000		0.000		-		0.000	0.000	0.166	-
DDS-M Test & Evaluation	WR	JITC : Ft. Huachuca, AZ	0.000	0.070	Jun 2015	0.105	Mar 2016	0.108	Apr 2017	-		0.108	0.000	0.283	-
Prior Year Cumulative Funding	Various	Various : Various	1.356	0.000		0.000		0.000		-		0.000	0.000	1.356	-
		Subtotal	1.356	0.236		0.105		0.206		-		0.206	0.000	1.903	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TVSS Engineering Support	FFRDC	MITRE : Stafford, VA	1.034	0.000		0.000		0.087	Dec 2016	-		0.087	0.000	1.121	-
DDS-M Engineering Support	FFRDC	MITRE : Stafford, VA	0.275	0.000		0.000		0.237	Dec 2016	-		0.237	0.000	0.512	-
Prior Year Cumulative Funding	Various	Various : Various	4.117	0.000		0.000		0.000		-		0.000	0.000	4.117	-
		Subtotal	5.426	0.000		0.000		0.324		-		0.324	0.000	5.750	-

	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	39.081	1.754		2.006		2.216		-		2.216	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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DDS-M IMS

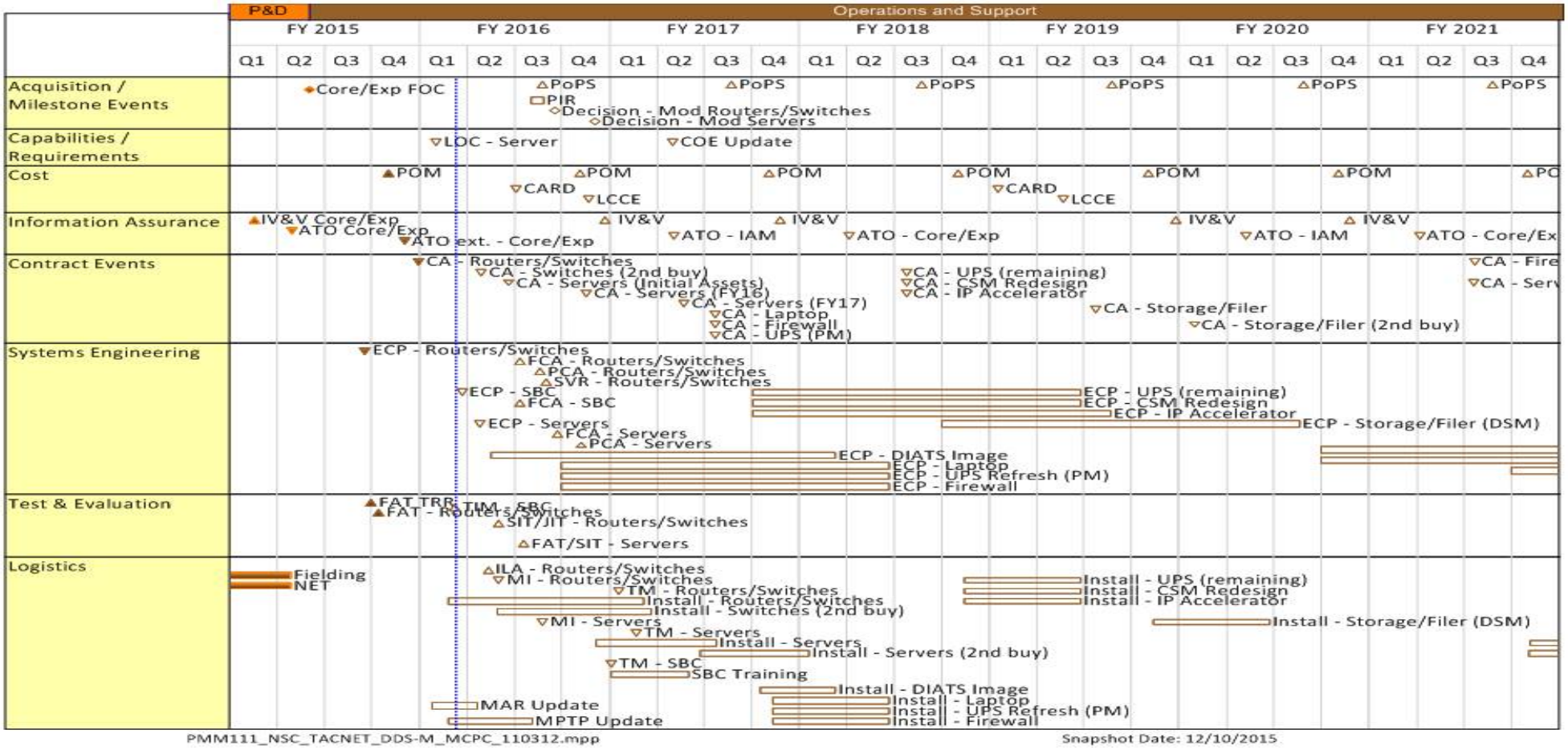

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

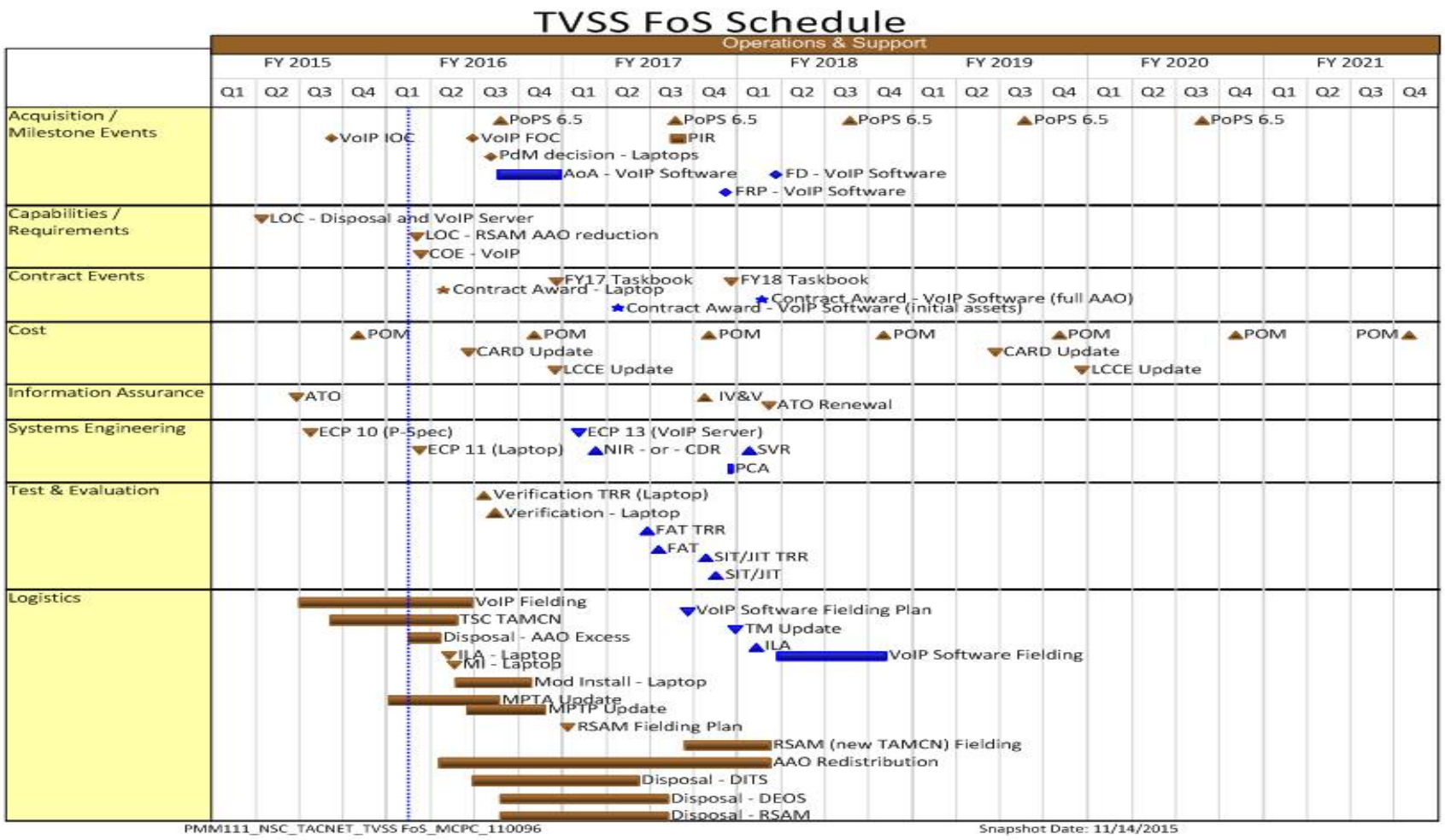

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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Network Planning and Management (NPM)

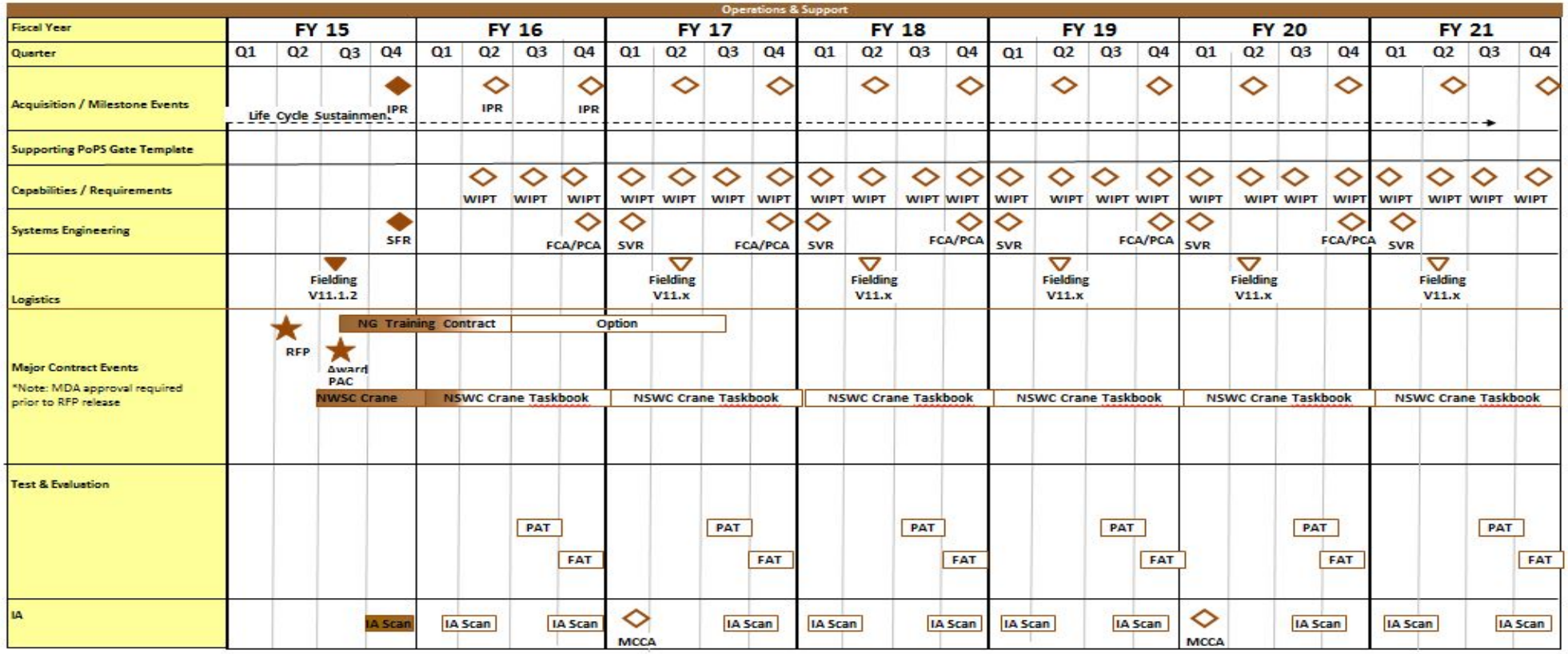

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2276				
DDS-M ECP DIATS Image	2	2016	1	2018
DDS-M Fielding Routers/Switches	1	2016	1	2017
DDS-M CA Switches (2nd Buy)	2	2016	2	2016
DDS-M PIR	3	2016	3	2016
DDS-M FCA SBC/Routers/Switches	3	2016	3	2016
DDS-M CA Servers (FY16)	4	2016	4	2016
DDS-M ECP Laptop/Firewall/UPS Refresh	4	2016	2	2018
DDS-M Fielding Decision Routers/Switches	3	2016	3	2016
DDS-M Fielding Decision Servers	4	2016	4	2016
DDS-M CA Servers (FY17)	2	2017	2	2017
DDS-M CA Laptops/Firewall/UPS	3	2017	3	2017
TVSS ECP 11 Laptop	1	2016	1	2016
TVSS (TSM) ECP 10 P-Spec	3	2015	3	2015
TVSS VoIP Fielding	3	2015	2	2016
TVSS AoA	3	2016	4	2016
NPM PAT	3	2017	3	2017
NPM FAT	4	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2277: *System Engineering and Integration*	30.054	11.946	5.085	4.861	-	4.861	4.866	4.855	5.247	5.361	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. In 2009, 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 (Mar 2011), and priorities identified in the USMC Expeditionary Energy Water and Waste Initial Capabilities Document/Capabilities Based Assessment (Sep 2011), as well as Science and Technology Objectives identified in the 2012 USMC S&T Strategic Plan. The Marine Corps program aligns with the Commandant's Planning Guidance 2010, the National Defense Authorization Act 2009, DoD directives and SECNAV goals. This funding will support the achievement of the Strategy, and the activities of the USMC Experimental Forward Operating Base 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) 6610.01C and CJCS16241.04 for US Military Tactical Forces (USMTF). This effort also covers interoperability and testing of tactical message standards such as MILSTD 6017 Variable Message Format used between the US Army and USMC; and Coalition message formats the Joint Command, Control, Consultation Information Exchange Data Model (JC3IEDM).

