Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy											Date: March 2014	
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	1,009.061	162.537	160.773	77.398	-	77.398	75.412	80.063	81.214	79.444	Continuing	Continuing
2270: *Exp Indirect Fire Gen Supt Wpn Sys*	195.921	23.381	28.863	28.822	-	28.822	27.070	29.938	30.557	30.143	Continuing	Continuing
2273: *Air Ops Cmd & Control (C2) Sys*	287.573	51.302	65.069	8.811	-	8.811	8.805	11.116	11.250	8.996	Continuing	Continuing
2274: *Command & Control Warfare Sys*	38.698	12.619	8.630	7.080	-	7.080	9.415	6.189	6.345	6.554	Continuing	Continuing
2275: *Marine Corps Tactical Radio Systems*	11.442	8.307	18.832	4.036	-	4.036	3.539	3.956	2.712	2.771	Continuing	Continuing
2276: *Comms Switching and Control Sys*	28.401	6.844	12.446	3.715	-	3.715	3.769	3.546	4.064	5.124	Continuing	Continuing
2277: *System Engineering and Integration*	16.638	10.774	11.137	5.188	-	5.188	5.070	4.803	4.825	4.860	Continuing	Continuing
2278: *Air Defense Weapons System*	35.829	1.872	3.041	3.453	-	3.453	2.876	2.936	2.984	3.615	Continuing	Continuing
2510: *MAGTF CSSE & SE*	246.180	22.372	3.142	4.124	-	4.124	3.055	2.393	1.238	1.012	Continuing	Continuing
3099: *Radar System*	148.379	25.066	9.613	12.169	-	12.169	11.813	15.186	17.239	16.369	Continuing	Continuing
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 582												

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

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

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy	Date: March 2014
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*

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	219.054	178.753	162.231	-	162.231
Current President's Budget	162.537	160.773	77.398	-	77.398
Total Adjustments	-56.517	-17.980	-84.833	-	-84.833
• Congressional General Reductions	-	-0.280			
• Congressional Directed Reductions	-	-17.700			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-22.774	-			
• SBIR/STTR Transfer	-5.499	-			
• Program Adjustments	-	-	-10.474	-	-10.474
• Rate/Misc Adjustments	0.001	-	-74.359	-	-74.359
• Congressional General Reductions Adjustments	-19.245	-	-	-	-
• Congressional Directed Reductions Adjustments	-9.000	-	-	-	-

Change Summary Explanation

The funding decrease from FY14 to FY15 can be attributed to the Common Aviation Command and Control System (CAC2S) program moving into PE 0206335M, other programs transitioning past RDT&E needs, and the realignment of resources to other Marine Corps priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2270: *Exp Indirect Fire Gen Supt Wpn Sys*	195.921	23.381	28.863	28.822	-	28.822	27.070	29.938	30.557	30.143	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Marine Air Ground Task Force (MAGTF) Command and Control (C2) Systems Applications (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.

Joint Battle Command - Platform (JBC-P) Family of Systems (FoS) - JBC-P FoS is a joint Army led ACAT II program. It is a product line comprised of systems and products formerly associated with the Blue Force Tracker (BFT) FoS and JBC-P. It comprises L-Band SATCOM and terrestrial Command and Control (C2) and Situational Awareness (SA) systems that use graphic displays to identify friendly units by providing Position Location Information (PLI) while facilitating tactical level C2.

Blue Force Situational Awareness (BFSA) - The Marine Corps' Situational Awareness Blue Force Tracker family of systems is comprised of the Mounted and Dismounted variants of a terrestrial Enhanced Position Location Reporting System/Single Channel Ground Airborne Radio System (EPLRS/SINCGARS) and the mounted celestial (SATCOM) system. In FY14, the BFSA and JBPC funding lines are merged into the JBCP FoS line.

Tactical Command Operations System (TCO) - TCO is the principle 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).

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 assistance missions. IDS-MC supports the tactical application of identity dominance and fully supports a forward presence, crisis response and contingency response capability. IDS-MC will incrementally phase out the Biometric Automated Toolset (BAT).

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 (LMS) 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) - Previously identified as the entire Target Location Designation and Hand-Off System. The THS is the portion of TLDHS that provides Fire Support Observer/Controllers with the ability to view video, manipulate, and digitally transmit (hand-off) target data to Fire Support platforms and agencies.

Handheld Command and Control (H2C2) - H2C2 project vision outlines a collective and efficient mobile computing Acquisition Strategy in order 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 2013	FY 2014	FY 2015
Title: *MAGTF C2: Engineering, research, and software development for MAGTF capability release	7.854	16.423	10.362
Articles:	-	-	-
FY 2013 Accomplishments: Focus of effort was initiating adaptation, development and integration of entity, task and presentation services from multiple programs of record to operate with the Tactical Service Oriented Architecture (TSOA). Initiated activities to incorporate functionality from the Fires, Logistics and Intelligence communities. Initiated build 5. Build 5 introduces enhanced collaboration, imagery functionality, and a federation prototype.			
FY 2014 Plans: Increase in FY14 funding supports enhancing services capability from builds 4 and 5 with the addition of user-facing applications, to include the Battle Command Display. Incorporate services which interoperate with logistics and intelligence systems and initiate build 6.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Deploy build 6 and initiate and deploy build 7, continuing 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 Rapid Response and Integration (R2I) process. Selected Command and Control Personal Computer (C2PC)/Joint Common Operational Picture Tactical Workstation (JTCW) application functionality 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.			
Title: *MAGTF C2: Program Support. Software engineering program support	1.671	2.132	1.889
Articles:	-	-	-
FY 2013 Accomplishments: Federally Funded Research Center (FFRDC) software engineering support provided appropriate government direction in design and development of software, conduct of source code reviews and prime vendor oversight.			
FY 2014 Plans: Federally Funded Research Center (FFRDC) will continue software engineering support to provide appropriate government direction in design and development of software, conduct of source code reviews and prime vendor oversight.			
FY 2015 Plans: Federally Funded Research Center (FFRDC) will continue software engineering support to provide appropriate government direction in design and development of software, conduct of source code reviews and prime vendor oversight.			
Title: *JBC-P: Software Development/Integration.	0.637	1.689	1.069
Articles:	-	-	-
FY 2013 Accomplishments: Personnel integrated into the software development team at the Software Engineering Directorate in Huntsville, AL in order to assist in the development and integration of the JBC-P capability. Federally Funded Research Center (FFRDC) software engineering support funded 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 analyzed for supportability of JBC-P and follow on increments of the capability.			
FY 2014 Plans: The increase in FY14 is a result of the BFSA and JBCP funding merged with funding for JBCP FoS Line. The increase will continue the coordination with the software development team at the Software Engineering Directorate in Huntsville, AL in order to assist in the development and integration of the JBCP software capability. Federally Funded Research Center (FFRDC) software			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
engineering support funded 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 analyzed for supportability of JBC-P and follow on increments of the capability. ***FY 2015 Plans:*** Continue the coordination with the software development team at the Software Engineering Directorate in Huntsville, AL in order to assist in the development and integration of the JBCP software capability. Federally Funded Research Center (FFRDC) software engineering support funded 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 analyzed for supportability of JBC-P and follow on increments of the capability.			
Title: *JBC-P: Training Development. ***Articles:*** ***FY 2013 Accomplishments:*** Evaluated and updated existing documentation for re-use as JBC-P evolves in support of training development. ***FY 2014 Plans:*** Continue evaluation and updating of existing documentation for re-use as JBC-P evolves in support of training development. ***FY 2015 Plans:*** N/A	0.200 -	0.225 -	- -
Title: *JBC-P: Developmental Test (DT)/Operational Test (OT) ***Articles:*** ***FY 2013 Accomplishments:*** Laboratories integration with Huntsville Software Engineering Directorate (SED) and Marine Corps Tactical Systems Support Activity (MCTSSA) in order to facilitate test and network integration test events. Marine Corps Operational Test & Evaluation Activity (MCOTEA) support for developmental test (DT) and planning/support for operational test (OT). ***FY 2014 Plans:*** Continue laboratories integration with Huntsville SED and MCTSSA in order to facilitate test and network integration test events. MCOTEA DT/OT evaluation and documentation. ***FY 2015 Plans:*** Continue laboratories integration with Huntsville SED and MCTSSA in order to facilitate test and network integration test events. MCOTEA DT/OT evaluation and documentation.	0.153 -	0.900 -	0.600 -
Title: *JBC-P: Information Assurance	0.450	0.525	0.453

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: Information assurance activities supported certification and accreditation efforts of JBC-P software. ***FY 2014 Plans:*** Information assurance activities to support certification and accreditation efforts of JBC-P software. ***FY 2015 Plans:*** Information assurance activities to support certification and accreditation efforts of JBC-P software.			
Title: *JBC-P: System Engineering Support	0.350	0.396	0.861
Articles:	-	-	-
FY 2013 Accomplishments: Engineering Support personnel and travel. ***FY 2014 Plans:*** Engineering Support personnel and travel. ***FY 2015 Plans:*** The FY15 increase is for Naval Surface Warfare Center (NSWC) Engineering, Test and Evaluation Support personnel and travel. NSWC will plan and document test events, provide safety testing support, and will provide extensive systems engineering and software engineering support for JBC-P FoS.			
Title: *BFSA: Software Development, Integration and Testing	1.769	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Software and network developmental efforts for USMC specific requirements and associated risk reduction events. BFSA funding is merged into the Joint Battle Command - Platform (JBC-P) Family of Systems (FoS) beginning in FY14. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: *BFSA: Information Assurance	0.141	-	-
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Information assurance activities to support certification and accreditation efforts of Joint Capability Release (JCR) software upgrades. BFSA funding is merged into the Joint Battle Command - Platform (JBC-P) Family of Systems (FoS) beginning in FY14. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: *TCO: System testing and integration to develop additional functional capabilities. ***Articles:*** ***Description:*** Hardware upgrade solutions were researched and documented, in preparation for seamless transition to future technology and increased software capability. ***FY 2013 Accomplishments:*** Updated Global capability as enhanced Command Operation Picture (COP) service. Integrated and tested ability to exchange data with multiple Command and Control (C2) systems. Executed interoperability between Global and modules. ***FY 2014 Plans:*** Develop 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 2015 Plans:*** Continue 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.	1.247 -	1.194 -	0.878 -
Title: *TCO: Testing and validations of advanced concepts and technologies. ***Articles:*** ***FY 2013 Accomplishments:*** Tested and validated advanced concepts and technologies. ***FY 2014 Plans:***	1.187 -	1.053 -	1.171 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Continue testing and validation of advanced concepts and technologies. ***FY 2015 Plans:*** Continue testing and validation of advanced concepts and technologies.			
Title: *IDS: System Development and Testing	3.170	0.946	0.764
Articles:	-	-	-
FY 2013 Accomplishments: Provided system integration, testing, and technical program development documentation in preparation for Developmental Testing (DT). ***FY 2014 Plans:*** Provide system integration, software development, testing, validation and verification, systems engineering and technical program support ***FY 2015 Plans:*** Provide system integration, software development, testing, validation and verification, systems engineering and technical program support			
Title: *AFATDS: Software Development and Integration	1.714	1.515	5.363
Articles:	-	-	-
FY 2013 Accomplishments: Completed limited AFATDS/BUCS software and interface enhancements and interoperability testing. ***FY 2014 Plans:*** Initiate development of Increment 2, adding limited AFATDS/BUCS USMC capabilities or interface enhancments with other C2 systems. Limited interoperability testing. ***FY 2015 Plans:*** Continue development of Increment 2, adding USMC capabilities or interface enhancments with other C2 systems and initiate interoperability testing for AFATDS and BUCS (Centaur and Sensor Programs) software.			
Title: *THS: Software Development	2.252	0.710	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued the development of the next major software release and migrated to a new operating system. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Continue the development of the next major software release and early protyping of the next operating system migration. ***FY 2015 Plans:*** N/A			
Title: *AFATDS: Information Assurance ***Articles:*** ***FY 2013 Accomplishments:*** Information Assurance Certification and Accreditation activities to ensure confidentiality, integrity, and availability of AFATDS/ BUCS S/W. ***FY 2014 Plans:*** Information Assurance Certification and Accreditation activities to ensure confidentiality, integrity, and availability of AFATDS/ BUCS S/W and MTS Accreditation. ***FY 2015 Plans:*** N/A	0.108 -	0.200 -	- -
Title: *THS: Information Assurance ***Articles:*** ***FY 2013 Accomplishments:*** Software Certification and Accreditation activities to obtain Authority to Operate (ATO) to operate on the Marine Corps Enterprise Network for new major software releases. ***FY 2014 Plans:*** Software Certification and Accreditation activities to obtain ATO to operate on the Marine Corps Enterprise Network for new major software releases. ***FY 2015 Plans:*** N/A	0.230 -	0.250 -	- -
Title: *THS: Engineering Research in Support of Software Development ***Articles:*** ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:***	- -	0.280 -	3.387 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Analysis of trade studies and market research integrating video receive software with THS software. ***FY 2015 Plans:*** Analysis of Alternatives (AoA) of prototypes and first article test models to determine viable hardware candidates capable of hosting a future THS software application.			
Title: *THS - Video Down Link Receiver Prototypes	-	0.125	-
Articles:	-	5.000	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Procure Video Down Link Receiver Prototypes to develop a cable interface with existing system, develop a software interface with existing software and perform Electromagnetic Inteferance (EMI) and Environmental Testing. ***FY 2015 Plans:*** N/A			
Title: *THS: Testing and Evaluation	0.248	0.300	0.325
Articles:	-	-	-
FY 2013 Accomplishments: Performed software interoperability testing. ***FY 2014 Plans:*** Continue software interoperability testing. ***FY 2015 Plans:*** Continue software interoperability testing.			
Title: *H2C2: Integration Engineering	-	-	1.700
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Develop, design, and integrate various emerging capabilities across the H2C2 portfolio. The funding will provide support for sustained engagement with various industry providers, quick look technology excursions, and experimentation demonstrations for high risk emerging technology.			
Accomplishments/Planned Programs Subtotals	23.381	28.863	28.822