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 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 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 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.

Marine Civil Information Management System (MARCIMS) is a system of systems comprised of people, process and technology that operates in the full Joint, Interagency, Intergovernmental, and Multinational (JIIM) environment. It is a force multiplier for the commander that allows him to leverage the process of Planning,

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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Collection, Consolidation, Analysis, Production, and sharing of civil information in order to support the visualization and understanding of the civil environment to the military commander's decision making process.

Public Affairs System (PAS) provides the Marine Air Ground Task Force (MAGTF) and the broader Marine Corps the capability to research, understand and affect the information environment. PA Marines and Systems enable commanders at all levels and across the range of military operations to engage domestic and foreign publics whose trust, confidence, and understanding are mission critical. The Public Affairs Systems (PAS) AAP identifies and fields materiel solutions required to research and plan communication initiatives, acquire still and video visual information, produce and disseminate communication products, and assess the effects of communication initiatives within the information environment. 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 PA Marines appropriately equipped to understand and affect the information environment. This effort supports research and evaluate solutions to modernize the Public Affairs Still Acquisition System into a single handheld device with the capability to acquire, edit and transmit still and video imagery and engage publics via traditional and social media.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Expeditionary Energy Office (E2O)	2.471	2.213	2.159	0.000	2.159
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continued to support 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 Objectives identified in the 2012 USMC S&T Strategic Plan. Using these priority roadmaps, E2O will invest in R&D programs to advance Strategy goals. Priority areas for investment include, but are not limited to: Energy harvesting; hybrid power; efficient heating and cooling of people, equipment and water; energy storage; energy efficient vehicles; energy metering and monitoring and decision tools; energy efficient shelters and sustainment.					
FY 2016 Plans: Continue to support 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 Objectives identified in the 2012 USMC S&T Strategic Plan. Using these priority roadmaps, E2O will invest in R&D programs to advance Strategy goals. Priority areas for investment include, but are not limited to: Energy harvesting; hybrid power; efficient heating and cooling of people, equipment and water; energy storage; energy efficient vehicles; energy metering and monitoring and decision tools; energy efficient shelters and sustainment.					
FY 2017 Base Plans:					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue to support 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 Objectives identified in the 2012 USMC S&T Strategic Plan. Using these priority roadmaps, E2O will invest in R&D programs to advance Strategy goals. Priority areas for investment include, but are not limited to: Energy harvesting; hybrid power; efficient heating and cooling of people, equipment and water; energy storage; energy efficient vehicles; energy metering and monitoring and decision tools; energy efficient shelters and sustainment. ***FY 2017 OCO Plans:*** N/A					
Title: JINTACCS: JCS and DoD CIO Data Links Testing	3.585	0.425	0.598	0.000	0.598
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. JINTACCS resides at MARCORSYSCOM under Systems Engineering, Interoperability Architectures, and Technology. 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, VMF, MTF, etc.), maintenance of C2 systems interoperability issues, development of Net Centric standards (UCore, C2 Core, 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. Requirements annotated in IT Budget Submit (NC-36).					
FY 2015 Accomplishments: -Continued to review and update all IT Standards applicable to the USMC and maintain the architectural data environment to ensure all developed solution architectures are associated with the appropriate technical IT standards in their DoDAF Standards View. Lead the Army - Marine Corps C2 interoperability Systems Engineering IPT to align the use of tactical messaging standards to create interoperability between the DoD ground force systems FBCB2/JTCW (VMF), GCCS (OTH Gold), TBMCS/AFATDS (USMTF), and aviation tactical data links (Link 16/22).					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Supported HQMC Director C4 in the development of implementation plans for the Marine Corps to meet its Service level requirements mandated by the DoD Net Centric Data Strategy and participated in the Joint development of XML data standards to enable tactical data exchanges in C2 systems. -Expanded to incorporate the ability to use Tactical Service Oriented approaches to mediate data across multiple environments/domains (Air/Mobile platform/Dismounted/Stationary command posts). -Lead the development of data model converter applications to create Standard Agreement 4677 on interoperability between the NATO JC3IEDM data model to the JTCW (VMF) system allowing coalition interoperability at the dismounted level. -Initiated development of a NATO Coalition architecture to engineer interoperability of battalion and below forces to potentially expand the use of the STANAG in a Federated Mission Network (FMN)/Mission Partner Environment (MPE). -Continued to coordinate NATO interoperability through as the USMC lead for the Coalition Interoperability Assurance and Validation (CIAV) Working Group to identify and assess interoperability issues from current theaters of operations. A new coalition battle lab network (CFBLNET) connection was installed at MCTSSA to enable remote coalition testing and exercise participation. -Supported MARFORCYBER to integrate tactical network data exchanges into a Cyber Common Operational Picture to support the MARFORCYBER and MCNOSC watch officers and begin a Marine Corps Enterprise Network (MCEN) Cyber Vulnerability Assessment. A tactical cross-domain system was tested for integration to the garrison and tactical USMC enterprise network. Increase in 2015 funding is due to emergent requirement for a MCEN Cyber Vulnerability Assessment.					
FY 2016 Plans: -Continue to review and update all IT Standards applicable to the USMC and maintain the architectural data environment to ensure all developed solution architectures are associated with the appropriate technical IT standards in their DoDAF Standards View. Continue to lead the Army - Marine Corps C2 interoperability Systems Engineering IPT to align the use of tactical messaging standards to create interoperability between the DoD ground force systems FBCB2/JTCW (VMF), GCCS (OTH Gold), TBMCS/AFATDS (USMTF), and aviation tactical data links (Link 16/22). -Continue to lead the USMC involvement in NATO forums to ensure USMC tactical C2 systems remain interoperable. -Continue to participate in the development and maintenance of STANAG 4677 and associated architectures to expand interoperability to forces at battalion and below.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Develop and test the implementation of a Multi-Media Gateway (MMG) solution to bridge existing voice, video, and data network standards across tactical and garrison C2 networks through the continued engineering and certification of tactical cross-domain solutions. -Continue to engineer and architect garrison and tactical network standards to continue the MCEN Cyber Vulnerability assessment and support the risk reduction activities to integrate tactical network data exchanges into a Cyber Common Operational Picture to support MARFORCYBER, MCNOSC, and HQMC C4 initiatives through the continued development of MCEN architectures. ***FY 2017 Base Plans:*** -Continue to review and update all IT Standards applicable to the USMC and maintain the architectural data environment to ensure all developed solution architectures are associated with the appropriate technical IT standards in their DoDAF Standards View. -Continue to lead the Army - Marine Corps C2 interoperability Systems Engineering IPT to align the use of tactical messaging standards to create interoperability between the DoD ground force systems FBCB2/JTCW (VMF), GCCS (OTH Gold), TBMCS/AFATDS (USMTF), and aviation tactical data links (Link 16/22). -Continue to lead the USMC involvement in NATO forums to ensure USMC tactical C2 systems remain interoperable. Continue to participate in the development and maintenance of STANAG 4677 and associated architectures to expand interoperability to forces at battalion and below. -Continue to develop and test the implementation of a Multi-Media Gateway (MMG) solution to bridge existing voice, video, and data network standards across tactical and garrison C2 networks through the continued engineering and certification of tactical cross-domain solutions. -Continue to engineer and architect garrison and tactical network standards to continue the MCEN Cyber Vulnerability assessment and support the risk reduction activities to integrate tactical network data exchanges into a Cyber Common Operational Picture to support MARFORCYBER, MCNOSC, and HQMC C4 initiatives through the continued development of MCEN architectures. ***FY 2017 OCO Plans:*** N/A					
Title: SEIC: Engineering and Technical Support	5.844	1.947	1.947	0.000	1.947
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Continued to provide system engineering policy, process, systems analysis, SE resource management, requirements transition coordination, Systems of Systems Certification, transport engineering analysis,					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
transportation certification and external (DoD, Joint Staff, ASN, Navy, Army et al.) coordination to ensure program success, system interoperability, and an integrated system of systems capabilities for the Marine Corps. - Successfully integrated Marine Corps Enterprise Network (MCEN) Services (e.g. cyber-security, email, VOSIP, web, VTC & File share) and MAGTF C2 Systems (e.g. GCSS-MC, JTCW, GCCS-TCO, AFATDS, BFT/FBCB2, Video Scout/CM-2 & MEF IAS FoS) into the Navy's Consolidated Afloat Network Enterprise Services (CANES); Enhancing current and future naval C4ISR integration aboard LHD and LSD class amphibious assault ships. - Initiated Virtual Rapid Prototyping Laboratory (VRPL) event that will produce a repeatable process to conduct distributed systems integration testing in a Live Virtual Testing environment between a full MAGTF C2 architecture and C4ISR infrastructure (at MCTSSA) and a complete, USN afloat network environment (at SSC-PAC and SSC-LANT) to further enhance C2 of maritime and MAGTF forces from the sea-base. - Integrated MAGTF C2 systems and C4 services with shipboard C2 architectures and C4ISR infrastructures in support of 13th, 15th, 24th, 26th and 31st MEU deployments via DGSIT. - Published the GCSS-MC Full Deployed Capability (FDC) Detailed Report and associated GCSS-MC FDC Executive Report to inform leadership through this highly detailed technical analysis and subsequent presentations and collaboration. Additionally, it served principally to help inform current and future decisions made by the program office, adjacent organizations, and stakeholders within the community of interest. - Established the SIAT Leadership Seminar Series bringing Government/FFRDC/Labs/Public best practices to MCSC employees, contractors and other support personnel. This gained the attention of leadership at the highest levels and as a continuing effort is expected to grow and help our entire workforce make more informed and thus better decisions at all levels. - Continued analysis with the comprehensive detailed maintenance and supply analysis of data derived from the GCSS-MC export in support of the DC I&L Enterprise Ground Equipment Management section and the Marine Corps' submission of cost and logistics data to the Naval Center for Cost Analysis. - Completed initial assessment of various courses of action for the USMC Light Tactical Vehicle Portfolio and the Ground Combat and Tactical Vehicle (GCTV) Strategy developed by CD&I. - Continued to evaluate Counter-Improvised Explosive Device detection capabilities in support of a planned FY16 Analysis of Alternatives.					
FY 2016 Plans: Contribute to the development of the 2016 Afloat MAGTF C4 Required Capabilities (AMC4RC) Letter. -Contribute to the OPNAV N9 & N2/N6 Blue-In-Support-Of-Green (BISOG) program. -Provide engineering support to capabilities development, review and assessment as well as requirements transition.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Provide engineering support to the development of USMC input to OUSD AT&L's Joint C2 Capability Area FY17 Sustainment & Modernization Plan and Plan Build Workshop. - Finalize and implement Navy/Marine Corps governance, policy, and procedures to establish and update shipboard bandwidth management and prioritization (Quality of Service) within the Navy's Automated Digital Network System (ADNS) to further enhance naval C2 and C2 from the sea-base. - Integrate MAGTF C2 systems and C4 services with shipboard C2 architectures and C4ISR infrastructures in support of 11th, 15th, 22nd and 24th MEU deployments via DGSIT. (this corrects the MEUs that are impacted) - Synchronize AC2S/CAC2S & TBMCS with C2IS/C2AOS (USAF) and NAOC2 (USN), to ensure continued interoperability with the CJFACC ashore and afloat as TBMCS is phased out. - Ensure continued interoperability of C2PC/JTCW and GCCS-TCO with GCCS-J, GCCS-A and GCCS-M/MTC2 as GCCS-J migrates to a new baseline (x86), through continued participation in Joint C2 Multi-Party Engineering IPTs and working groups. - Continue detailed analysis of the LOG IT Portfolio of systems, subsystems, and applications utilizing the inherent capabilities resident within the LOG IT Portfolio Analysis Team. - Continue assessments of the GCTV portfolio in support of the FY16 GCTV Strategy Update. - Conduct detailed analysis in support of the C-IED Detection Capability Analysis of Alternatives. - Baseline and assess options to address gaps within the Information Exchange Capabilities of the Ground Combat Element Company Leadership.					
FY 2017 Base Plans: - Provide technical and engineering support to the development of the 2017 Afloat MAGTF C4 Required Capabilities (AMC4RC) Letter. -Contribute to the OPNAV N9 & N2/N6 Blue-In-Support-Of-Green (BISOG) program development. -Provide engineering support to the development of USMC input to OUSD AT&L's Joint C2 Capability Area FY18/19 Sustainment & Modernization Plan and Plan Build Workshop - Integrate MAGTF C2 systems and C4 services with shipboard C2 architectures and C4ISR infrastructures in support of 11th, 13th, 22nd, 26th and 31st MEU deployments via DGSIT. - Conduct integration testing with PEO C4I & SPAWAR to integrate MCEN Services and MAGTF C2 Systems into the Navy's CANES environment aboard the LPD-17 class amphibious assault ships. - Continue assessments of the GCTV portfolio in support of the FY18 GCTV Strategy Update. - Support follow-on activities to C-IED Detection Capability Analysis of Alternatives including assessments for the development of a Capability Development Document (CDD).					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Continue to baseline and assess options to address gaps within the Information Exchange Capabilities of the MAGTF. ***FY 2017 OCO Plans:*** N/A					
Title: Public Affairs System (PAS): Product Development ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** Initiate support to the research and evaluation of solutions to modernize the Public Affairs Still Acquisition System into a single handheld device with the capability to acquire, edit and transmit still and video imagery and engage publics via traditional and social media. These actions will include the evaluation of device solutions, development of specific software applications, and the attainment of required information assurance certifications and accreditations for a handheld Public Affairs System. This is a new start for RDT&E in FY16. ***FY 2017 Base Plans:*** Initiate support to the research and evaluation of solutions to modernize the Public Affairs Live Media Engagement System with the capability to transmit imagery and engage publics via traditional and social media. These actions will include the evaluation of device solutions, development of specific software applications, and the attainment of required information assurance certifications and accreditations for Public Affairs transmission capabilities. ***FY 2017 OCO Plans:*** N/A	0.000 -	0.300 -	0.091 -	0.000 -	0.091 -
Title: MARCIMS: Marine Civil Information Management System ***Articles:*** ***FY 2015 Accomplishments:*** Continued software development to incorporate all remaining threshold requirements to get to Full Operational Capability (FOC). ***FY 2016 Plans:***	0.046 -	0.200 -	0.066 -	0.000 -	0.066 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue development and implementation of minor software patches. ***FY 2017 Base Plans:*** Continue development and implementation of minor software patches. ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	11.946	5.085	4.861	0.000	4.861