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/4631AA: *JBC-P*	9.405	40.109	10.685	-	10.685	12.754	16.114	10.288	8.499	Continuing	Continuing
• PMC/4631BB: *AFATDS*	2.523	21.168	6.049	-	6.049	2.729	2.862	16.007	15.757	Continuing	Continuing
• PMC/4631CC: *THS*	4.781	4.224	6.427	-	6.427	6.401	-	-	2.408	Continuing	Continuing
• PMC/4631DD: *GCCS-TCO*	7.224	9.836	11.692	-	11.692	8.471	8.862	9.027	9.218	Continuing	Continuing
• PMC/4631FF: *GCCS*	1.667	-	-	-	-	-	-	-	-	-	84.163
• PMC/4631GG: *BFSA*	6.886	-	-	-	-	-	-	-	-	-	349.694
• PMC/643800: *IDS*	-	1.808	1.654	-	1.654	1.183	0.501	0.501	1.008	Continuing	Continuing

Remarks

D. Acquisition Strategy

MAGTF C2 SA: MAGTF C2 SA is delivering command and control capabilities through bi-annual software releases with major releases in FY13 and FY15 through multiple programs of record. 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 GIG and other Joint networks, data and services.

JBC-P: JBC-P is leveraging the Army's (PM Joint Battle Command-Platform (PM JBC-P)) development of the JBC-P software and the Marine Corps' program is contingent upon the Army's development and acquisition strategy. PM JBC-P 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.

BFSA: BFT FoS is leveraging an Army (PM Joint Battle Command-Platform (PM JBC-P)) ACAT II program to deliver a critical battlefield command and control system to the operating forces. These systems operate on both a terrestrial and celestial network and enable tactical units to move more effectively by providing friendly unit identification and location, as well as friendly intent and status. The current focus is on testing and evaluating improved software which will make possible type-1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

encryption and a greater bandwidth network. The long term goal is a secured reduced latency system that will greatly improve the battlefield commander's situational awareness and reduce the potential of fratricide.

TCO: Contracting is performed with various vendors for software test and integration, COTS evaluation and documentation to develop advanced concepts and additional functional capabilities. The PMO 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 readiness reviews as well as the DOT&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). In FY13 the program provided funding to PMS408 to enhance the Navy IDS software to meet the IDS MC unique requirements.

AFATDS: AFATDS is a Cost Plus Award Fee contract through Army CECOM, Aberdeen Proving Ground, MD. R&D efforts will be a combined effort between the software developer (Raytheon), the Army PM and the USMC of software enhancements for the next planned versions of AFATDS.

THS: The acquisition of components (software/hardware) for the THS initiative will maximize the use of existing COTS, GOTS, NDI, and GFE. Software development is conducted utilizing a sole source small-business contract. 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 Commercial off-the-shelf (COTS) and Non-development Item (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-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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

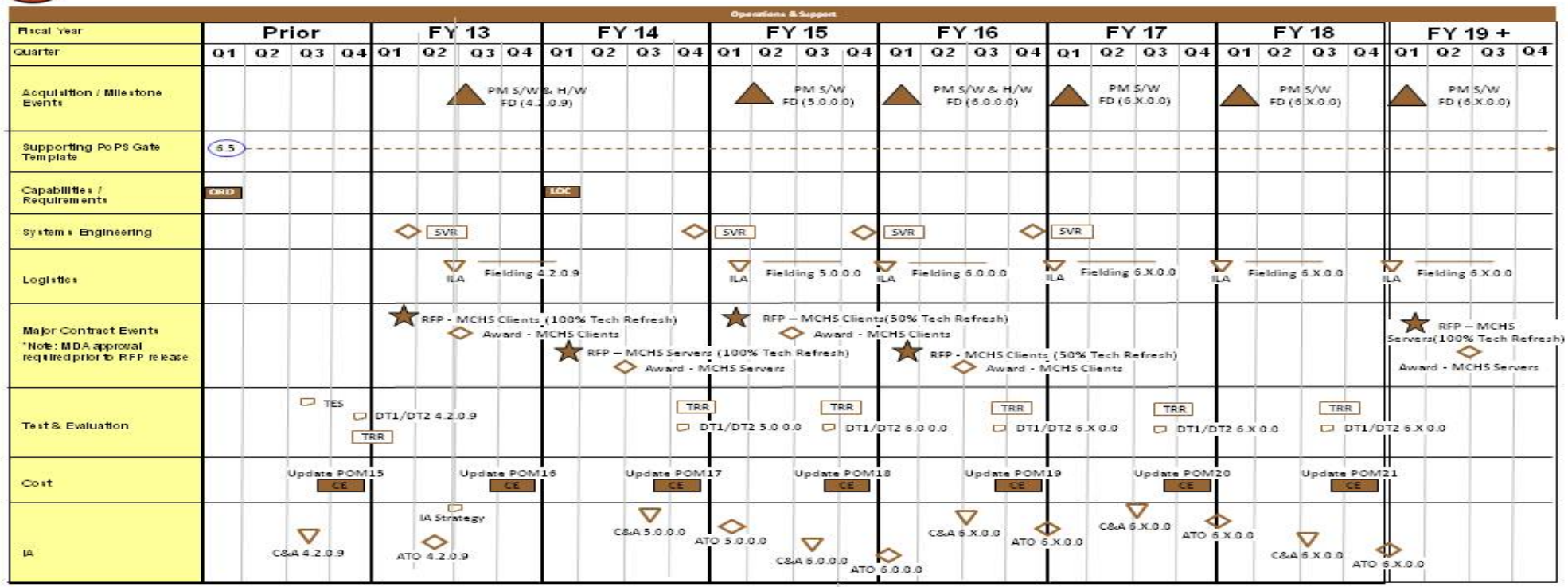
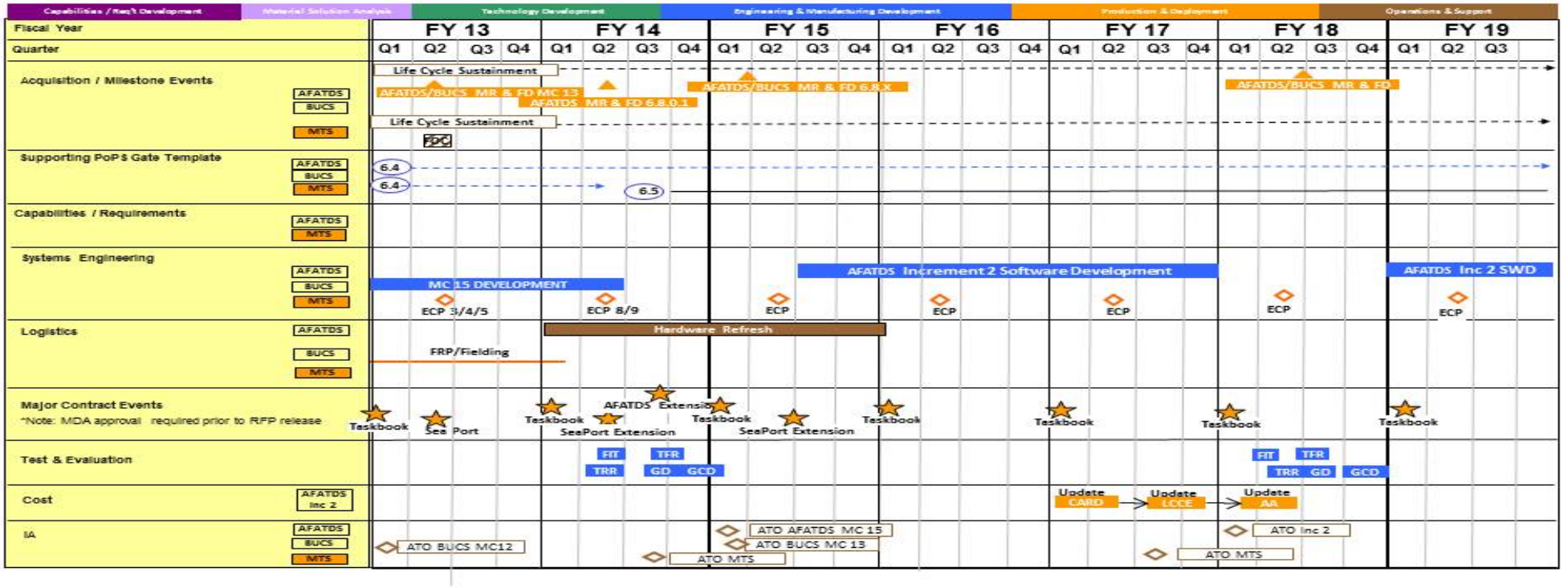


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

AFATDS FoS Schedule



Unclassified

1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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

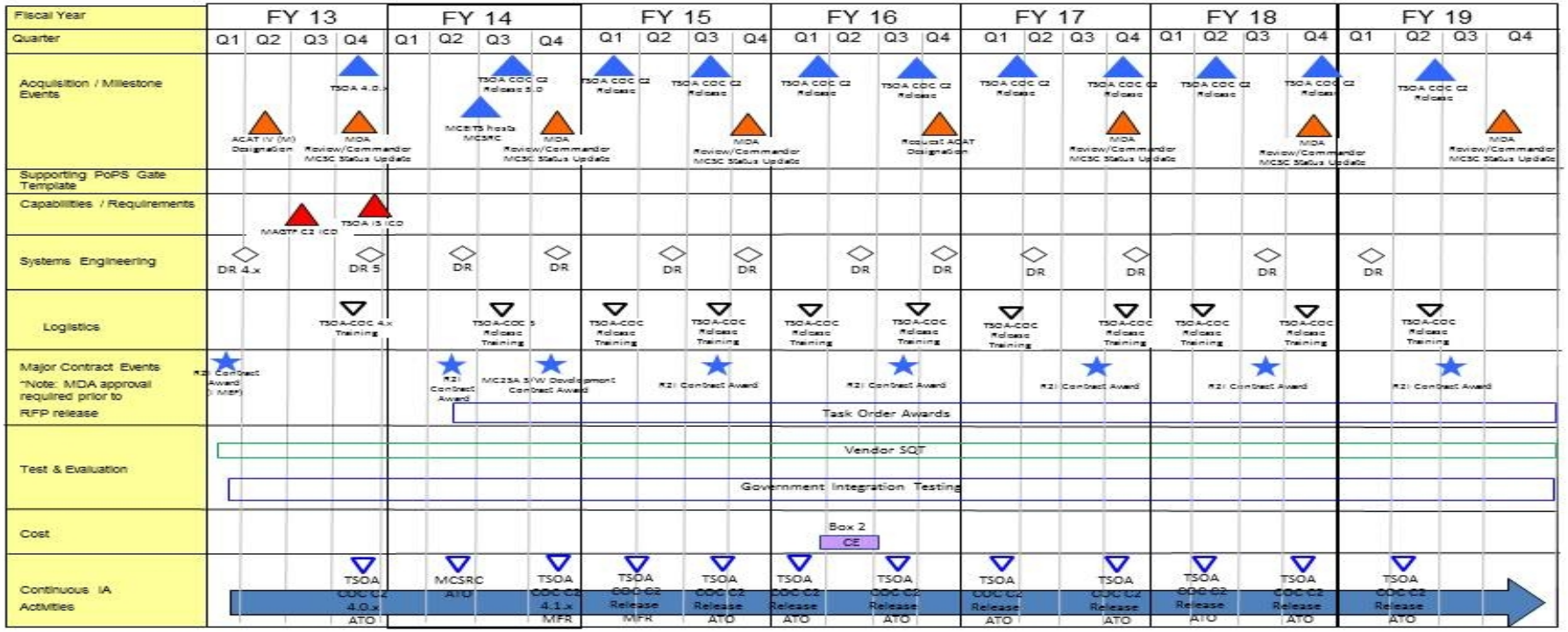
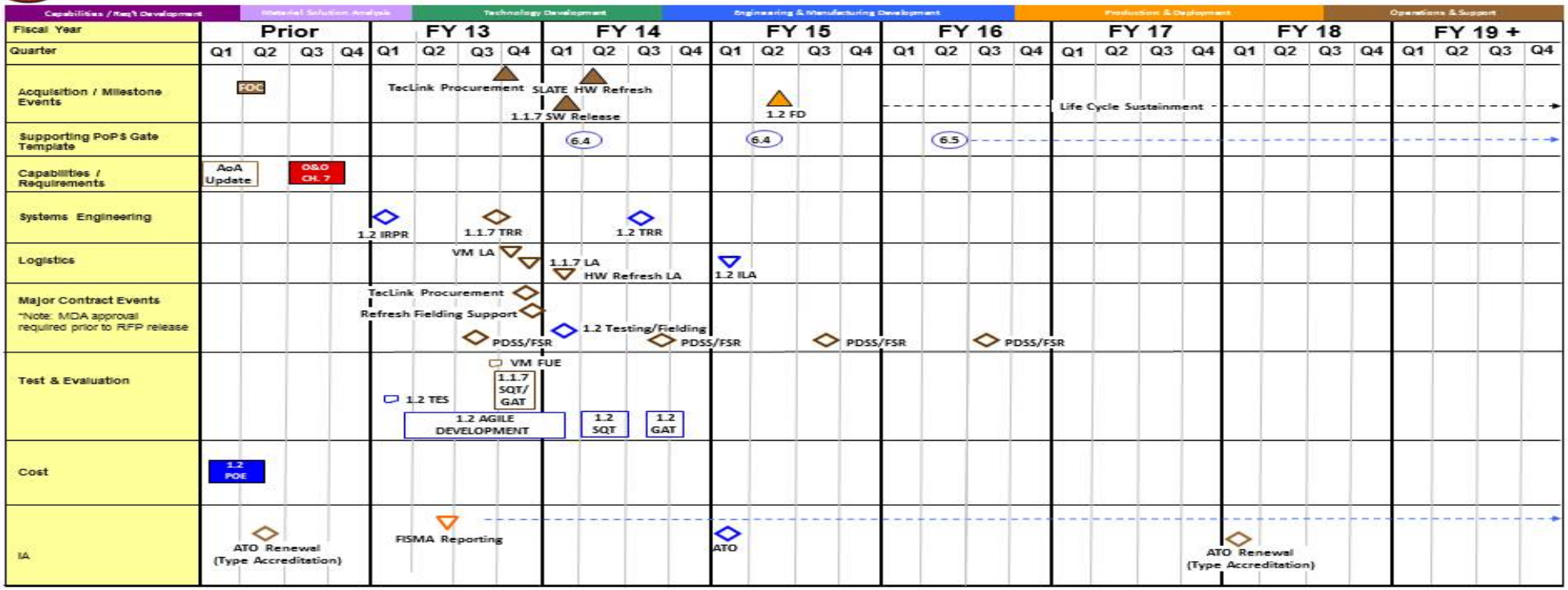


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

THS Schedule



Unclassified

1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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*

JBC-P FoS Program Schedule

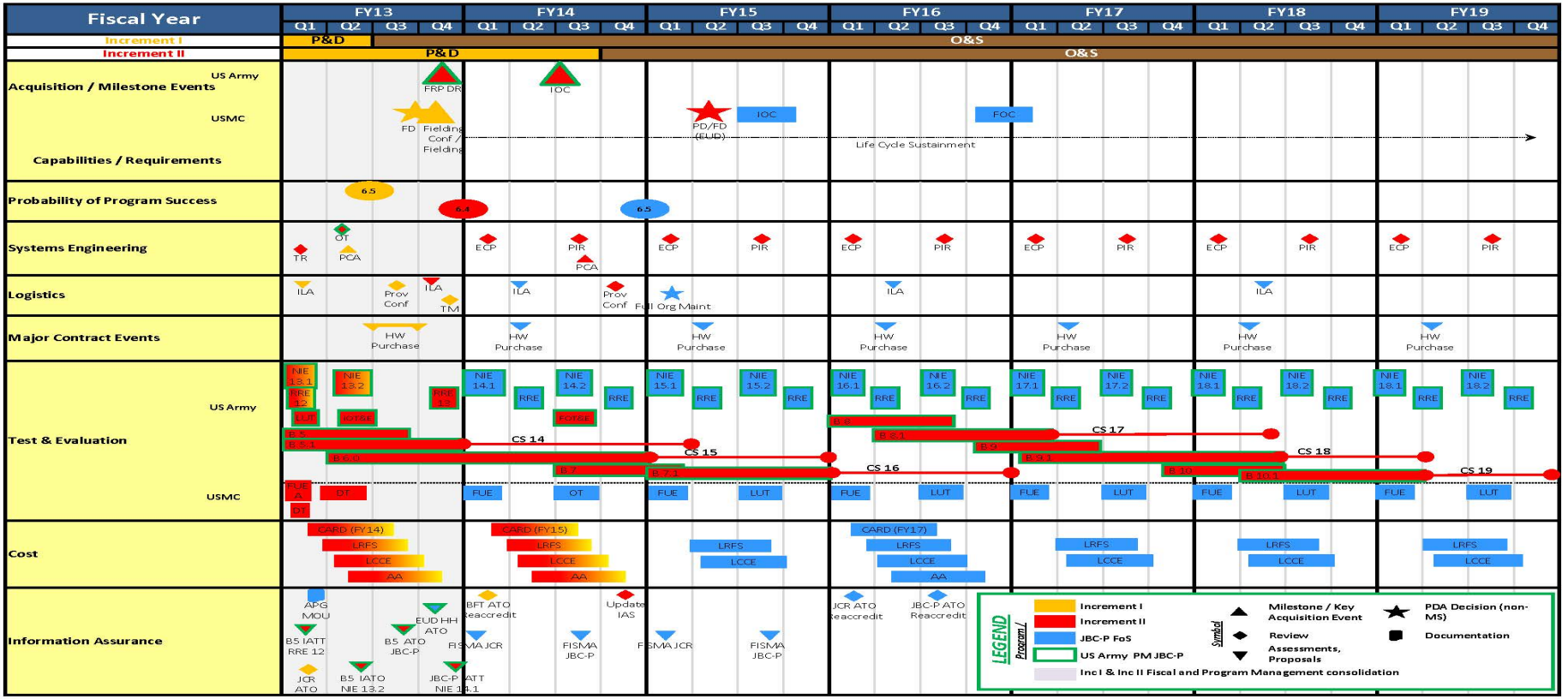


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

Program Schedule H2C2

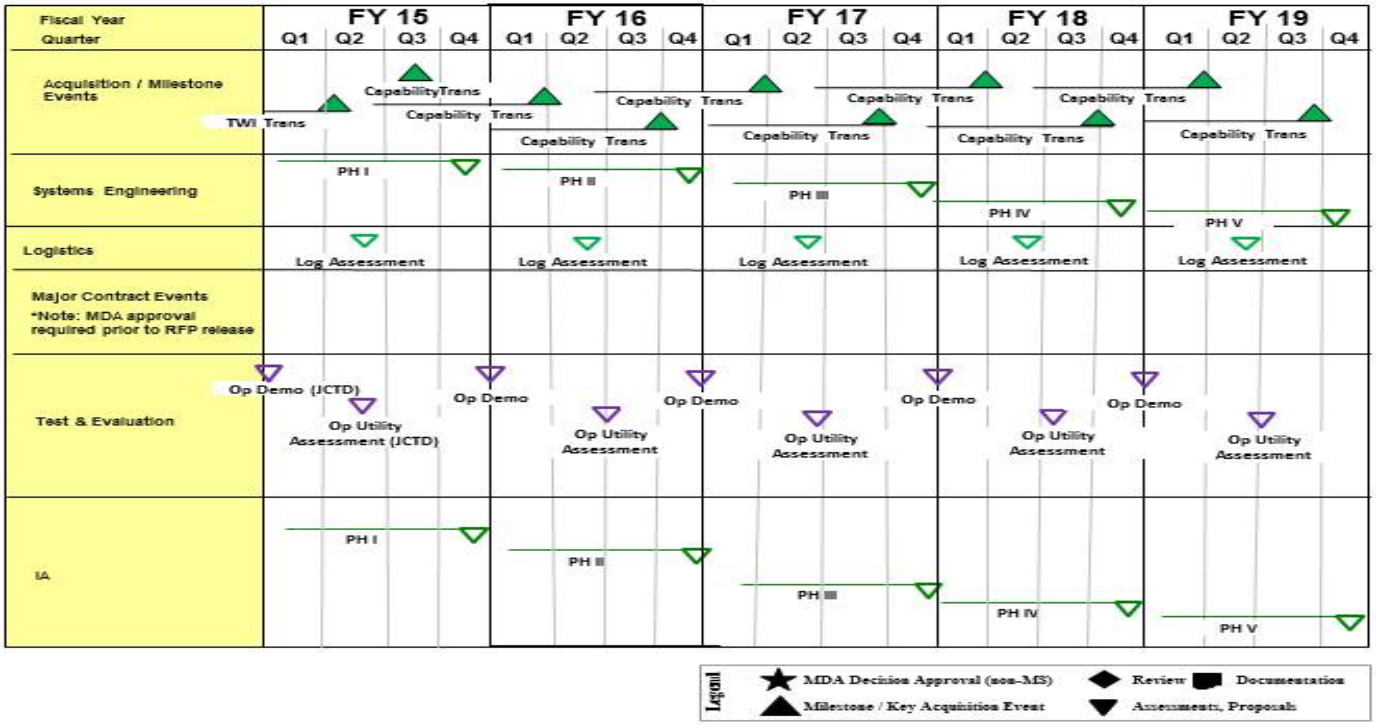
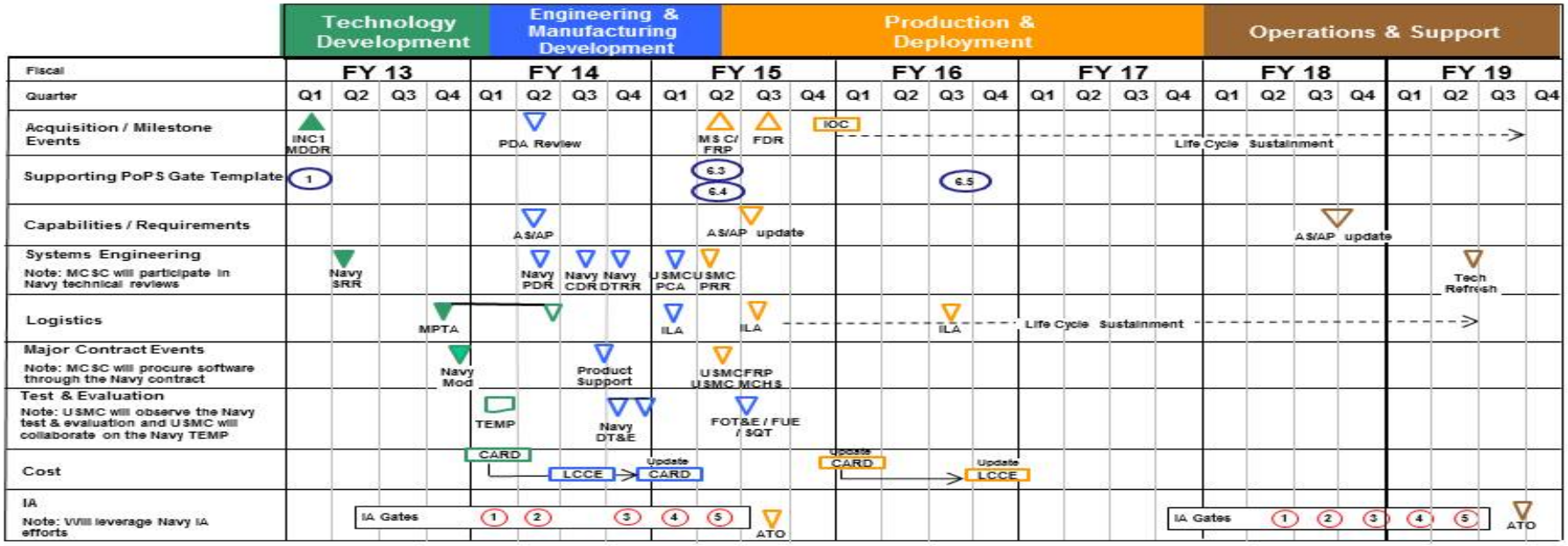