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/4620AA: *MARCIMS*	0.562	0.301	0.297	-	0.297	0.235	0.221	0.225	0.230	Continuing	Continuing
• PMC/4620BB: *Public Affairs Systems*	1.181	1.124	0.893	-	0.893	0.911	0.665	0.677	0.691	Continuing	Continuing

Remarks

D. Acquisition Strategy

Marine Civil Information Management System (MARCIMS) will employ an evolutionary acquisition strategy utilizing an incremental approach for development and fielding of the MARCIM. The Letter of Clarification (LOC) identifies two baselines to fullfill all Threshold requirements. The current acquisition strategy addresses both baseline builds to include the software development, training, fielding and sustainment of these builds. Build 1 will support an Initial Operational Capability (IOC) and Build 2 will support a Full Operational Capability (FOC).

Public Affairs System will maximize the utilization of commercial-off-the-shelf devices and software to provide best overall performance solutions to the warfighter with minimal developmental cost and schedule investments.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MARCIMS	C/FFP	AGC : Boston,MA	1.080	0.000		0.174	Apr 2016	0.000		-		0.000	0.000	1.254	-
MARCIMS	MIPR	AGC : Boston, MA	0.086	0.000		0.026	Feb 2016	0.000		-		0.000	0.000	0.112	-
Prior Years Cumulative Funding	Various	Various : Various	0.118	0.000		0.000		0.000		-		0.000	0.000	0.118	-
Experimental Forward Operating Base (E2O)	WR	NSWC : Various	5.316	1.208	Nov 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Experimental Forward Operating Base (E2O)	C/FFP	ARDC : Wash, DC	1.005	0.100	Mar 2015	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
PAS	WR	TBD : TBD	0.000	0.000		0.300	Mar 2016	0.091	Mar 2017	-		0.091	Continuing	Continuing	Continuing
Experimental Forward Operating Base (E2O)	MIPR	CERL ARMY : IL	0.000	0.350	Mar 2015	0.000		0.000		-		0.000	0.000	0.350	-
JINTACCS	C/FFP	NSWC : Dahlgren, VA	0.000	0.723	Jul 2015	0.000		0.000		-		0.000	0.000	0.723	-
		Subtotal	7.605	2.381		0.500		0.091		-		0.091	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MARCIMS	WR	SPAWAR : Charleston, SC	0.007	0.046	Feb 2015	0.000		0.066	Feb 2017	-		0.066	0.000	0.119	-
Prior Years Cumulative	C/BA	CDSA : DAM Neck	0.540	0.000		0.000		0.000		-		0.000	0.000	0.540	-
MAGTF SEI&C	C/FP	SPAWAR : Charleston, SC	0.500	0.355	Apr 2015	0.500	Apr 2016	0.700	Oct 2016	-		0.700	Continuing	Continuing	Continuing
MAGTF SEI&C	C/FFP	NSWC : Indian Head, MD	0.000	0.355	Feb 2015	0.000		0.250	Jan 2017	-		0.250	0.000	0.605	-
MAGTF SEI&C	C/FFP	NSWC : NDSA Dam Neck	0.000	0.320	Feb 2015	0.000		0.250	Nov 2016	-		0.250	0.000	0.570	-
MAGTF SEI&C	C/FFP	AMSEL : Aberdeen, MD	0.000	0.802	Apr 2015	0.000		0.000		-		0.000	0.000	0.802	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF SEI&C	C/BA	AFCMC : Hanscom, AFB	0.000	1.330	Feb 2015	0.000		0.000		-		0.000	0.000	1.330	-
MAGTF SEI&C	C/BA	NSWC : Carderock	0.000	0.035	Feb 2015	0.000		0.000		-		0.000	0.000	0.035	-
Experimental Forward Operating Base (E2O)	MIPR	Various : Various	0.000	0.146	Mar 2015	0.000		0.000		-		0.000	0.000	0.146	-
JINTACCS	C/FFP	MCTSSA : Camp Pendleton, CA	0.000	0.821	Apr 2015	0.000		0.000		-		0.000	0.000	0.821	-
JINTACCS	WR	NSWC : Dahlgren, VA	0.000	1.150	Jul 2015	0.000		0.000		-		0.000	0.000	1.150	-
JINTACCS	MIPR	AMSEL : Aberdeen, MD	0.000	0.218	Jul 2015	0.000		0.000		-		0.000	0.000	0.218	-
JINTACCS-2	WR	NSWC : Dahlgren, VA	0.000	0.507	Nov 2015	0.000		0.000		-		0.000	0.000	0.507	-
JINTACCS	C/FFP	ARMY : TBD	0.000	0.000		0.325	Apr 2016	0.498	Apr 2017	-		0.498	0.000	0.823	-
MAGTF SEI&C	WR	NSWC : Panama City	0.000	0.583	May 2015	0.000		0.000		-		0.000	0.000	0.583	-
MAGTF SEI&C	C/BA	AFCMC : Hansom, AFB	0.000	0.559	Oct 2015	0.000		0.000		-		0.000	0.000	0.559	-
MAGTF SEI&C	C/FP	LTC : Stafford, VA	8.573	0.593	Jul 2015	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
MAGTF SEI&C	WR	NSWC : Dahlgren, VA	3.923	0.734	Apr 2015	1.447	Apr 2016	0.747	Mar 2017	-		0.747	Continuing	Continuing	Continuing
		Subtotal	13.543	8.554		2.272		2.511		-		2.511	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cummulative Funding	Various	Various : Various	5.622	0.000		0.000		0.000		-		0.000	0.000	5.622	-
Experimental Forward Operating Base (E2O)	WR	MCWL : Quantico, VA	1.791	0.000		0.125	Mar 2016	0.000		-		0.000	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Experimental Forward Operating Base (E2O)	WR	ATC : Aberdeen, MD	1.210	0.070	Jul 2015	0.140	May 2016	0.100	Nov 2016	-		0.100	0.000	1.520	-
Experimental Forward Operating Base (E2O)	WR	NSWC : Carderock	0.283	0.000		0.550	Nov 2015	0.484	Nov 2016	-		0.484	0.000	1.317	-
Experimental Forward Operating Base (E2O)	WR	NAVFAC : Various	0.000	0.000		0.100	Mar 2016	0.100	Nov 2016	-		0.100	0.000	0.200	-
Experimental Forward Operating Base (E2O)	WR	SPAWAR : SSC PAC	0.000	0.597	Aug 2015	1.298	Mar 2016	1.475	Nov 2016	-		1.475	0.000	3.370	-
		Subtotal	8.906	0.667		2.213		2.159		-		2.159	-	-	-

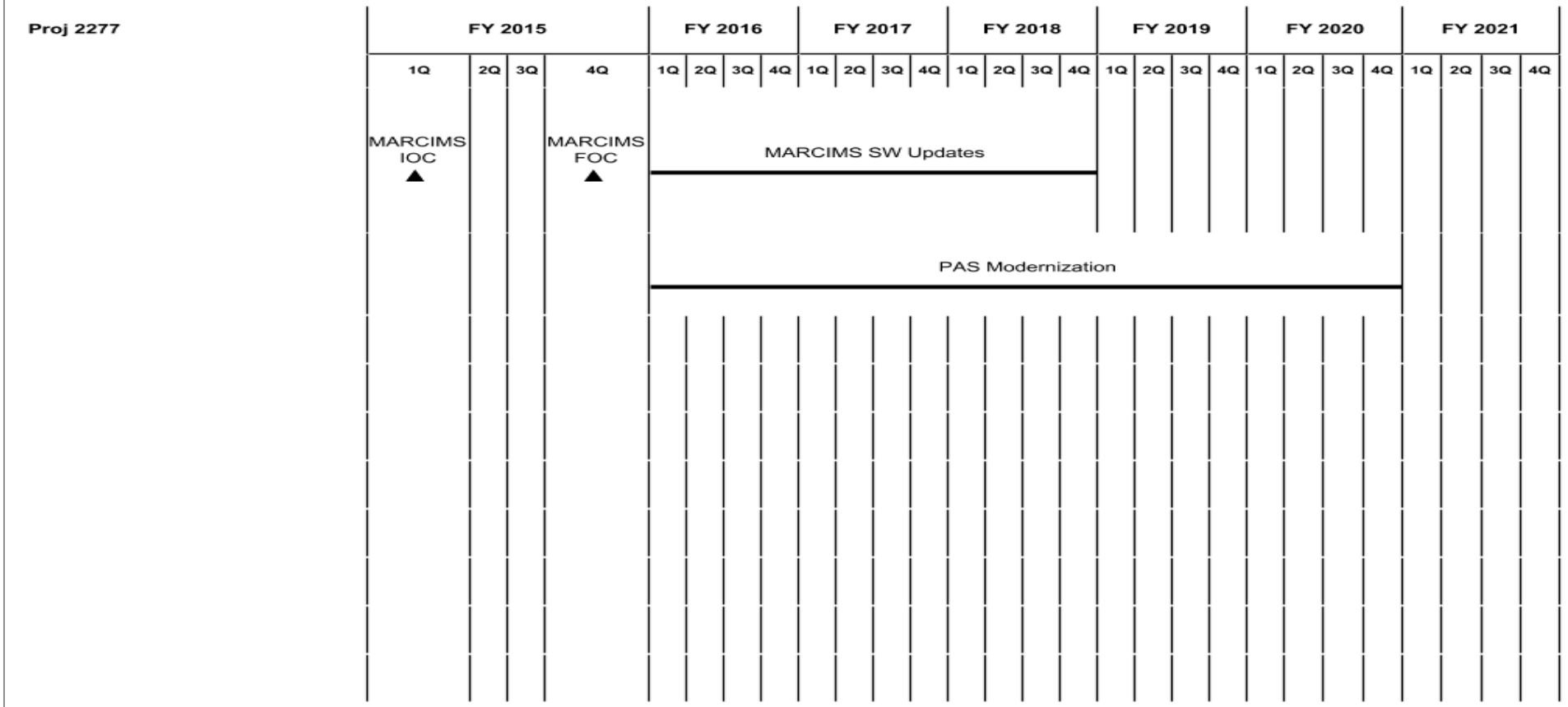
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JINTACCS Support	WR	Travel : MCSC, Quantico, VA	0.000	0.166	Sep 2015	0.100	Sep 2016	0.100	Sep 2017	-		0.100	0.000	0.366	-
MAGTF SEI&C	C/BA	Not Specified : Not Specified	0.000	0.178	Sep 2015	0.000		0.000		-		0.000	0.000	0.178	-
		Subtotal	0.000	0.344		0.100		0.100		-		0.100	0.000	0.544	-

	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	30.054	11.946		5.085		4.861		-		4.861	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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*



2017PB - 0206313M - 2277

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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				
MARCIMS IOC	1	2015	1	2015
MARCIMS FOC	4	2015	4	2015
MARCIMS SW Updates	1	2016	4	2018
PAS Modernization	1	2016	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2278 / *Air Defense Weapons System*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2278: *Air Defense Weapons System*	41.281	3.453	1.721	2.795	-	2.795	1.807	2.880	2.925	2.992	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Ground Based Air Defense-Transformation (GBAD-T) - Based upon the deployment of the Low Altitude Air Defense (LAAD) Battalions and their employment of the Stinger Missile, GBAD-T transforms Air Defense equipment through technology insertion and equipment repackaging to address capability gaps as the result of equipment obsolescence and the emergent and evolving threats to the Marine Air Ground Task Force (MAGTF).