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

Identity Dominance System (IDS) Schedule



Unclassified

1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2273: *Air Ops Cmd & Control (C2) Sys*	287.573	51.302	65.069	8.811	-	8.811	8.805	11.116	11.250	8.996	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 582

The FY 2015 OCO Request will be submitted at a later date.

Note

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

A. Mission Description and Budget Item Justification

Common Aviation Command and Control System (CAC2S) - A coordinated modernization effort to replace the existing aviation command and control equipment of the Marine Air Command and Control System (MACCS) and to provide the Aviation Combat Element (ACE) with the necessary hardware, software, equipment, and facilities to effectively command, control, and coordinate aviation operations. The CAC2S system will accomplish the MACCS missions with a suite of operationally scalable modules to support the Marine Air Ground Task Force (MAGTF), Joint, and Coalition Forces. The CAC2S integrates the functions of aviation command and control into an interoperable system that will support the core competencies of all Marine Corps warfighting concepts. The CAC2S, in conjunction with MACCS organic sensors and weapons systems, supports the tenets of Expeditionary Maneuver Warfare and fosters joint interoperability. CAC2S Increment I will replace legacy aviation command and control systems in the following Marine aviation agencies: Direct Air Support Center (DASC), Tactical Air Command Center (TACC), and Tactical Air Operations Center (TAOC). Prior year to FY14 funding for this program is located in this project (2273). Funding for FY15 through the FYDP is contained in PE 0206335M and Project 3373.

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 Marine Air Ground Task Force (MAGTF). It is scalable, allowing for joint, coalition and service specific operations. It is an evolutionary acquisition program.

Composite Tracking Network (CTN) - Provides the Marine Air Ground Task Force (MAGTF) Commander 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, which is then provided to the warfighter in the form of composite, real-time, air surveillance tracks. AN/MSQ-143A (V)I - funding will allow CTN to execute transportability testing and conduct a Field User Evaluation (FUE) of this system configuration. These events

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

will wrap up the testing for this configuration and allow the CTN Program Office to go to the Milestone Decision Authority (MDA) for a fielding decision for this system configuration.

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 Marine Air Ground Task Force (MAGTF) operations. The 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).

Joint Cooperative Target ID Ground (JCTI-G) - The program was refocused late in FY11 to reflect the results of a JFCOM led AoA that determined the best path to follow for continued reduction of fratricide incidents. Funding to support Fielded and Planned Capability Improvements (FPCI) which will contribute to Combat Identifications (CID) and fratricide mitigation. An Army and Marine Corps agreement supports closure of the Fires-On-Dismount fratricide mitigation gap and to refocus on FPCI requirements.

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 Ballatlion-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.

Remote Video Viewing Terminal (RVVT) - Provides the warfighter with video connectivity to multiple types of aerial platforms that transmit in C, L, S, or Ku frequency Bands (such as 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 Regimental Combat Teams (RCT), Forward Observers (FO) and Forward Air Controller (FAC) operators who coordinate with higher headquarters for fires.

Joint Interface Control Office (JICO) Support System (JSS) - Will provide net-centric services through a transformational management system to enable internet protocol-based networks of the future to operate efficiently with current tactical networks. It will manage complex tactical networks through an automated toolset and information repository that enables planning, management and analysis of tactical data link communications before, during and after operations.

The funding decrease from FY 14 to FY15 is due to CAC2S moving to PE 0206335M in FY 15, the CTN Antenna Trailer development no longer being developed in FY15, and the completion of the development of MACCS ECPs in FY14.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: CAC2S - Product Development	23.181	29.842	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Development and integration of the Aviation Command and Control Subsystem - Building four (4) Engineering and Development Models (EDMs) - EDM data and information fusion - Component hardware integration and software development ***FY 2014 Plans:*** Continue - Development and integration of the Aviation Command and Control Subsystem - EDM data and information fusion Initiate - System validation and verification of the four (4) Engineering and Development Models (EDMs) ***FY 2015 Plans:*** N/A			
Title: CAC2S - Support and Management Services ***Articles:*** ***FY 2013 Accomplishments:*** Continued program management support including business support, engineering support, and logistical support. ***FY 2014 Plans:*** Continue program management support including business support, engineering support, and logistical support. The increase in funding is due to an increase costs associated with performing Developmental Testing (DT) of the Engineering and Development Models (EDMs) in FY14. ***FY 2015 Plans:*** N/A	4.880 -	8.364 -	- -
Title: CAC2S - Test and Evaluation ***Articles:*** ***FY 2013 Accomplishments:*** Continued phase 2 Information Assurance certification test scans. ***FY 2014 Plans:*** Continue support of phase 2 in Information Assurance certification test scans and initiate CAC2S developmental testing of the Engineering and Develpment Models (EDMs). ***FY 2015 Plans:***	0.994 -	5.946 -	- -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A			
Title: COC: Continued Capability Solution	6.291	2.695	0.800
Articles:	-	-	-
FY 2013 Accomplishments: Conducted analysis of technologies for integration in COC Baseline.			
FY 2014 Plans: Continue to conduct analysis of technologies for integration in COC Baseline. Analysis to support Size Weight Power Reduction efforts.			
FY 2015 Plans: Continue to conduct analysis of technologies and software interoperability for integration in COC Baseline.			
Title: COC: Test and Evaluation	0.017	0.479	0.819
Articles:	-	-	-
FY 2013 Accomplishments: JTIC testing and analysis for COC.			
FY 2014 Plans: Testing of updated software and system integration.			
FY 2015 Plans: Testing of updated software and system integration.			
Title: Composite Tracking Network (CTN): Support and Management Services	1.980	5.130	1.004
Articles:	-	-	-
FY 2013 Accomplishments: - Continued Data Collection and Analysis of the USG-4A and 4B test assets during test activities. The USG-4A and 4B is a land-based enhanced Anti-Air Warfare (AAW) capability. - Initiated CTN integration testing with CAC2S and Developmental Testing activities with G/ATOR, this includes travel, Government engineering support, test support, and S/W support. - Continued CTN Data Collection and Analysis. - Continued travel and support for systems engineering and introduction of updates to the Software (S/W) baseline.			
FY 2014 Plans: - Initiate S/W Maintenance Support.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Initiate USG-4B Analysis/Extraction Updates, Data Analysis, Safety, System Engineering. - Complete Wrap Around Simulation Program (WASP) S/W Updates, Data Analysis, Safety, System Engineering. - Continue Data Collection and Analysis. - Continue travel, engineering support, test support, and S/W support. - Continue systems engineering and updates to the S/W baseline. ***FY 2015 Plans:*** - Continue S/W Maintenance Support, USG-4B Analysis/Extraction, Data Analysis, Safety, System Engineering. - Continue Data Collection and Analysis. - Continue systems engineering and updates to the software baseline. - Continue travel, engineer support, test support, and S/W support.			
Title: Composite Tracking Network (CTN): Certification of Interfaces	0.603	0.233	0.220
Articles:	-	-	-
FY 2013 Accomplishments: - Continued to develop Software for Accelerated Mid-Term Interoperability Improvement Plan (AMIIP) program. - Continued CEC Design Agent development of Ground/Air Task Oriented Radar (G/ATOR) TPS-80 adaptive layer for interoperability. ***FY 2014 Plans:*** - Initiate Common Array Block - Expeditionary (CAB-E) testing/verification support. - Continue to support testing/verification/updates for Accelerated Mid-term Interoperability Improvement Program - Initiate ramp up System-to-System engineering to support interface with CAC2S and G/ATOR. ***FY 2015 Plans:*** - Continue Common Array Block (CAB-E) testing/verification/updates - Continue to support testing/verification/updates for Accelerated Mid-term Interoperability Improvement Program - Continue System-to-System developmental engineering to support interface with CAC2S and G/ATOR.			
Title: Composite Tracking Network (CTN): Engineering Development Model	1.154	3.766	1.188
Articles:	-	-	-
FY 2013 Accomplishments: - Continued Network Status Display development for CAC2S and AN/TPS-59 radar. - Initiated MODE V Development. - Initiated development of Gallium Nitride (GaN) based transceivers for integration into CAB-E antenna. - Continued Information Assurance (IA) developmental activities			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Continued WASP Software development. ***FY 2014 Plans:*** - Initiate Common Array Block - Expeditionary (CAB-E) Antenna Development for USMC under USN CAB Joint Program. - Initiate Network Status Display development for G/ATOR. - Initiate integration and developmental testing with CAC2S and G/ATOR. - Initiate Systems Engineering for AN/USG-4B, TPN-59 regression testing and Information Assurance. - Continue Information Assurance (IA) developmental activities. - Complete WASP Software development. ***FY 2015 Plans:*** - Continue CAB-E Antenna Developmental Activities. - Continue integration and developmental testing with CAC2S and G/ATOR. - Continue Information Assurance (IA) developmental activities			
Title: Marine Air Command and Control System (MACCS) Service Life Extension Program (SLEP)/Sustainment: Product Development, Support and Mgmt Services, and T&E	8.787	3.608	1.266
Articles:	-	-	-
FY 2013 Accomplishments: - Continued to support Post Development Software Support (PDSS) activities. - Initiated refresh of obsolete hardware items. - Initiated the implementation of system improvements/modifications in accordance with approved systems engineering processes. - Completed the fielding of two additional Communication Data Link Systems to the TACC. - Continued developing software updates to the TAOC and the Beyond Line of Sight Gateway's (BLOS GW) Operating Systems. - Initiated developing and completing Engineering Change Proposals (ECPs) for the Mobile Tactical Air Operations Module (MTAOM). ***FY 2014 Plans:*** - Continue TACC and TAOC Life Cycle Support through ongoing PDSS activities. - Continue active refresh of obsolete hardware items. - Continue to develop and procure ECPs for MTAOM. - Initiate Commercial off the Shelf (COTS) refresh for MTAOM to include completion of a Production Ready Model and Developmental Testing.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Begin Information Assurance updates (tri-annual drops). ***FY 2015 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. - Complete production of COTS Refresh kit for the MTAOM and fielding to the Operational Forces. - Complete the Operational Assessment for the MTAOMs COTS refresh activities. - Initiate software updates including delivery of new OS. - Continue Information Assurance updates (tri-annual drops).			
Title: RVVT: Preparation of MS C and Full Rate Production and Fielding activities ***Articles:*** ***FY 2013 Accomplishments:*** Initiated pre-Milestone activities and continued development and testing efforts for Type I capable static COC VideoScout system (MC/3 version). ***FY 2014 Plans:*** Initiate COC Videoscout system (MC/2 and M/3 version) pre-production testing and information assurance activities. ***FY 2015 Plans:*** Initiate analysis of alternatives and development and testing efforts for the next generation of a RVVT COC Static Variant.	0.577 -	2.251 -	1.090 -
Title: TBMCS - Test and Evaluation ***Articles:*** ***FY 2013 Accomplishments:*** Continued test and evaluation support for TBMCS upgrades for Joint Interoperability. ***FY 2014 Plans:*** Continue test and evaluation support for TBMCS upgrades for Joint Interoperability. ***FY 2015 Plans:*** Continue test and evaluation support for TBMCS upgrades for Joint Interoperability.	2.838 -	2.755 -	2.424 -
Accomplishments/Planned Programs Subtotals	51.302	65.069	8.811

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/4640CT: *CTN*	0.100	0.307	1.494	-	1.494	0.015	-	-	-	-	51.044
• PMC/4640CN: *MACCS Sustainment*	23.102	10.099	0.916	-	0.916	0.884	0.283	0.062	0.050	Continuing	Continuing
• PMC/4640DX: *TBMCS*	3.582	4.465	3.837	-	3.837	3.435	3.468	3.818	3.922	Continuing	Continuing
• PMC/419005: *COC*	1.406	15.684	9.178	-	9.178	13.206	15.326	15.603	14.025	Continuing	Continuing
• PMC/464023: *RVVT*	0.001	2.195	1.755	-	1.755	0.205	10.549	10.661	8.160	Continuing	Continuing
• PMC/4640DY: *CAC2S*	0.065	0.080	-	-	-	-	-	-	-	-	90.145
• PMC/4630DX: *TBMCS*	-	0.864	-	-	-	-	0.999	1.016	1.038	Continuing	Continuing
• PMC/700000: *CAC2S*	-	-	1.698	-	1.698	2.700	3.001	3.403	3.474	Continuing	Continuing
• PMC/4630CN: *MACCS*	8.639	-	0.079	-	0.079	0.782	0.315	-	-	-	9.815
• PMC/464400: *CAC2S*	-	-	12.272	-	12.272	32.744	58.597	49.919	50.867	Continuing	Continuing
• 0206355M/3373: *CAC2S*	-	-	32.495	-	32.495	13.538	10.743	3.435	3.500	Continuing	Continuing

Remarks

D. Acquisition Strategy

CAC2S will employ an evolutionary acquisition strategy utilizing an incremental and phased approach for development and fielding of the CAC2S. The Capability Production Document (CPD) identifies two increments to achieve the full requirements of CAC2S. The current acquisition strategy addresses Increment I of the CAC2S development process and focuses on the requirements that will modernize the assault and air support, air defense and control, and Aviation Combat Element (ACE) battle management capabilities of the Marine Air Command and Control System (MACCS). Increment I of the CAC2S will be accomplished through a two phased approach. Phase 1 will address the requirements to establish the baseline CAC2S capabilities for the MACCS and improve Air Command and Control (AC2) performance and effectiveness. Phase 2 will address the requirements for remaining ACE Battle Management Command & Control (BMC2) requirements.

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. The USMC will not be letting any competitive contracts for TBMCS, but following the USAF lead, utilizing USAF TBMCS contracts and fielding only the joint modules of TBMCS. As USMC unique requirements are identified and funded, they will be provided to the USAF (to include funding) for inclusion within TBMCS utilizing the USAF delivery order (fixed price) contract. Over the course of the FYDP, the USMC will leverage USAF software support activities vice funding strictly USMC software support.

MACCS SUSTAINMENT - 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

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

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.

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.

RVVT - In the near term, will utilize an existing SPAWAR IDIQ contract to procure Commercial Off-The-Shelf (COTS) capability with limited development required to test interoperability with Manned and Unmanned Air Platforms. To conduct an Analysis of Alternatives (AOA) beginning FY15 for a competitive solution for the next generation RVVT.

COC - The Combat Operations Center (COC) AN/TSQ-239 (V)2/3/4 is the foundation of USMC C2, meeting near term communications and network requirements in OEF. There is a continuing developmental effort to evolve the COC into a fully integrated MAGTF C2 capability. FY13 and FY15 supports continual tech refresh, technology insertion, modernization and software upgrade releases.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	NSWC : Crane, IN	23.325	0.290	Feb 2013	1.614	Nov 2013	-		-		-	-	25.229	-
CAC2S	C/CPIF	General Dynamics : Quantico, VA	8.603	-		-		-		-		-	-	8.603	-
CAC2S	C/FPIF	General Dynamics - Phase 2 Contractor : Scottsdale, AZ	35.393	16.316	Nov 2012	21.084	Nov 2013	-		-		-	-	72.793	-
CAC2S	WR	NSWC : Dahlgren, VA	29.426	6.175	Nov 2012	6.584	Nov 2013	-		-		-	-	42.185	-
CAC2S	MIPR	NAVSEA : Washington, DC	0.656	0.100	Jun 2013	0.560	Mar 2014	-		-		-	-	1.316	-
CAC2S	MIPR	DAF-FMBIB : Washington, DC	0.000	0.300	Jun 2013	-		-		-		-	-	0.300	-
CTN	WR	NSWC : Crane, IN	3.736	-		-		-		-		-	-	3.736	-
CTN	C/CPFF	NAVSEA PEO IWS : Washington, DC	8.956	1.154	Nov 2012	3.766	Nov 2013	1.708	Nov 2014	-		1.708	Continuing	Continuing	Continuing
MACCS Sustainment	Reqn	NGES : Woodland Hills, CA	18.389	1.000	Jul 2013	2.578	Nov 2013	-		-		-	Continuing	Continuing	Continuing
MACCS Sustainment	WR	NSWC : Crane, IN	2.111	-		-		0.200	Nov 2014	-		0.200	-	2.311	-
MACCS Sustainment	Reqn	KATMAI : Van Nuys, CA	1.455	2.126	Jan 2013	-		-		-		-	Continuing	Continuing	Continuing
MACCS Sustainment	C/FFP	ULTRA : Austin, TX	0.000	1.160	Jul 2013	-		-		-		-	-	1.160	-
JCTI-G Pax 1	WR	NAVAIR : Pax River, MD	0.145	-		-		-		-		-	-	0.145	-
JCTI-G FPCI Efforts	Various	Various : Various	23.883	-		-		-		-		-	-	23.883	-
JCTI-G	WR	NSWC : Crane, IN	1.617	-		-		-		-		-	Continuing	Continuing	Continuing
JCTI-G Pax 2	Reqn	NAVAIR : Pax River, MD	1.830	-		-		-		-		-	-	1.830	-
COC	WR	SPAWAR : Charleston, SC	11.624	1.026	Mar 2013	0.300	Jun 2014	0.800	Oct 2014	-		0.800	Continuing	Continuing	Continuing
COC	Reqn	General Dynamics : Not Specified	27.811	-		-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
COC	Reqn	Coherent : Johnstown, PA	0.299	-		-		-		-		-	-	0.299	-
COC	WR	NSWC : Crane, IN	0.520	0.443	Feb 2013	0.522	Jan 2014	-		-		-	-	1.485	-
COC	MIPR	CECOM : APG, MD	0.950	0.604	Nov 2012	0.556	Jan 2014	-		-		-	-	2.110	-
COC	WR	NSWC : Dahlgren, VA	2.900	1.548	Feb 2013	1.200	Jan 2014	-		-		-	-	5.648	-
COC	WR	NSWC : Panama City, FL	1.181	0.270	Feb 2013	0.117	Jan 2014	-		-		-	-	1.568	-
RVVT	WR	SPAWAR : Charleston, SC	0.000	-		1.851	Dec 2013	-		-		-	-	1.851	-
RVVT	C/CPFF	MCSC : Quantico, VA	0.000	-		-		0.500	Jan 2015	-		0.500	-	0.500	-
		Subtotal	204.810	32.512		40.732		3.208		-		3.208	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	Travel-TAD : Various	1.030	0.246	Sep 2013	0.425	Sep 2014	-		-		-	-	1.701	-
CAC2S	WR	NSWC Carderock : Carderock, MD	0.250	-		-		-		-		-	-	0.250	-
CAC2S	C/CPAF	AMSSA : APG, Mayrland	0.260	-		0.330	Nov 2013	-		-		-	-	0.590	-
CAC2S	WR	SPAWAR : Charleston, SC	0.110	-		0.559	Nov 2013	-		-		-	-	0.669	-
CAC2S	WR	JITC : Fort Huachuca, AZ	0.986	0.030	Nov 2012	0.100	Nov 2013	-		-		-	-	1.116	-
CAC2S	MIPR	MITRE : Boston, MA	5.628	2.017	Nov 2012	-		-		-		-	-	7.645	-
CAC2S	WR	MACCS-X : Camp Pendleton, CA	1.564	-		-		-		-		-	-	1.564	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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*	

Support ($ in Millions)