GBAD-T consists of four efforts: 1) systems engineering support of currently fielded LAAD equipment/assets to include the Stinger Mounted Optic and Mode 5/S Identification Friend or Foe (IFF); 2) redesign and integration of the Advanced Man-Portable Air Defense System (A-MANPADS) Increment 1 Fire Unit Vehicle (FUV) which consists of a M1114 (HMMWV), into an operationally capable vehicle configuration; 3) design, test, and integration of new systems for the Fire Unit Vehicle (FUV) to replace aging and failing technology. The replacement technology is required to retain interfaces with, and be capable of receiving, a Common Aviation Command and Control System (CAC2S) broadcasted link. It will also be capable of interfacing with legacy Marine Air Command and Control System (MACCS) equipment; 4) Redesign and re-integration of Section Leader Vehicle (SLV) equipment from the shelter on a M1165 configuration to M1114 configuration, providing a common platform with greater mobility, force protection and maneuverability increasing overall operational capability.

GBAD Future Weapons System (GBAD-FWS) is a new development effort consisting of a kinetic and non-kinetic capability to defeat the full spectrum of Low-Altitude Low Observable/Low Radar Cross Section threats. The increase of $1.074M from FY16 to FY17 reflects initiation of the GBAD Future Weapons System acquisition, engineering, and assessment efforts to determine the technology solutions required to defeat the full spectrum or threats associated with the Marine Corps Low-Altitude Air Defense mission. Efforts will include assessment of transitioning ONR Future Naval Capability direct energy efforts to a Marine Corps Program of Record.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: GBAD TRANSFORMATION: Product Development	1.610	0.827	1.016	0.000	1.016
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Completed M1114 (HMMWV)/Fire Unit Vehicle (FUV) design effort.					
FY 2016 Plans: Initiate Stinger Missile Mounted Optic (AN/PAS-18) replacement development.					
FY 2017 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2278 / *Air Defense Weapons System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Initiate Section Leader Vehicle redesign and re-integration of Section Leader Vehicle equipment from the shelter on a M1165 configuration to M1114 configuration. -Continue Stinger Missile Mounted Optic (AN/PAS-18) replacement development. ***FY 2017 OCO Plans:*** N/A					
Title: GBAD TRANSFORMATION: Support Costs	0.499	0.403	0.364	0.000	0.364
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Supported M1114 (HMMWV)/Fire Unit Vehicle (FUV) Replacement documentation. ***FY 2016 Plans:*** -Continue development of both Stinger Missile Mounted Optic (AN/PAS-18) replacement and M1114 (HMMWV)/ FUV Replacement documentation. -Initiate an A-MANPADS Engineering Change Proposal (ECP) Readiness Analysis. ***FY 2017 Base Plans:*** -Continue A-MANPADS Engineering Change Proposal (ECP) Readiness Analysis. ***FY 2017 OCO Plans:*** N/A					
Title: GBAD TRANSFORMATION: Test and Evaluation	1.065	0.250	0.175	0.000	0.175
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Completed M1114 (HMMWV)/Fire Unit Vehicle (FUV) test activities and Warhead Proximity Fuse testing. ***FY 2016 Plans:*** -Initiate support of Stinger Missile Mounted Optic (AN/PAS-18) replacement Developmental Test. ***FY 2017 Base Plans:*** -Initiate support of Stinger Missile Mounted Optic (AN/PAS-18) replacement Developmental Test and preparations for Operational Test/Field User Evaluation (OT/FUE). ***FY 2017 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2278 / *Air Defense Weapons System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A					
Title: GBAD TRANSFORMATION: Program Management Support ***Articles:*** ***FY 2015 Accomplishments:*** -Initiated development of GBAD Future Weapons System acquisition documentation in support of Stinger Night Replacement and R&D efforts to test and integrate a Fire Unit Laptop and Secure Tactical Wireless replacement system. ***FY 2016 Plans:*** -Continue with Stinger Night Replacement acquisition documentation. -Initiate development of acquisition documentation in support of Stinger Identification Friend or Foe (IFF) replacement system. ***FY 2017 Base Plans:*** -Complete Stinger Night Replacement acquisition documentation. ***FY 2017 OCO Plans:*** N/A	0.279 -	0.241 -	0.240 -	0.000 -	0.240 -
Title: GBAD FUTURE WEAPONS SYSTEM: Program Management Support ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** N/A ***FY 2017 Base Plans:*** -Initiate GBAD Future Weapons System acquisition documentation and assessment efforts to determine the technology solutions required to defeat the full spectrum or threats associated with the Marine Corps Low-Altitude Air Defense mission. ***FY 2017 OCO Plans:*** N/A	0.000 -	0.000 -	1.000 -	0.000 -	1.000 -
Accomplishments/Planned Programs Subtotals	3.453	1.721	2.795	0.000	2.795

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2278 / *Air Defense Weapons System*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/3006: *GBAD-T*	30.036	6.642	9.170	-	9.170	9.437	12.235	12.490	12.731	Continuing	Continuing

Remarks

D. Acquisition Strategy

GBAD-Transformation: A-MANPADS Increment I is an Abbreviated Acquisition Program (AAP), GBAD-T enables the rapid transition from the Avenger/MANPADS weapon system to the more mobile, flexible and maintainable Advanced MANPADS. The AAP is principally comprised of integrating Government Off The Shelf (GOTS) equipment and Non-Developmental Items (NDI).

GBAD Future Weapons System is a technology transition assessment of an ONR Future Naval Capability Directed Energy effort.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2278 / *Air Defense Weapons System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GBAD-T	WR	NSWC : Dahlgren, VA	0.247	0.220	Jan 2015	0.230	Feb 2016	0.110	Dec 2016	-		0.110	Continuing	Continuing	Continuing
GBAD-T	WR	NSWC : Crane.IN	3.920	0.670	Nov 2014	0.000		0.411	Dec 2016	-		0.411	Continuing	Continuing	Continuing
GBAD-T	Various	VARIOUS : VARIOUS	5.548	0.720	Mar 2015	0.597	Jul 2016	0.495	Jul 2017	-		0.495	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	N/A : N/A	15.932	0.000		0.000		0.000		-		0.000	0.000	15.932	-
		Subtotal	25.647	1.610		0.827		1.016		-		1.016	-	-	-

Remarks

* Base FY 2016 / FY 2017 Award date for Various Activities reflect the actual obligation date for the last activity.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GBAD-T	MIPR	Army : AMRDEC	0.049	0.060	Jul 2015	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
GBAD-T	WR	NSWC : Crane, IN	1.802	0.439	Nov 2014	0.403	Nov 2015	0.364	Dec 2016	-		0.364	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	N/A : N/A	4.279	0.000		0.000		0.000		-		0.000	0.000	4.279	-
		Subtotal	6.130	0.499		0.403		0.364		-		0.364	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GBAD-T	MIPR	NSWC Crane : Crane, IN	0.000	0.940	Apr 2015	0.250	Jan 2016	0.175	Mar 2017	-		0.175	Continuing	Continuing	Continuing
GBAD-T	MIPR	CMDS : Redstone Arsenal,AL	0.600	0.125	Nov 2014	0.000		0.000		-		0.000	0.000	0.725	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2278 / *Air Defense Weapons System*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	N/A : N/A	4.269	0.000		0.000		0.000		-		0.000	0.000	4.269	-
		Subtotal	4.869	1.065		0.250		0.175		-		0.175	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GBAD-FWS	WR	NSWC : Dahlgren, VA	0.000	0.000		0.000		1.000	Dec 2016	-		1.000	0.000	1.000	-
GBAD-T	C/FP	MCSC : Quantico, VA	2.936	0.029	Jul 2015	0.000		0.090	Jul 2017	-		0.090	Continuing	Continuing	Continuing
GBAD-T	Various	MCSC Travel : Quantico, VA	0.067	0.055	Sep 2015	0.076	Sep 2016	0.060	Sep 2017	-		0.060	Continuing	Continuing	Continuing
GBAD-T	WR	NSWC : Dahlgren, VA	0.314	0.195	Jan 2015	0.165	Oct 2015	0.090	Jan 2017	-		0.090	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	N/A : N/A	1.318	0.000		0.000		0.000		-		0.000	0.000	1.318	-
		Subtotal	4.635	0.279		0.241		1.240		-		1.240	-	-	-

Remarks

* Base FY 2017 Award date for NSWC Dahlgren reflects start of incremental funding in support of GBAD Future Weapons System.

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	41.281	3.453		1.721		2.795		-		2.795	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2278 / *Air Defense Weapons System*

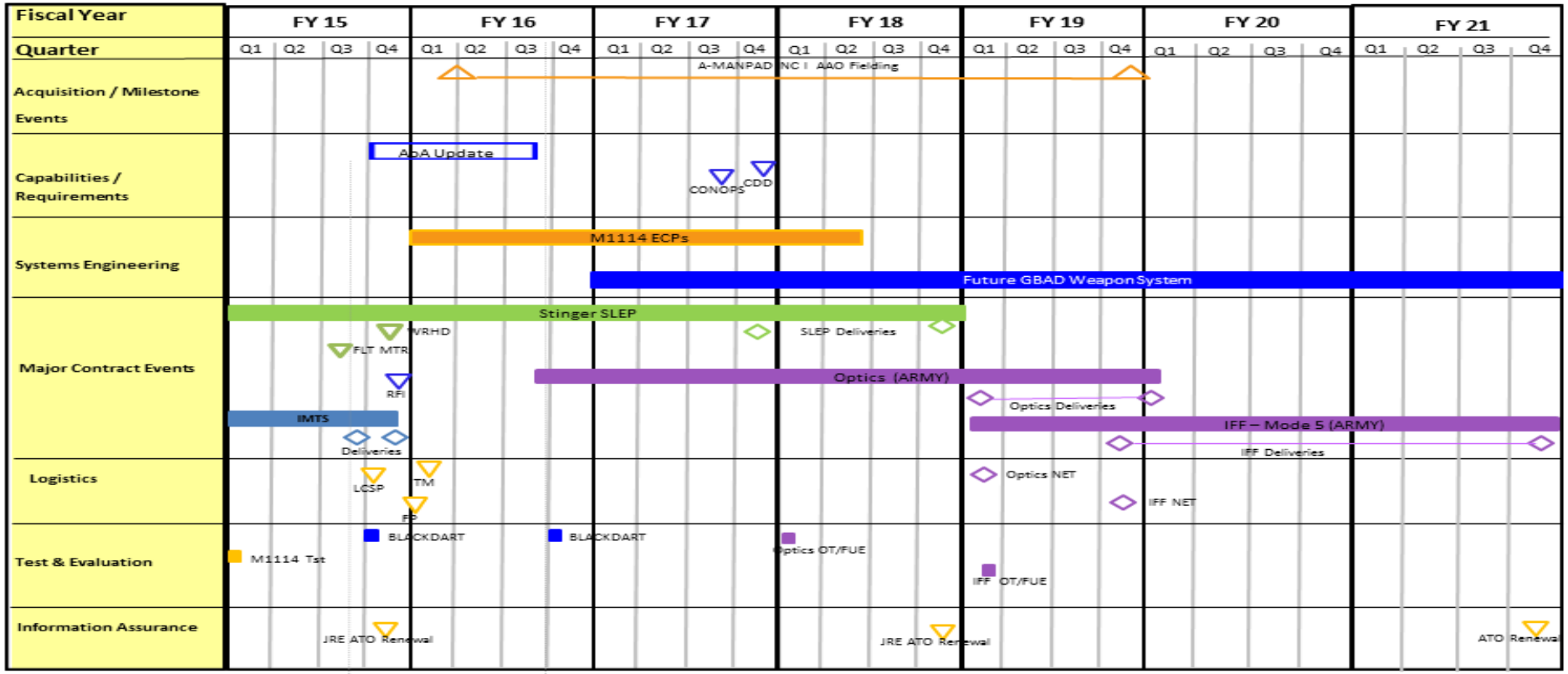


Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2278 / *Air Defense Weapons System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2278				
MC--IMPROVED MOVING TARGET SIMULATOR DELIVERY	3	2015	4	2015
STINGER SLEP CONTRACT AWARD (Flight Motor)	3	2015	3	2015
STINGER SLEP CONTRACT AWARD (War Head)	4	2015	4	2015
STINGER SLEP DELIVERY	4	2017	4	2018
JRE (JOINT RANGE EXTENSION) FY15 AUTHORITY TO OPERATE RENEWAL	4	2015	4	2015
AMANDPADS INC 1 FIELDING	2	2016	4	2019
JRE FY18 AUTHORITY TO OPERATE RENEWAL	4	2018	4	2018
OPTICS OT/FUE (OPERATIONAL TEST/FIELD USER EVALUATION)	1	2018	1	2018
OPTICS DELIVERY	1	2019	1	2020
IFF OT/FUE	1	2019	1	2019
IFF DELIVERIES	4	2019	4	2021
M1114 (HMMWV)/FUV TEST	1	2015	1	2015
M1114 (HMMWV)/FUV ECP (ENGINEERING CHANGE PROPOSAL)	1	2016	2	2018
BLACK DART 1	4	2015	4	2015
BLACK DART 2	4	2016	4	2016
GBAD FUTURE WEAPONS SYSTEM	1	2017	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2510: *MAGTF CSSE & SE*	274.353	7.128	2.998	2.345	-	2.345	1.216	0.934	0.963	0.984	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS): Re-named MAGTF LOGISTICS SUPPORT SYSTEMS (MLS2)beginning in FY16.
TRANSPORTATION SYSTEMS PORTFOLIO (TSP): Re-named Enterprise Logistics Support Systems (ELSS) beginning in FY16.
GCSS-MC Tactical-Warehouse Management System (T-WMS) will transition to PE 0219902M Project C5503 commencing in FY2017.