				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	MCTSSA : Camp Pendleton, CA	2.616	0.162	Nov 2012	0.387	Nov 2013	-		-		-	-	3.165	-
CAC2S	WR	NSWC Corona : Corona, CA	2.903	0.559	Nov 2012	1.715	Nov 2013	-		-		-	-	5.177	-
CAC2S	C/FP	BAH : Stafford, VA	2.003	-		-		-		-		-	-	2.003	-
CAC2S	C/IDIQ	SPAWAR : Pacific, CA	0.960	-		-		-		-		-	-	0.960	-
CAC2S	C/FP	RNB Technologies : Stafford, VA	0.778	-		-		-		-		-	-	0.778	-
CAC2S	C/FP	American Systems Corp. : Chantilly, VA	1.000	-		-		-		-		-	-	1.000	-
CAC2S	WR	APX : Washington, DC	0.000	-		-		-		-		-	-	-	-
CAC2S	Sub Allot	LOGCOM : ALBANY, GA	0.000	-		-		-		-		-	-	-	-
CAC2S	Allot	MCSC - Safety : Quantico, VA	0.000	0.482	May 2013	0.528	Feb 2014	-		-		-	-	1.010	-
CAC2S	MIPR	AFMC : Robins AFM, GA	0.000	0.030	Oct 2013	-		-		-		-	-	0.030	-
CAC2S	MIPR	Redstone : Redstone Arsenal, AL	0.000	-		0.320	Feb 2014	-		-		-	-	0.320	-
TBMCS	Various	Travel : Various	0.050	-		-		-		-		-	-	0.050	-
CTN	WR	NSWC : Dahlgren, VA	1.633	0.280	Jan 2013	2.632	Jan 2014	0.500	Jan 2015	-		0.500	Continuing	Continuing	Continuing
CTN	WR	NSWC : PHD, CA	0.259	-		0.412	Feb 2014	0.138	Feb 2015	-		0.138	Continuing	Continuing	Continuing
CTN	WR	NSWC : Crane, IN	0.400	-		0.507	Feb 2014	-		-		-	-	0.907	-
CTN	MIPR	MACS : Quantico, VA	0.140	-		-		-		-		-	-	0.140	-
CTN	WR	NAVSEA : Wallops Island, VA	0.372	-		-		-		-		-	-	0.372	-
CTN	Various	Travel-TAD : Not Specified	0.889	0.066	Sep 2013	0.100	Sep 2014	0.066	Sep 2015	-		0.066	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CTN	WR	SPAWAR : Charleston, SC	0.435	-		-		-		-		-	-	0.435	-
MACCS Sustainment	WR	NSWC : Crane, IN	0.089	0.949	Dec 2012	-		0.300	Nov 2014	-		0.300	Continuing	Continuing	Continuing
MACCS Sustainment	Reqn	NGES : Woodland Hills, CA	0.800	0.500	Jul 2013	0.500	Nov 2013	0.400	Nov 2014	-		0.400	Continuing	Continuing	Continuing
JCTI-G	Reqn	Tecolote : Arlington, VA	1.917	-		-		-		-		-	Continuing	Continuing	Continuing
RVVT	C/FFP	QNA : Stafford, VA	1.595	-		-		-		-		-	-	1.595	-
RVVT	WR	NSWC Dahlgren : Dahlgren, VA	0.000	0.200	Oct 2012	0.200	Oct 2013	-		-		-	Continuing	Continuing	Continuing
CTN	C/CPFF	NAVSEA PEO IWS : Washington DC	0.000	1.243	Nov 2012	1.347	Nov 2013	-		-		-	-	2.590	-
CTN	WR	NSWC Corona : Corona, CA	0.000	0.140	Nov 2012	0.132	Nov 2013	-		-		-	-	0.272	-
SIAP	C/FP	RNB Technologies : Stafford VA	5.374	-		-		-		-		-	-	5.374	-
JSS	C/CPFF	MCTSSA : Camp Pendleton, CA	0.267	-		-		-		-		-	-	0.267	-
MACCS Sustainment	C/FFP	SPAWAR Charleston : Charleston, SC	0.963	-		-		0.266	Nov 2014	-		0.266	Continuing	Continuing	Continuing
COC	MIPR	NUWC : Newport, RI	0.200	-		-		-		-		-	-	0.200	-
		Subtotal	35.471	6.904		10.194		1.670		-		1.670	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	NSWC Port Hueneme : Port Hueneme, CA	0.139	0.573	Nov 2012	1.319	Nov 2013	-		-		-	-	2.031	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	MCOTEA : Quantico, VA	7.000	0.421	Nov 2012	1.500	Nov 2013	-		-		-	-	8.921	-
CAC2S	WR	MACS-2 : Cherry Point, NC	0.000	-		2.201	Feb 2014	-		-		-	-	2.201	-
CAC2S	WR	MCTSSA : Camp Pendleton, CA	0.000	-		-		-		-		-	-	-	-
CAC2S	C/FFP	APX : Wahington, DC	0.000	-		0.750	Apr 2014	-		-		-	-	0.750	-
CAC2S	MIPR	NAWX : Patuxent River, MD	0.000	-		0.176	Feb 2014	-		-		-	-	0.176	-
TBMCS	C/FFP	Lockheed Martin : Colorado Springs, CO	0.000	2.564	Mar 2014	2.447	Mar 2014	2.082	Mar 2015	-		2.082	Continuing	Continuing	Continuing
TBMCS	WR	MCOTEA : Quantico, VA	0.560	-		-		-		-		-	-	0.560	-
TBMCS	MIPR	Englin AFB : Englin AFB, FL	0.230	0.274	Nov 2013	0.308	Jun 2014	0.342	Jun 2015	-		0.342	Continuing	Continuing	Continuing
CTN	C/BA	JITC : PHD, CA	0.000	-		0.033	Mar 2014	-		-		-	-	0.033	-
CTN	WR	MCSC CTQ : Quantico, VA	0.025	-		-		-		-		-	-	0.025	-
CTN	WR	PEO IWS 6 : St. Petersburg, FL	6.330	-		-		-		-		-	-	6.330	-
CTN	WR	NSWC Corona : Corona, CA	1.334	0.090	Nov 2012	-		-		-		-	-	1.424	-
CTN	WR	NSWC DD : Dahlgren, VA	1.262	-		-		-		-		-	-	1.262	-
CTN	C/CPFF	NAVSEA PEO IWS : Washington DC	0.000	0.333	Apr 2013	-		-		-		-	-	0.333	-
RVVT	WR	SPAWAR : Charleston, SC	0.000	0.377	Mar 2013	0.200	Dec 2013	-		-		-	-	0.577	-
CTN	WR	JITC : Fort Huachuca, AZ	0.043	0.015	Jun 2013	-		-		-		-	-	0.058	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CTN	WR	MCOTEA : Quantico VA	1.344	-		0.200	Feb 2014	-		-		-	-	1.544	-
CTN	WR	MCSC : Quantico, VA	3.876	-		-		-		-		-	Continuing	Continuing	Continuing
CTN	WR	NSWC : Crane, IN	1.064	0.165	Dec 2012	-		-		-		-	-	1.229	-
MACCS Sustainment	WR	Aberdeen Test Center : Aberdeen, MD	0.484	0.200	Nov 2012	0.230	Nov 2013	-		-		-	Continuing	Continuing	Continuing
MACCS Sustainment	Reqn	NGES : Woodland Hills, CA	1.922	1.497	Jul 2013	-		0.100	Nov 2014	-		0.100	Continuing	Continuing	Continuing
MACCS Sustainment	Various	MCOTEA : Quantico, VA	0.467	-		-		-		-		-	-	0.467	-
MACCS Sustainment	MIPR	DISA : Washington, DC	0.200	0.537	May 2013	-		-		-		-	-	0.737	-
RVVT	WR	SPAWAR : Charleston, NC	1.952	-		-		0.590	Dec 2014	-		0.590	Continuing	Continuing	Continuing
COC	MIPR	MCOTEA : Quantico, VA	0.728	-		-		-		-		-	-	0.728	-
COC	MIPR	JTIC : Fort Huachuca, AZ	0.140	0.017	Nov 2012	-		-		-		-	-	0.157	-
COC	TBD	MCTSSA : Camp Pendleton, CA	0.000	-		0.479	May 2014	0.819	Oct 2014	-		0.819	Continuing	Continuing	Continuing
		Subtotal	29.100	7.063		9.843		3.933		-		3.933	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	MIPR	DTIC: Fort Belvoir, VA : Fort Belvoir, VA	0.261	-		-		-		-		-	-	0.261	-
CAC2S	C/FFP	QNA: Stafford, VA : Quantico, VA	13.796	1.354	Jun 2013	4.000	Nov 2013	-		-		-	-	19.150	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy		Date: March 2014
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*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TBMCS	C/FFP	QNA: Stafford, VA : Quantico, VA	2.309	-	Jun 2013	-		-		-		-	-	2.309	-
CTN	WR	NSWC Dahlgren : Dahlgren, VA	0.000	0.251	Dec 2012	-		-		-		-	-	0.251	-
CTN	WR	MCSC : Quantico, VA	1.122	-		-		-		-		-	-	1.122	-
MACCS Sustainment	C/FFP	MCSC : Quantico, VA	0.350	0.818	Jul 2013	0.300	Jul 2014	-		-		-	-	1.468	-
JSS	Reqn	Travel : Quantico, VA	0.022	-		-		-		-		-	-	0.022	-
JSS	C/FFP	TASC : Quantico, VA	0.147	-		-		-		-		-	-	0.147	-
JSS	WR	SPAWAR : Charleston, SC	0.050	-		-		-		-		-	-	0.050	-
JSS	MIPR	Hanscom AFB : Hanscom AFB	0.078	-		-		-		-		-	-	0.078	-
COC	C/FFP	MCSC : Quantico, VA	0.057	2.400	Nov 2012	-		-		-		-	-	2.457	-
		Subtotal	18.192	4.823		4.300		-		-		-	-	27.315	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	287.573	51.302		65.069		8.811		-		8.811	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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*

TBMCS SCHEDULE

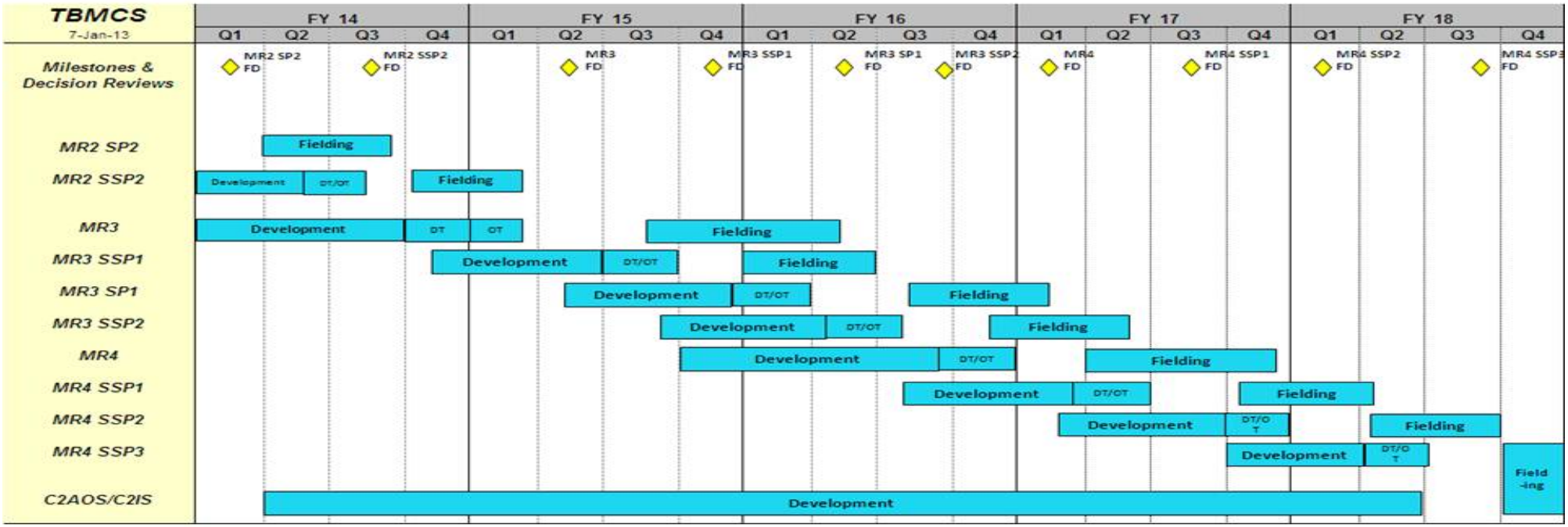


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

COC Program Schedule

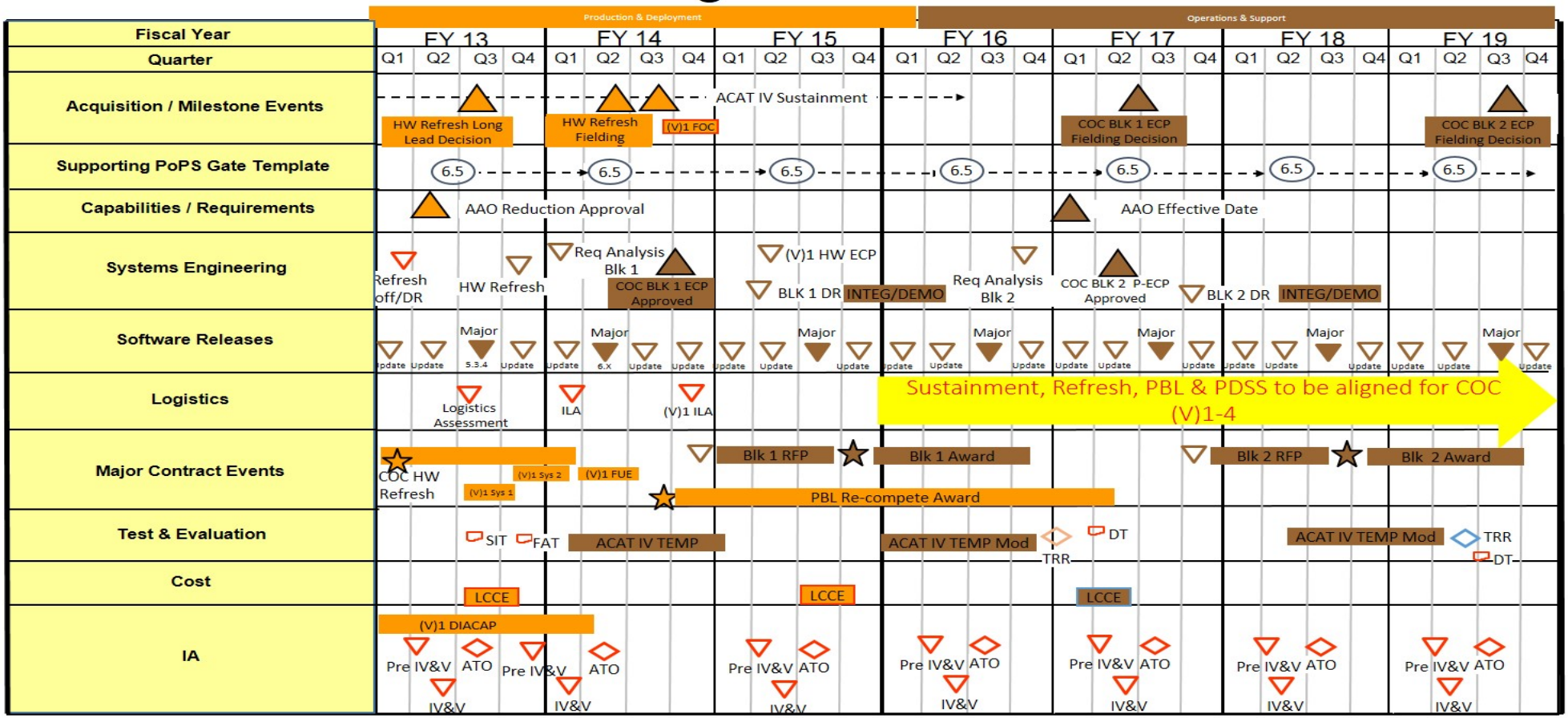


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

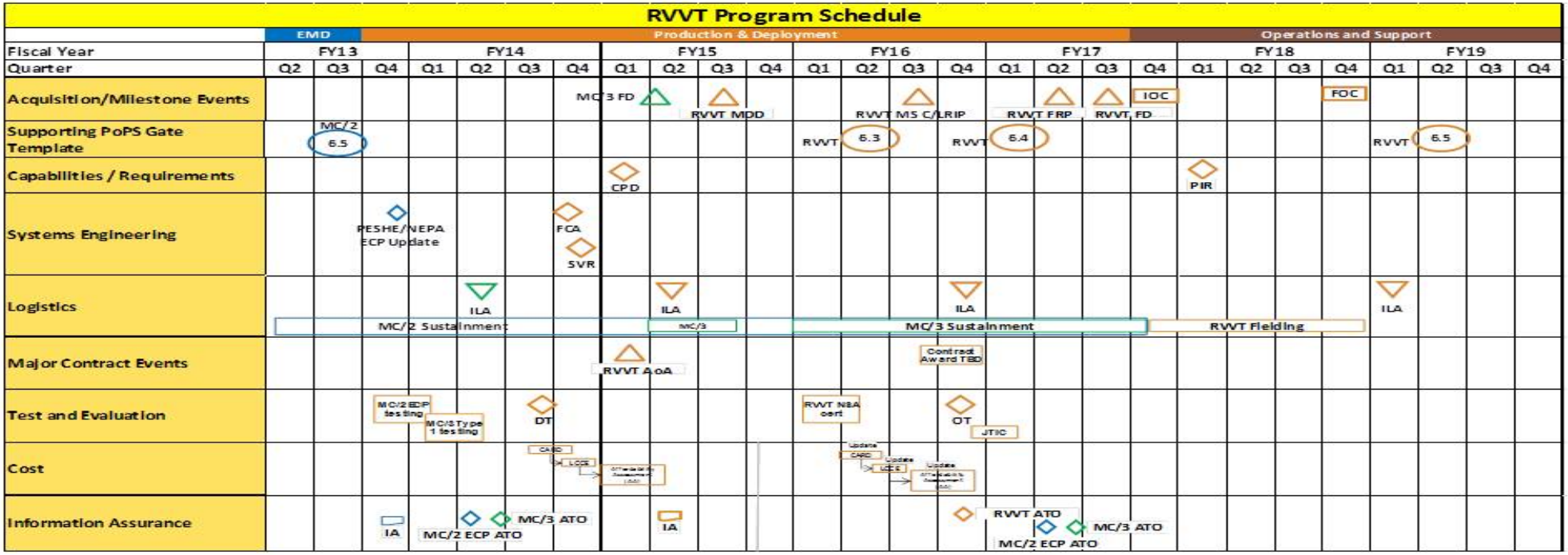


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

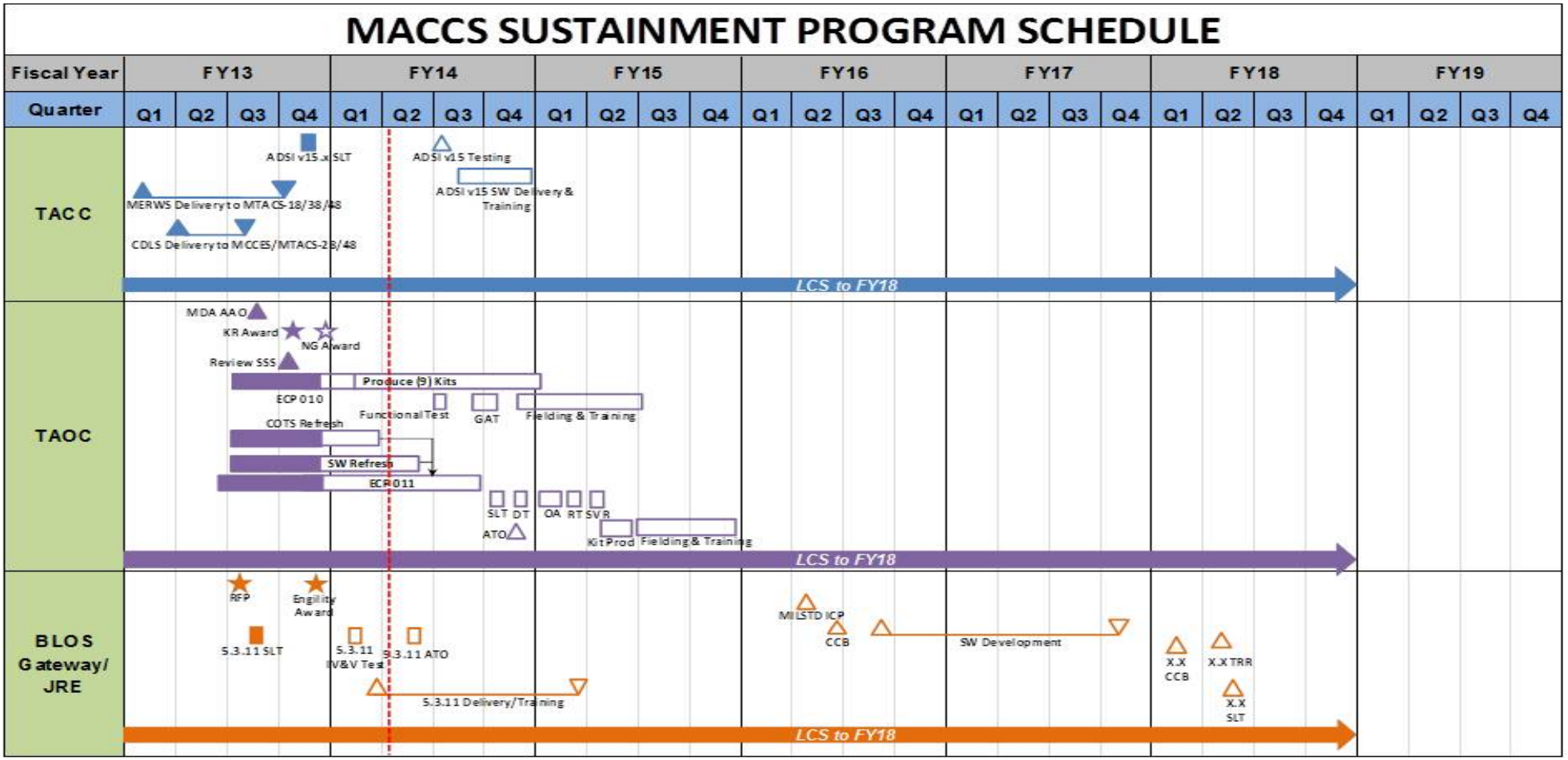


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

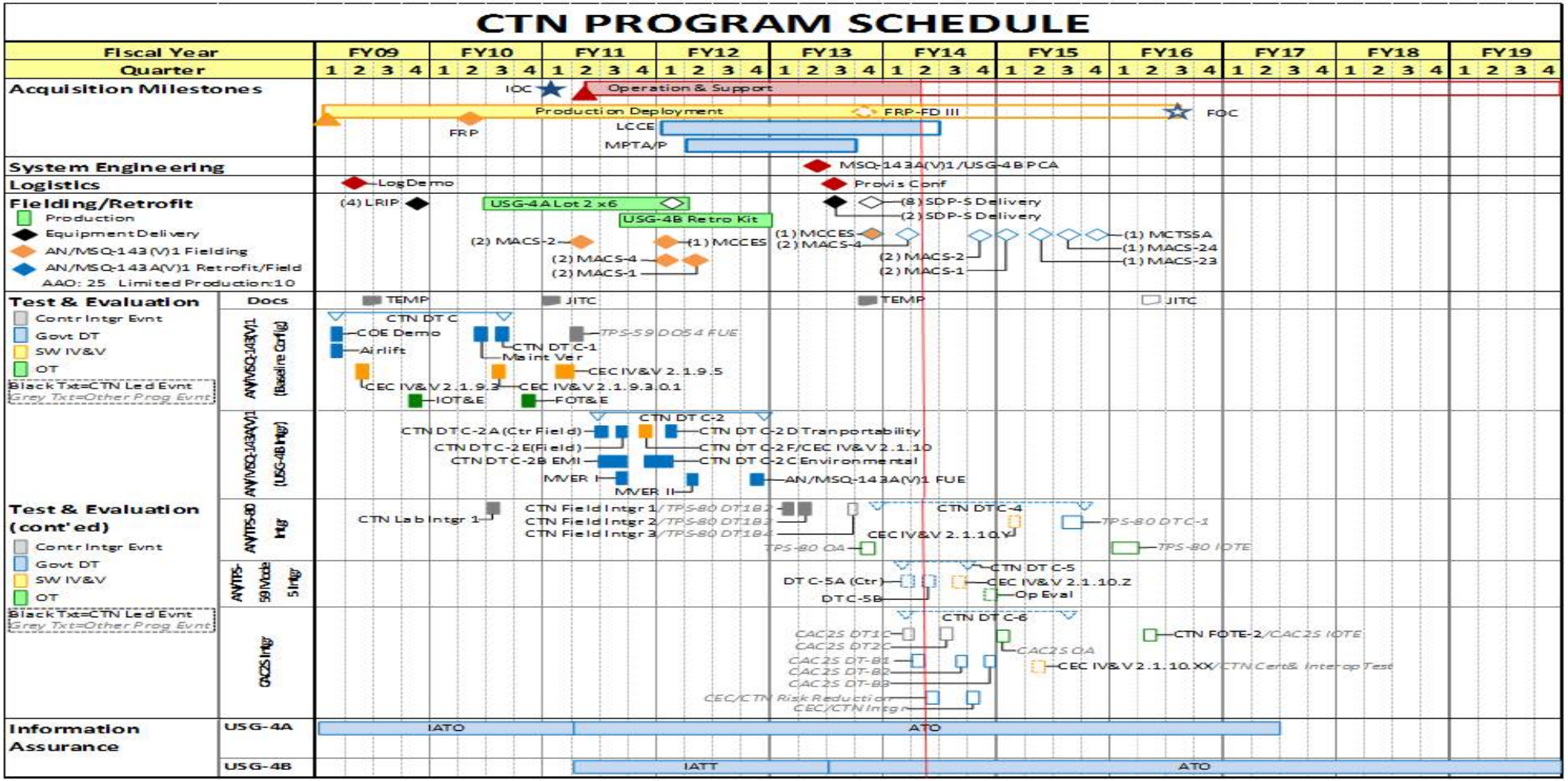


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

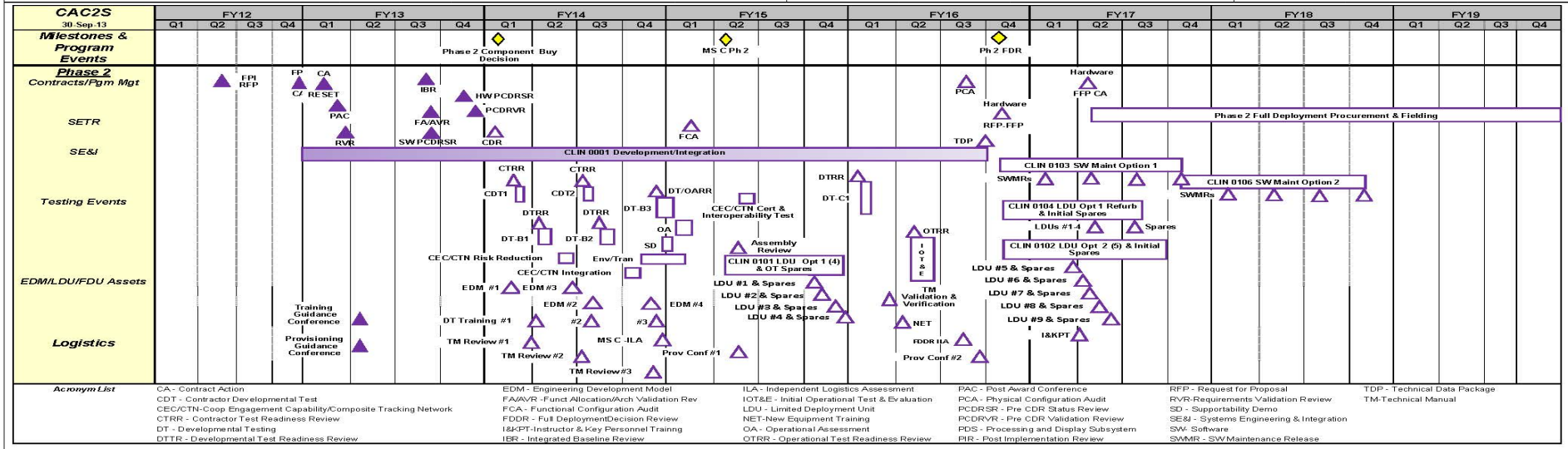


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2273				
COC Life Cycle Sustainment (V)2-4	1	2013	4	2019
COC Life Cycle Sustainment (V)1	1	2015	4	2019
COC (V)1 Field User Evaluation (FUE)	2	2014	2	2014
COC (V)1 FOC	3	2014	3	2014
COC Block/ECP Approved	4	2014	4	2014
RVVT DT	3	2014	3	2014
RVVT MS C	3	2015	3	2015
RVVT MDD	3	2015	3	2015
RVVT OT	4	2016	4	2016
RVVT LRIP	3	2015	3	2015
RVVT FRP	1	2017	1	2017
RVVT FD	2	2017	2	2017
CAC2S: CLIN 0001 Development/Integration	1	2013	4	2016
CAC2S: Critical Design Review	1	2014	1	2014
CAC2S: Developmental Test - B1	2	2014	2	2014
CAC2S: Developmental Test - B2	3	2014	3	2014
CAC2S: Developmental Test - B3	4	2014	4	2014
CAC2S: Operational Assessment	1	2015	1	2015
CAC2S: Milestone C	2	2015	2	2015
CAC2S: Coop Engagement Capability/Composite Tracking Network Certification	2	2015	2	2015
CAC2S: Limited Deployment Units (LDU) Build (PMC BL 464400)	2	2015	4	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
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**
CAC2S: Developmental Test Readiness Review	1	2016	1	2016
CAC2S: Developmental Test - C1	1	2016	1	2016
CAC2S: Operational Test Readiness Review	2	2016	2	2016
CAC2S: Initial Operational Test and Evaluation	2	2016	2	2016
CAC2S: Full Deployment Review	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2274: *Command & Control Warfare Sys*	38.698	12.619	8.630	7.080	-	7.080	9.415	6.189	6.345	6.554	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 radiofrequency 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 current theater of operation and fielded to selected MEU(SOC)s in support of worldwide deployment. To continue to support OEF and other worldwide missions, each CREW unit receives customized programing (load-sets) to counter the area's RCIED threats. The testing, programming development, and product improvement research our funded with the CREW's RDT&E funding and prioritized to meet the demand of all deployed CREW assets.

GROUND-BASED OPERATIONAL SURVEILLANCE SYSTEM (GBOSS) is an incremental development program currently providing persistent, multispectral surveillance sensor packages in Afghanistan. Three variants of G-BOSS exist; 80' tower mounted system (heavy), 20' trailer mounted system (medium/GBL), and man-portable, tripod mounted system (lite/CBL). Each tower employs multiple, self-contained detection and assessment technologies on a single trailer-mounted elevation platform with a multi-spectral sensor suite consisting of: daylight color & infrared imagery (StarSafire III and T-3000), Unattended Ground Sensors (UGS), Manportable Surveillance and Target Acquisition Radar (MSTAR), communication suite for wireless point to point link, and unmanned aerial vehicle interface (VideoScout). The medium and lite systems provide a subset of the G-BOSS heavy capabilities. G-BOSS is a material solution in response to an Urgent Universal Needs Statement (UUNS) in support of OIF and OEF. There is no funding for GBOSS Research and Development after FY13 following the suspension of the G-BOSS(E) program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: *USMC CREW - Product Development	1.708	2.072	2.706
Articles:	-	-	-
FY 2013 Accomplishments: In FY13 USMC CREW continued the development and testing of multiple waveform/load-sets for the CVRJ (V)1, CVRJ(V)2, and Thor III CREW Systems for OEF and other MEU/Marine Expeditionary Force (MEF) operations. Developed corresponding waveform expansions required for the Universal Test Sets (UTS) for all theaters of operations. Continued support mounted CREW integrations for MEU/MEF mission profiles by analyzing vehicle profile issues and implement installation kits for the CVRJ(V)2			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