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. The funding decrease of $0.659M from FY16 to FY17 is primarily due to the completion of initial developmental efforts in accordance with program development schedule for the Transportation Systems Portfolio.

GLOBAL COMBAT SUPPORT SYSTEM-MARINE CORPS (GCSS-MC) is the physical implementation of the enterprise Information Technology (IT) architecture designed to support both improved and enhanced Marine Air Ground Task Force (MAGTF) Combat Support Services (CSS) functions and MAGTF Commander and Combatant Commanders/Joint Task Force (CC/JTF) combat support information requirements. Today, the program includes all transactional CSS systems related to Supply Chain Management (SCM) and Enterprise Asset Management (EAM) functionality enabled with Service Management functions. When combined, these capabilities are referred to as Logistics Chain Management(LCM). The primary goal of GCSS-MC/LCM is to provide the capabilities specified in the Logistics Operational Architecture (Log OA). The result of enabling the Log OA is the retirement of logistics applications. The GCSS-MC/LCM exposes timely mission information to Marine Corps operational and CSS commanders, CC/JTF commanders and their staffs and other authorized users. It exposes information interoperability and common logistics information applications and services across functional areas. GCSS-MC/LCM allows operating forces commanders to base decisions on complete logistics information and make decisions in concert with specific operational tasks. Other follow-on capabilities can be invoked if affordable and when defined by the Business Case(s). Funding for the Tactical-Warehouse Management System (T-WMS) in GCSS-MC, RDTE PE 0206313M, project 2510 will transition to PE 0219902M Project C5503 commencing in FY2017.

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 Operation Planning and Execution System (JOPES) to register update and validate 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 MAGTF Deployment Support

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System II (MDSS II) for unit cargo information and the War Reserve System (WRS) 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.

BASE TELECOMMUNICATIONS INFRASTRUCTURE (BTI) provides all Marine Corps installations with the base area network communications infrastructure that connects the end-user to the Defense Information Systems Agency (DISA) network. BTI sustains upgrades and enhances the telecommunications systems infrastructure for all Marine Corps Installations in order to meet the demands required to support the 5th Element of the Marine Air Ground Task Force (MAGTF). BTI is designed to maintain industry currency as it relates to technological capabilities for all voice, video and data transport services via each installation's infrastructure. These data services include support for, but are not limited to: telephony (including voice over internet protocol), video-teleconferencing, integrated services digital network, Marine Corps enterprise network, energy monitoring control systems, intrusion detection systems, access control systems, fire alarm control networks and fleet training systems. This includes supporting systems such as optical networks, telecommunications management systems, primary power, voice mail, teleconferencing, and outside plant infrastructure.

TRANSPORTATION SYSTEMS PORTFOLIO (TSP): Provides funding that support the USMC Deployment and Execution Support Systems and the Distribution Management Support Systems, and fair share cost to the joint program management office systems. These systems and applications support the planning, deployment, distribution, sustainment and redeployment of supplies, equipment and personnel. The TSP portfolio applications utilize AIT read/write devices, active radio frequency identification (aRFID) tags and satellite tracking systems. TSP applications support In-Transit Visibility (ITV) and Total Asset Visibility (TAV) initiatives to provide commanders with timely and accurate near real-time data on the location and movement of personnel, equipment and supplies that are in-process, in-transit and in-theater. Portfolio renamed Enterprise Logistics Support Systems beginning in FY16.

MAGTF LOGISTICS SUPPORT SYSTEMS (MLS2): FY15 and prior program funding named ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS). MLS2 is composed of several main components including Electronic Maintenance Devices (EMD) and charger racks. It 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 EMD platforms. With these capabilities, maintainers will make more informed decisions, thereby sustaining force readiness over time.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: GLOBAL COMBAT SUPPORT SYSTEM - MC (GCSS-MC)	3.351	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continued development of the GCSS-MC/LCM Increment 1 baseline upgrade from Oracle eBusiness Suite Release 11i to Release 12.					
FY 2016 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A ***FY 2017 Base Plans:*** N/A ***FY 2017 OCO Plans:*** N/A					
Title: JOINT FORCES REQUIREMENT GENERATION II (JFRG II) ***Articles:*** ***FY 2015 Accomplishments:*** Continued initiation of development of the modernized information system. ***FY 2016 Plans:*** Continue to conduct Development, Government Acceptance, Information Security and Interoperability testing/ certification Deploy Information System and be prepared to transition to Post Deployment Software Support (PDSS). ***FY 2017 Base Plans:*** Initiate PDSS and the support of Engineering Change Proposals (ECPs). ***FY 2017 OCO Plans:*** N/A	0.755 -	0.204 -	0.202 -	0.000 -	0.202 -
Title: BASE TELECOM (BTI) ***Articles:*** ***FY 2015 Accomplishments:*** Continued test and evaluation (T&E) engineering support for Defense Information Systems Agency (DISA) Unified Capabilities (UC) (voice, video, collaboration, and data) implementation. ***FY 2016 Plans:*** Continue test and evaluation (T&E) engineering support for Defense Information Systems Agency (DISA) Unified Capabilities (UC) (voice, video, collaboration, and data) implementation. ***FY 2017 Base Plans:***	0.450 -	0.490 -	0.490 -	0.000 -	0.490 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue test and evaluation (T&E) engineering support for Defense Information Systems Agency (DISA) Unified Capabilities (UC) (voice, video, collaboration, and data) implementation. ***FY 2017 OCO Plans:*** N/A					
Title: TRANSPORTATION SYSTENS PORTFOLIO (TSP) / Enterprise Logistics Support Systems ***Articles:*** ***FY 2015 Accomplishments:*** Continued Integrated Computerized Deployment System (ICODES) Sea Service Deployment Module (SSDM) with JPMO. Continued to validate and verify program development and continue testing and validation of functional transition. ***FY 2016 Plans:*** Initiate subsequent increment of ICODES SSDM development as necessary and continue functional testing and validation. ***FY 2017 Base Plans:*** Initiate third increment of SSDM for Maritime Repositioning Force (MPF) operations. ***FY 2017 OCO Plans:*** N/A	2.572 -	1.662 -	1.112 -	0.000 -	1.112 -
Title: MAGTF LOGISTICS SUPPORT SYSTEMS (MLS2) ***Articles:*** ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** -Initiate investigation of software defined test instruments (SDTI) and software applications. -Initiate investigation of advanced Interactive Electronic Technical Manual software to incorporate advanced diagnostics. -Continue information security and interoperability testing/certification.	0.000 -	0.642 -	0.541 -	0.000 -	0.541 -

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Initiate software applications which support enhanced maintenance capabilities on existing weapon system platforms. ***FY 2017 Base Plans:*** -Continue to investigate software defined test instruments (SDTI) and software applications. -Continue to investigate advanced Interactive Electronic Technical Manual software to incorporate advanced diagnostics. -Continue information security and interoperability testing/certification. -Continue software applications which support enhanced maintenance capabilities on existing weapon system platforms. -Evaluate downsized testers for tablet applications. -Investigate instrument modules for on system testing. ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	7.128	2.998	2.345	0.000	2.345

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/BLI 463500 BTI: *BTI*	5.064	54.476	22.964	-	22.964	35.902	82.713	168.238	47.907	Continuing	Continuing
• PMC/BLI 418100: *MAGTF Logistics Support Systems*	0.000	3.606	3.829	-	3.829	3.919	3.022	3.083	3.145	Continuing	Continuing
• PMC/BLI 461700: *TSP/Enterprise Logistics Support Systems*	0.595	0.396	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/BLI 462000: *TSP/Enterprise Logistics Support Systems*	0.000	0.000	0.594	-	0.594	0.000	0.000	0.000	0.000	0.000	0.594

Remarks

D. Acquisition Strategy

GLOBAL COMBAT SUPPORT SYSTEM-MARINE CORPS (GCSS-MC) The Acquisition Strategy for GCSS-MC/LCM Increment 1 and the Business Capabilities Lifecycle for the GCSS-MC/LCM Follow-on acquisition is building an acquisition approach in the portfolio of systems for Logistics Chain Management (LCM) that adds to the baseline system developed in Increment 1. The goal is to field operationally suitable and supportable capabilities in the shortest time possible that meets the

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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Logistics Advocate goals. The GCSS-MC Program Management Office acquisition approach will deliver capabilities in increments as defined in the DoDi 5000 Interim guidance, and updated as guidance is developed. Each increment capability will follow the established acquisition model for software intensive systems. Increments will include emergent user priorities, advanced technology improvements and expanded capabilities as prioritized and funded by the system advocates. Increment 1 is an operational Enterprise system (authorized for 36,000 users). The Mobile Field Service (MFS), Enterprise Automated Task Organization (EATO) and Riverbed Steelhead Appliance (RSA) (WAN optimization) will be provided as a deliverable in Increment 1 Release 1.1.1. This release provides limited detached capability (store and forward), automated task organizing, and optimizes WAN throughput. Other follow-on capabilities can be invoked if affordable and when defined by the Business Case(s).

JOINT FORCES REQUIREMENT 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) in FY17 when it will be replaced by the modernized version. Future capability improvements as identified in the JC2 CDD will be implemented through the CM process.

BASE TELECOMMUNICATIONS INFRASTRUCTURE (BTI) provides all Marine Corps installations with the base area network communications infrastructure that connects the end-user to the DISA network. BTI sustains upgrades and enhances the telecommunications systems infrastructure for all Marine Corps Installations in order to meet the demands required to support the 5th Element of the Marine Air Ground Task Force (MAGTF). Participation in the DISA Unified Capabilities (voice, video, collaboration, and data) pilot is critical to BTI modernization strategy. The RDT&E funds will be utilized for analysis, research and evaluation of Unified Capabilities (UC) (voice, video, collaboration, and data) implementation efforts.

TRANSPORTATION SYSTEMS PORTFOLIO (TSP): The acquisition strategy is to develop the functional elements of the MAGTF Deployment Support System II (MDSS II) into a Sea Service Deployment Module (SSDM) of the Integrated Computerized Deployment System (ICODES). ICODES is a Joint Program currently managed by the Surface Deployment and Distribution Command (SDDC) of USTRANSCOM. The development of the SSDM will be instituted as a CLIN to the SDDC JPMO contract for ICODES expected to be awarded in August 2015. The development will follow an evolutionary acquisition approach that allows for continued development based on functional transition and changing user need requirements as well as information assurance requirements. The JPMO will determine the contracting strategy and this PMO will acknowledge and approve strategies prior to funding development.

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 Devices must evolve in concert with the supported platforms maintenance philosophy to provide extended functionality and access to network connectivity.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EMSS/MAGTF Logistics Support Systems	MIPR	Various : Various	0.000	0.000		0.346	Jan 2016	0.294	Mar 2017	-		0.294	0.000	0.640	-
Prior Years Cumulative Funding	Various	Various : Various	261.019	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
JFRG II	C/FFP	TBD : TBD	0.418	0.565	Sep 2015	0.204	Aug 2016	0.202	Sep 2017	-		0.202	Continuing	Continuing	Continuing
TSP Enterprise SyS Modernization	C/CPFF	USTRANSCOM JPMO : SCOTT AFB, IL	0.000	2.572	Dec 2015	1.662	Jun 2016	1.112	Dec 2016	-		1.112	Continuing	Continuing	Continuing
GCSS-MC/LCM1 - Development	C/FFP	Various : SSC-LANT, SC	4.090	3.351	Sep 2015	0.000		0.000		-		0.000	0.000	7.441	-
		Subtotal	265.527	6.488		2.212		1.608		-		1.608	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GCSS-MC/LCM1 - Support	MIPR	MITRE : CECOM, MD	0.940	0.000		0.000		0.000		-		0.000	0.000	0.940	-
EMSS/MAGTF Logistics Support Systems Program SW Support	C/FFP	Various : Various	0.563	0.000		0.296	Mar 2016	0.247	Mar 2017	-		0.247	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	Various : Various	3.177	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	4.680	0.000		0.296		0.247		-		0.247	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JFRG	Various	Various : Various	0.000	0.190	Sep 2016	0.000		0.000		-		0.000	0.000	0.190	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
BTI	MIPR	MITRE : Aberdeen Proving Ground, MD	0.394	0.450	Jan 2015	0.490	Jan 2016	0.490	Jan 2017	-		0.490	Continuing	Continuing	Continuing
GCSS-MC/LCM 1 - Test & Evaluation	MIPR	JTIC : Indian Head, MD	0.277	0.000		0.000		0.000		-		0.000	0.000	0.277	-
Prior Years Cumulative Funding	Various	Various : Various	3.475	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	4.146	0.640		0.490		0.490		-		0.490	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	274.353	7.128		2.998		2.345		-		2.345	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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JFRG II Schedule Graphic

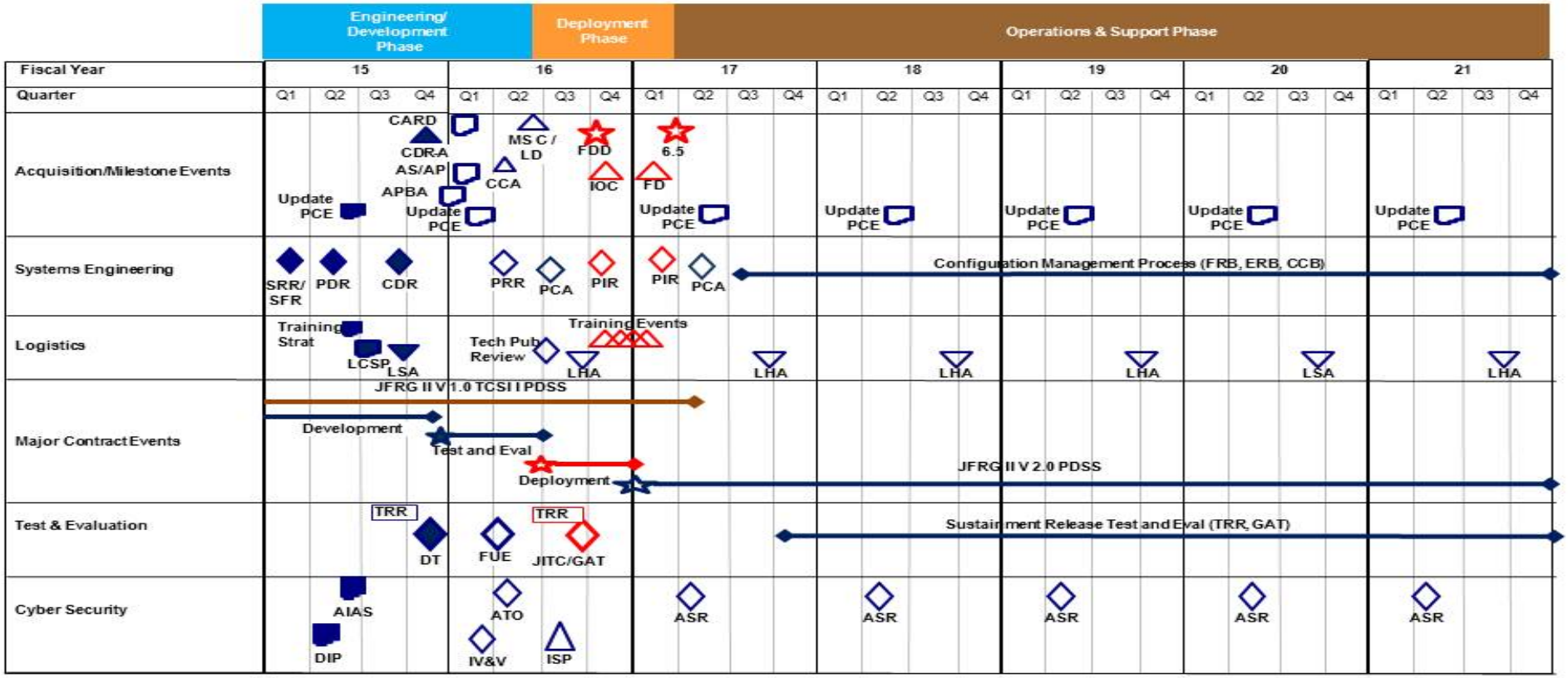

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

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BTI Program Schedule

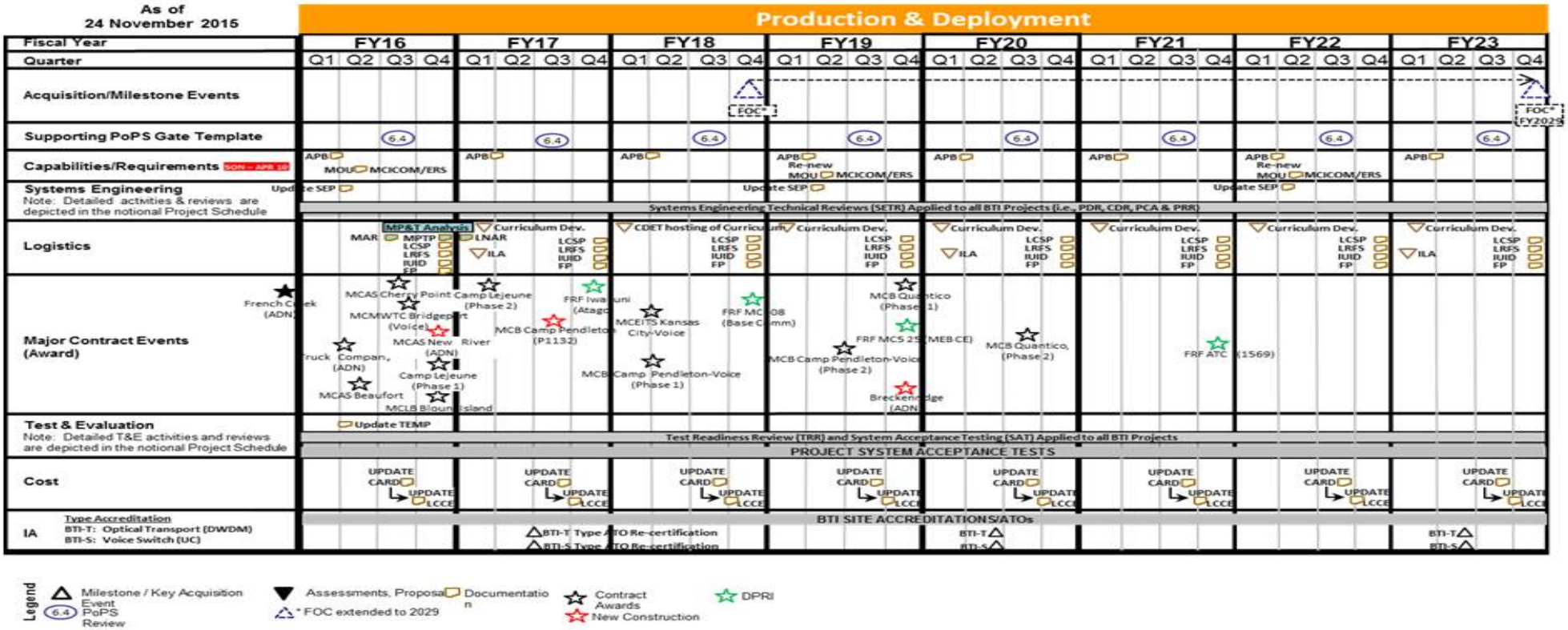

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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EMSS Schedule (Block I)

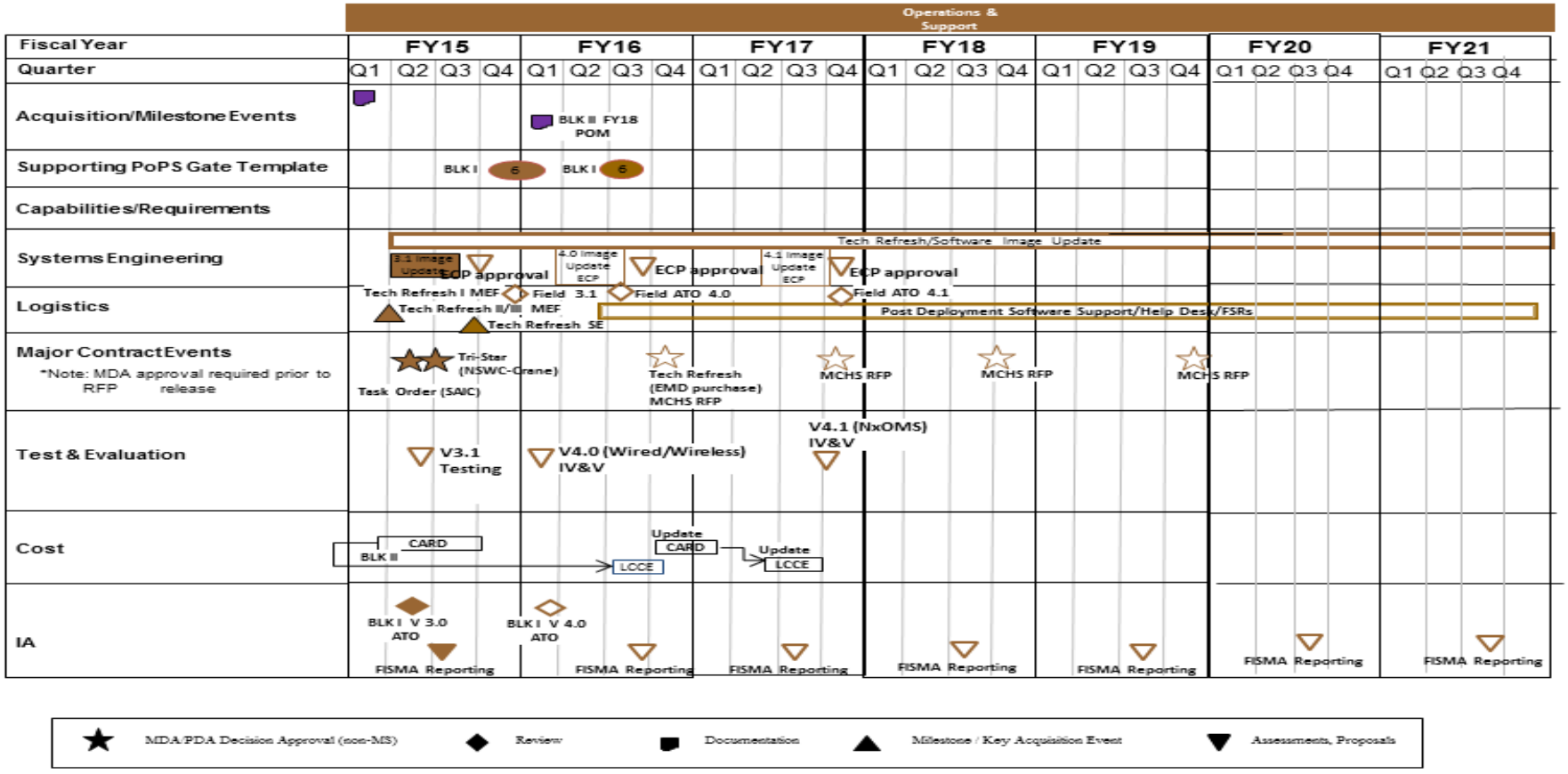

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

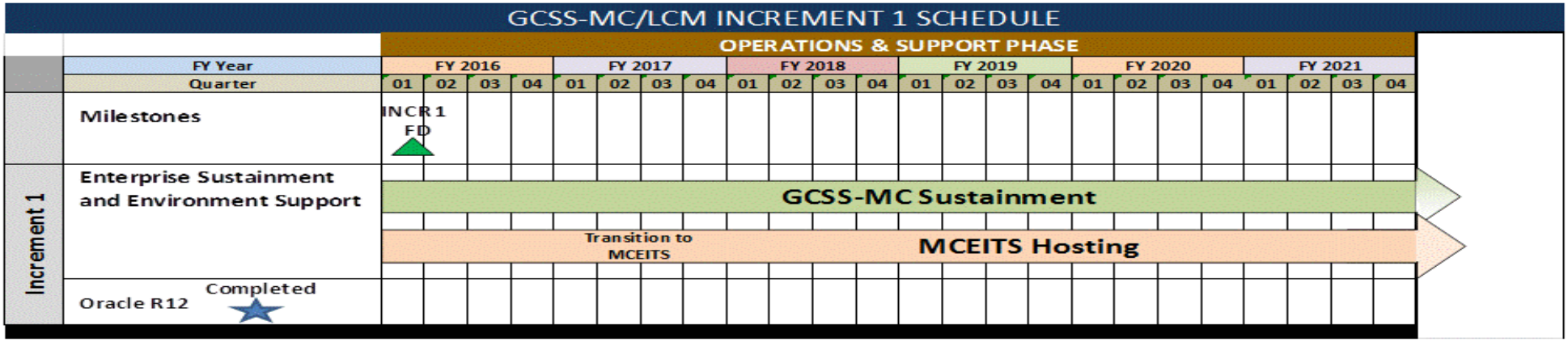

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2510				
EMSS: Tech Refresh V3.1 Fielding	4	2015	4	2015
JFRG II				
CDR-A	4	2015	4	2015
MS C	2	2016	2	2016
CCA	2	2016	2	2016
LD	2	2016	2	2016
IOC	4	2016	4	2016
FD	1	2017	1	2017
GCSS-MC				
GCSS-MC Increment 1 Fielding Decision	1	2016	1	2016

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
3099: *Radar System*	178.743	8.191	11.036	13.423	-	13.423	27.444	24.670	21.687	22.299	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

The FY 2017 funding request was reduced by $2.000 million to account for the availability of prior year execution balances.

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 AN/TSQ-269 Mobile - TAOM (M-TAOM) or 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. The USMC extended the AN/TPS-59 service life through 2035; therefore, in order to maintain its operational relevance on the battlefield, a number of modernization efforts are initiated starting in FY17. The AN/TPS-59 radar has been continuously deployed in support of Operation Freedom Sentinel (OFS) and other contingencies.

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-46 Firefinder Radar, the AN/TPQ-49 Lightweight Counter Mortar Radar, and the AN/TSQ-267 Target Processing Set. 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 continue to address system issues that arise due to DMSMS items within the FTAS. The USMC assumed the role of Primary Inventory Control Activity (PICA) for the AN/TPQ-49 in FY15 when the Army divested itself from the system.

Short/Medium Range Air Defense Radar (SHORAD or AN/TPS-63) - The AN/TPS-63 is a two-dimensional, medium-range, medium altitude, transportable radar system, which is doctrinally employed as a tactical gap-filler or as an early warning system for early deployment into the operational area. It has a 360-degree air surveillance capability at a range of 160 miles and complements the co-employed AN/TPS-59 three-dimensional, long-range, air surveillance radar system. The program will use OGAs to develop engineering change proposals related DMSMS to improved system reliability with the specific purpose of meeting increased fleet operational requirements.

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

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: AN/TPS-59 : Product Development	1.065	1.991	4.223	0.000	4.223
Articles:	-	-	-	-	-
Description: The program will address Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues by continuing use of a support contract as well as use of Other Government Activities (OGAs). The AN/TPS-59 modification will extend the service life, address DMSMS, and the DOD mandated Mode 5 Implementation for the AN/TPS-59 Radar System. ***FY 2015 Accomplishments:*** -Continued software integration and ECPs to address obsolescence and DMSMS issues. ***FY 2016 Plans:*** -Continue software integration and ECPs to address obsolescence and DMSMS issues. ***FY 2017 Base Plans:*** - Initiate product development for Digital Receiver and Exciter with Electronic Counter-Counter Measure and Radar Environmental Simulator resulting in an increase from FY16 to FY17 ($2.232M). ***FY 2017 OCO Plans:*** N/A					
Title: AN/TPS-59 : Support	3.117	4.839	3.910	0.000	3.910
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Continued MITRE/NSWC Dahlgren - Engineering Support -Continued MCSC - Engineering Support and Program Office Travel -Continued Contract Services and Support ***FY 2016 Plans:*** -Continue MITRE/NSWC Dahlgren - Engineering Support -Continue MCSC - Engineering Support and Program Office Travel -Continue Post Production Services and Support ***FY 2017 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continue MITRE/NSWC Dahlgren - Engineering Support -Continue MCSC - Engineering Support and Program Office Travel -Continue Lockheed Martin Software Development and Testing Support ***FY 2017 OCO Plans:*** N/A					
Title: AN/TPS-59: Test and Evaluation	1.600	1.000	2.100	0.000	2.100
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Initiated Field User Evaluation (FUE) for Identification Friend or Foe (IFF) -Initiated Limited User Evaluation of Transport Shelter Tech Refresh -Initiated FUE for Ops Consoles/Servers Tech Refresh ***FY 2016 Plans:*** -Initiate Joint Operational Test Approach (JOTA) for IFF -Continue Sustainment Activities Integration Testing ***FY 2017 Base Plans:*** -Continue Blackdart and Boldquest Testing Support -Complete Joint Operational Test Approach (JOTA) for IFF -Initiate Qualification Testing for the IFF Antenna, GPS and Tilt Sensor Components resulting in an increase from FY16 to FY17($1.1M). ***FY 2017 OCO Plans:*** N/A					
Title: FTAS: Support	0.300	0.502	0.450	0.000	0.450
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Established NSWC Port Hueneme - Development Engineering Support for the Family of Target Acquisition systems. -Continued MCSC Albany - Program Travel in support of Equipment and Logistics SME. ***FY 2016 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continue Tobyhanna Army Depot (TYAD)- ECP development on the AN/TSQ-267 and ECP development on the AN/TPQ-49. -Continue MCSC Albany - Program Travel in support of Equipment and Logistics SME. -Initiate the assumption of responsibilities of the primary inventory control activity (PICA) as the US Army divests from the AN/TPQ-46 and AN/TPQ-49. ***FY 2017 Base Plans:*** -Continue Tobyhanna Army Depot (TYAD)- ECP development on the AN/TSQ-267 and ECP development on the AN/TPQ-49. -Continue MCSC Albany - Program Travel in support of Equipment and Logistics SME. ***FY 2017 OCO Plans:*** N/A					
Title: FTAS: Product Development	0.302	1.083	1.125	0.000	1.125
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Initiated the development of Lightweight Counter Mortar Radar (LCMR) Mobile Engineering Change Proposal (ECP) Technical Data Package. -Initiated the development of AN/TSQ-267 Shelter Refresh ECP Technical Data Package. -Initiated the development of the LCMR Technical Refresh ECP. -Completed software development for the Sensor Management and Collaboration Tool (SMaCT). ***FY 2016 Plans:*** -Continue development and testing of an engineering change to capitalize on products and technologies initiated by the Navy future capability for correlation/fusion of radar data within the AN/TSQ-267 which includes the Correlation and Fusion ECP for the AN/TSQ-267. -Initiate the assumption of the responsibilities of the primary inventory control activity (PICA) as the US Army divests from the AN/TPQ-46 and AN/TPQ-49. ***FY 2017 Base Plans:*** -Continue development and testing of ECPs for the AN/TPQ-46, LCMR, and AN/TSQ-267 to address ongoing DMSMS issues. ***FY 2017 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A					
Title: SHORAD: Support	0.178	0.195	0.194	0.000	0.194
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Continued DMSMS ECP Efforts at NSWC Crane Division. ***FY 2016 Plans:*** -Continue NSWC Crane - DMSMS ECP Efforts. ***FY 2017 Base Plans:*** -Continue DMSMS ECP Efforts at Other Government Agencies. ***FY 2017 OCO Plans:*** N/A					
Title: VWC: Support	1.629	1.426	1.421	0.000	1.421
Articles:	-	-	-	-	-
FY 2015 Accomplishments: -Continued 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. ***FY 2016 Plans:*** -Continue to simulate 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. ***FY 2017 Base Plans:*** -Continue to simulate 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. ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	8.191	11.036	13.423	0.000	13.423

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/465003: *AN/TPS-59*	7.708	25.769	14.076	-	14.076	10.894	15.365	15.731	15.873	Continuing	Continuing
• PMC/465005: *FTAS*	5.557	4.388	2.984	-	2.984	2.743	2.879	2.961	3.017	Continuing	Continuing
• PMC/465007: *SHORAD (AN/TPS-63)*	0.963	1.421	0.712	-	0.712	0.738	0.000	0.000	0.000	Continuing	Continuing
• PMC/463000: *AN/TPS-59 MCHS*	0.000	0.121	0.142	-	0.142	0.148	0.150	0.153	0.156	Continuing	Continuing

Remarks

D. Acquisition Strategy

Long Range Radar (AN/TPS-59) - The AN/TPS-59 is a three dimensional ground-based sensor that can detect and track long range Air Breathing Targets (ABT) at ranges of 300 nautical miles and Tactical Ballistic Missiles (TBM) at ranges of 400 nautical miles. The system is experiencing increasing Obsolescence and Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues. The program will use a support contract with the original equipment manufacturer (OEM) as well as Other Government Agencies (OGAs) to develop engineering changes to resolve DMSMS and incorporate Mode 5 Identification Friend or Foe (IFF) per DOD mandate.

Family of Target Acquisition Systems (FTAS) - The Family of Target Acquisition Systems consists of 3 major components: AN/TPQ-46, AN/TPQ-49 and the AN/TSQ-267. Of these 3 systems, the AN/TPQ-46 is due to be replaced by the Ground/Air Task Oriented Radar (G/ATOR) beginning in 2019. Sustainment activities during 2016 and beyond will be limited to maintain the authority to operate (ATO) creditation. Sustainment activities on the AN/TPQ-49 are escalating due to the fact the US Army divested from the AN/TPQ-49, the USMC has assumed the responsibilities of the primary inventory control activity (PICA). Sustainment activities on the AN/TPQ-46 will begin to escalate due to the US Army divestiture from the AN/TPQ-36. The USMC will assume some sustainment responsibilities for the AN/TPQ-46 until replaced by G/ATOR. Additionally, the AN/TSQ-267 requires hardware updates in order to continue housing the suite of equipment that supports the Target Processing Center (TPC) activities.

Short/Medium Range Air Defense Radar (SHORAD or AN/TPS-63) - The AN/TPS-63 is experiencing increasing Obsolescence and Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues. The program will use Other Government Agencies (OGAs) to develop engineering changes to resolve DMSMS issues.

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. These efforts are led by ONR.

E. Performance Metrics

Milestone Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59	SS/FFP	LMC : SYRACUSE, NY	4.390	0.000		0.000		3.123	Dec 2016	-		3.123	0.000	7.513	-
AN/TPS-59	C/CPFF	MARCORSYSCOM : QUANTICO, VA	0.000	1.065	Jul 2015	1.000	Jun 2016	0.000		-		0.000	0.000	2.065	-
AN/TPS-59	WR	NSWC : CRANE, IN	3.425	0.000		0.991	Feb 2016	1.100	Jun 2017	-		1.100	Continuing	Continuing	Continuing
FTAS	C/IDIQ	SRC TEC : SYRACUSE, NY	0.131	0.302	Jul 2015	0.000		0.000		-		0.000	0.000	0.433	-
FTAS	MIPR	TYAD : TOBYHANNA, PA	0.000	0.000		1.083	Feb 2016	1.125	Jan 2017	-		1.125	0.000	2.208	-
Prior Year Cumulative Funding	Various	VARIOUS : VARIOUS	74.879	0.000		0.000		0.000		-		0.000	0.000	74.879	-
FTAS	WR	NSWC : Dahlgren, VA	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
FTAS	MIPR	Ft Sill : Ft Sill, OK	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
		Subtotal	82.825	1.367		3.074		5.348		-		5.348	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59	WR	NSWC : DAHLGEN, VA	9.057	0.200	Nov 2014	0.753	Jan 2016	0.000		-		0.000	Continuing	Continuing	Continuing
AN/TPS-59	Various	SPAWAR : CHARLESTON, SC	4.397	0.500	Mar 2015	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
AN/TPS-59	MIPR	MITRE : BEDFORD, MA	6.084	1.700	Mar 2015	1.300	Jan 2016	1.400	Dec 2016	-		1.400	Continuing	Continuing	Continuing
AN/TPS-59	Various	MCSC : QUANTICO, VA	1.694	0.300	Feb 2015	0.475	Oct 2015	1.130	Dec 2016	-		1.130	Continuing	Continuing	Continuing
AN/TPS-59	C/CPFF	LOCKHEED MARTIN : SYRACUSE, NY	8.789	0.000		0.000		1.380	Jan 2017	-		1.380	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 3099 / *Radar System*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59	Various	MCSC COMP : QUANTICO, VA	5.871	0.417	Mar 2015	0.500	Jun 2016	0.000		-		0.000	Continuing	Continuing	Continuing
AN/TPS-59	MIPR	TYAD : TOBYHANNA, PA	0.000	0.000		1.811	Jan 2016	0.000		-		0.000	0.000	1.811	-
AN/TPS-63	Various	MCSC : QUANTICO, VA	0.084	0.048	Jul 2015	0.000		0.000		-		0.000	0.000	0.132	-
FTAS	WR	NSWC : Port Hueneme, CA	7.329	0.250	May 2015	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
FTAS	MIPR	TYAD : TOBYHANNA, PA	0.693	0.000		0.452	Nov 2015	0.400	Jan 2017	-		0.400	Continuing	Continuing	Continuing
FTAS	Various	MCSC : QUANTICO, VA	2.138	0.050	Aug 2015	0.050	Oct 2015	0.050	Oct 2016	-		0.050	Continuing	Continuing	Continuing
VWC	C/CPFF	ONR : ST. LOUIS, MO	11.124	1.629	Jul 2015	1.426	Jan 2016	1.421	Dec 2016	-		1.421	Continuing	Continuing	Continuing
Prior Year Cumulative Funding	Various	VARIOUS : VARIOUS	10.782	0.000		0.000		0.000		-		0.000	0.000	10.782	-
AN/TPS-63	WR	NSWC : CRANE, IN	0.000	0.130	May 2015	0.195	Feb 2016	0.194	May 2017	-		0.194	0.000	0.519	-
		Subtotal	68.042	5.224		6.962		5.975		-		5.975	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59	WR	MCTSSA : CAMP PENDLETON, CA	0.000	0.000		0.000		0.624	Jun 2017	-		0.624	0.000	0.624	-
AN/TPS-59	SS/FFP	LMC : SYRACUSE, NY	0.700	1.600	Aug 2015	0.000		0.000		-		0.000	0.000	2.300	-
AN/TPS-59	WR	NSWC : CRANE, IN	0.000	0.000		1.000	Feb 2016	0.556	Feb 2017	-		0.556	0.000	1.556	-
Prior Year Cumulative Funding	Various	VARIOUS : VARIOUS	1.195	0.000		0.000		0.000		-		0.000	0.000	1.195	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59	MIPR	TYAD : Tobyhanna, PA	0.000	0.000		0.000		0.920	Dec 2016	-		0.920	0.000	0.920	-
		Subtotal	1.895	1.600		1.000		2.100		-		2.100	0.000	6.595	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Cumulative Funding	C/CPFF	MCSC: GENERAL DYNAMICS : QUANTICO, VA	25.981	0.000		0.000		0.000		-		0.000	0.000	25.981	-
		Subtotal	25.981	0.000		0.000		0.000		-		0.000	0.000	25.981	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	178.743	8.191		11.036		13.423		-		13.423	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

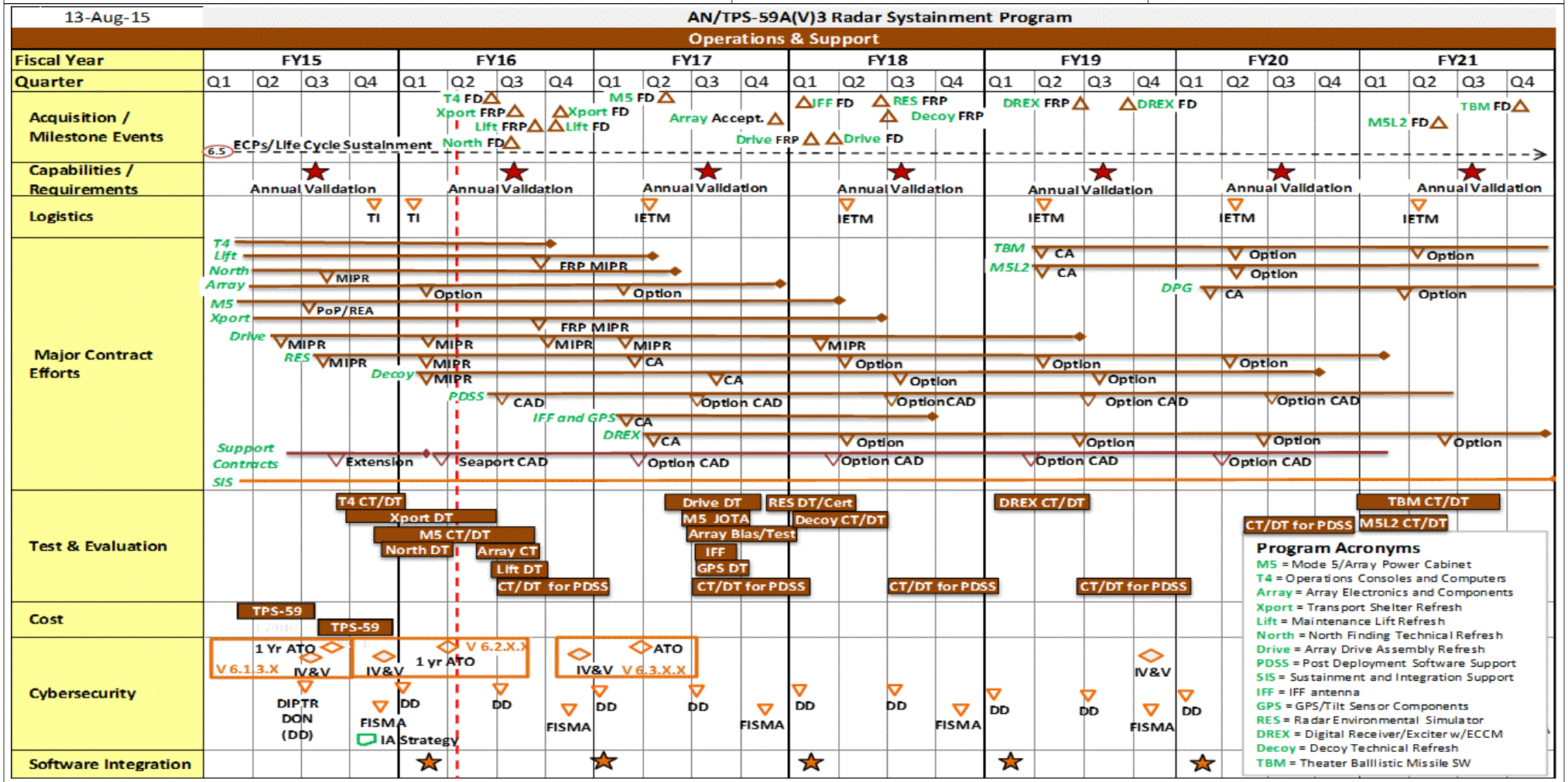

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

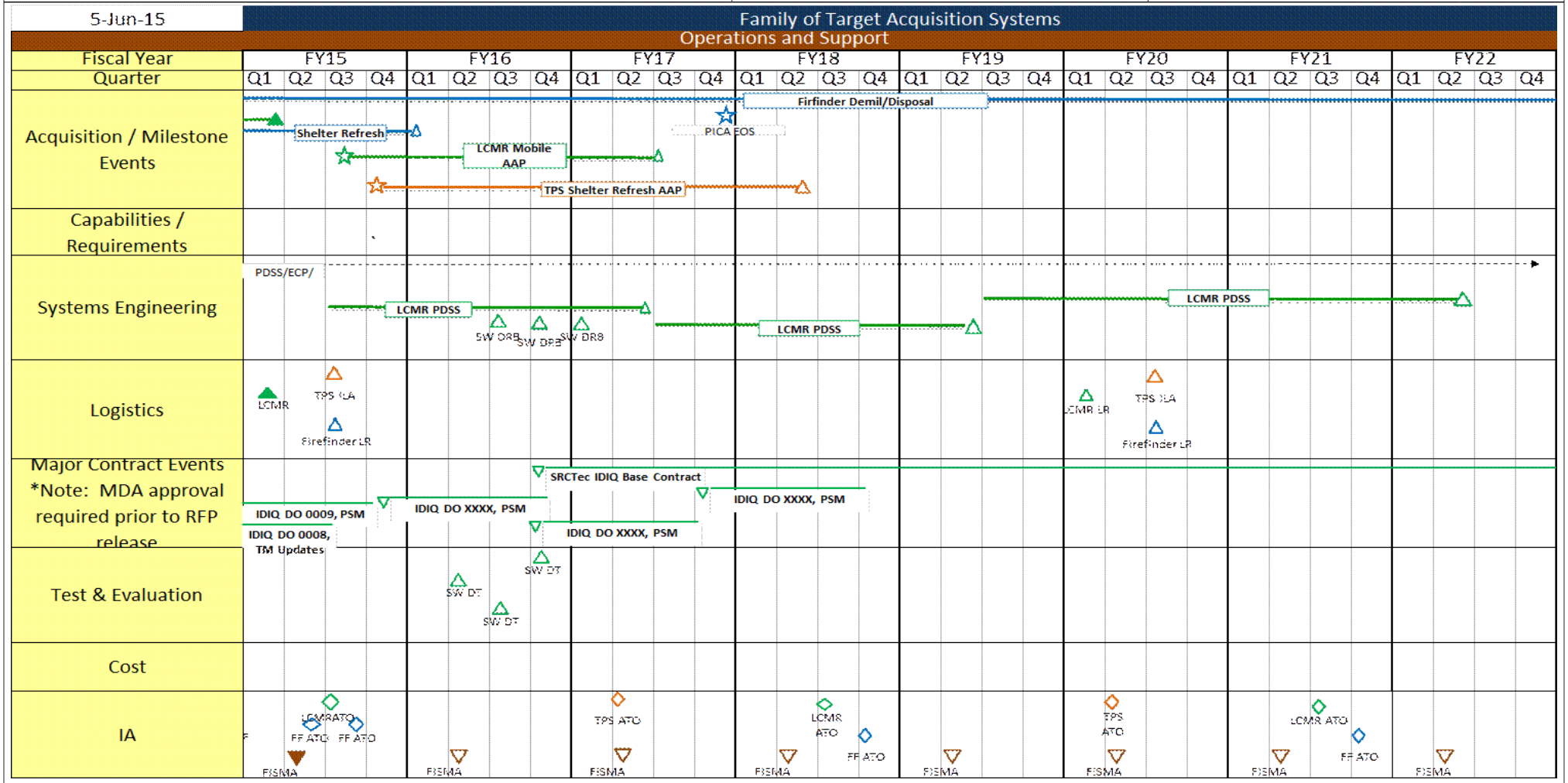

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3099				
AN/TPS-59 - Mode 5 Fielding Decision	2	2017	2	2017
AN/TPS-59 - RES FRP	2	2018	2	2018
AN/TPS-59 - DREX FRP	2	2019	2	2019
FTAS - LCMR Mobile FOC	3	2017	3	2017
FTAS - TPS Shelter Refresh FOC	2	2018	2	2018

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	0.000	13.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.000
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 AN/TSQ-269 Mobile -TAOM (M-TAOM) or 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. The USMC extended the AN/TPS-59 service life through 2035; therefore, in order to maintain its operational relevance on the battlefield, a number of modernization efforts are being initiated. The AN/TPS-59 radar has been continuously deployed in support of Operation Freedom Sentinel (OFS) and other contingencies.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016
Congressional Add: Radar Enhancements	0.000	13.000
FY 2015 Accomplishments: N/A		
FY 2016 Plans: N/A		
Congressional Adds Subtotals	0.000	13.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PMC/465000: *AN/TPS-59 Mods*	7.708	25.769	14.076	-	14.076	10.894	15.365	15.731	15.873	Continuing	Continuing
• PMC/463000: *AN/TPS-59 MCHS*	0.000	0.121	0.142	-	0.142	0.148	0.150	0.153	0.156	Continuing	Continuing

Remarks

D. Acquisition Strategy

Long Range Radar (AN/TPS-59) - The AN/TPS-59 is a three dimensional ground-based sensor that can detect and track long range Air Breathing Targets (ABT) at ranges of 300 nautical miles and Tactical Ballistic Missiles (TBM) at ranges of 400 nautical miles. The system is experiencing increasing Obsolescence and Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues. The program will use a support contract with the original equipment manufacturer (OEM) as well as Other Government Agencies (OGAs) to develop engineering changes to resolve DMSMS and incorporate Mode 5 Identification Friend or Foe (IFF) per DOD mandate.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 9999 / *Congressional Adds*

E. Performance Metrics

Milestone Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/TPS-59 MODS	TBD	TBD : TBD	0.000	0.000		13.000	Mar 2017	0.000		-		0.000	0.000	13.000	-
		Subtotal	0.000	0.000		13.000		0.000		-		0.000	0.000	13.000	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		13.000		0.000		-		0.000	0.000	13.000	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 9999 / *Congressional Adds*

AN/TPS-59 Radar Program Schedule for Exhibits

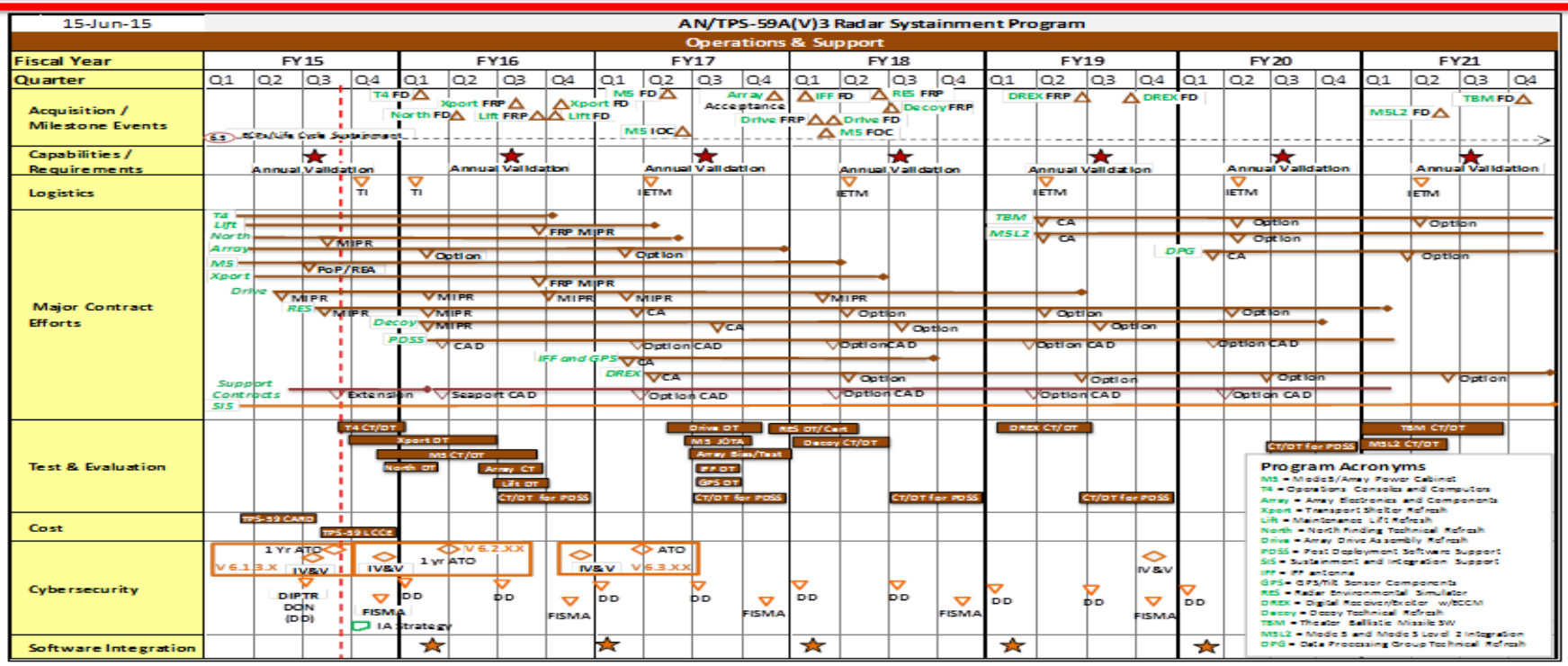

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
AN/TPS-59 - Radar Enhancements	2	2017	2	2017

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