upgrade. Designed, tested, and contracted load carrier upgrades for the Thor III dismounted system that allowed a Marine to reduce fatigue caused by the carrying of the CREW systems. ***FY 2014 Plans:*** In FY14 USMC CREW will develop waveform load sets for the MEU(SOC) Phase I Modi system while continuing the development of waveform/load sets for all other existing CREW systems. Increase the UTS waveform development to include the Modi system and update its current programming for all improvement to legacy CREW systems. Continue support efforts to provide custom load sets for each type of CREW systems for MEU/Marine Expeditionary Force (MEF) to counter RCIED technology around the globe. Continue to develop custom vehicle installation kits for the CVRJ(V)2 upgrade in order to support the integration and installation of the upgrade kits onto Marine Corps vehicle platform. Complete the design changes to improve the Modi transportability issues that minimizes the Marine's fatigue during deployment. ***FY 2015 Plans:*** In FY15 USMC CREW will include the development of the MEU(SOC) Phase II and MARCENT mounted and dismounted system's waveform load sets into the group of required CREW systems to support. The increase in system variants will also result in the need to continue the development of waveform/load sets for UTS across multiple deployment theaters. Continue to develop vehicle installation kits for the MEU(SOC) Phase II 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.			
Title: *USMC CREW - Support	2.193	0.500	0.595
Articles:	-	-	-
FY 2013 Accomplishments: In FY13 USMC CREW conducted systems engineering and integration support required for the mounted CREW, CVRJ (V)1 and (V)2 integrations into Marine Expeditionary Units (MEU)/Marine Expeditionary Force (MEF) mission profiles by developing vehicle installation kits for the CVRJ units. Continued system support for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi systems and the Universal Test Sets by analyzing CREW performance impacts resulting from compatibility and environmental risk impacts. ***FY 2014 Plans:*** In FY14 USMC CREW will continue to conduct systems engineering and integration necessary to conduct systems engineering and integration support required for the mounted CREW, CVRJ (V)1 and (V)2 integrations into Marine Expeditionary Units (MEU)/ Marine Expeditionary Force (MEF) mission profiles by developing vehicle installation kits for the CVRJ units. Continue system support for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi systems and the Universal Test Sets by analyzing CREW performance impacts resulting from compatibility and environmental risk impacts. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
In FY15 USMC CREW will continue to conduct systems engineering and integration necessary to conduct systems engineering and integration support required for the mounted CREW, CVRJ (V)1,(V)2, and MEU(SOC) integrations 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)1 and (V)2, Thor III, MEU(SOC) Modi systems, MARCENT systems and the Universal Test Sets by analyzing CREW performance impacts resulting from compatibility and environmental risk impacts.			
Title: *USMC CREW - Test and Evaluation	0.407	3.569	0.420
Articles:	-	-	-
FY 2013 Accomplishments: FY13 USMC CREW conducted test events in support of the CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi and Universal Test Set (UTS) system's waveform performance regarding its ability to defeat the RCIED threat in multiple locations. Tested the Modi dismounted Engineer Design Models (EDMs) that resulted in the initial procurement of the Modi system for MEU(SOC) use. Conducted compatibility testing against other services CREW devices to ensure Marine Corps CREW systems maintained required performance capabilities. Characterized operational limitations regarding the CREW systems and standoff restrictions for its operation.			
FY 2014 Plans: FY14 USMC CREW will conduct test events in support of the CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi and Universal Test Set (UTS) systems regarding its ability to defeat the RCIED threat in multiple worldwide locations. Tested the Modi dismounted and MEU(SOC) production units that will be fielded for MEU(SOC) use. Conduct compatibility testing against USMC devices to ensure Marine Corps CREW systems maintained required performance capabilities. Characterize operational limitations regarding the CREW systems and standoff restrictions for its operation. Complete Modi carriage improvements testing to distinguish possible design limitations that can be improved to optimize the Marine use of the system. Validate alternate testing methods to reduce test cost of multiple waveform across all CREW systems.			
FY 2015 Plans: FY15 USMC CREW will conduct test events in support of the CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi and Universal Test Set (UTS) systems regarding its ability to defeat the RCIED threat in multiple worldwide locations. Complete the testing of the MEU(SOC) production units that will be fielded for MEU(SOC) use. Conduct compatibility testing against USMC and other services devices to ensure Marine Corps CREW systems maintained required performance capabilities. Characterize operational limitations regarding the CREW systems and standoff restrictions for its operation. Complete MEU(SOC) improvements testing to distinguish possible design limitations that can be improved to optimize the Marine use of the system.			
Title: *USMC CREW - Management	1.168	2.489	3.359
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: In FY13 the program managed the new techniques, improved capabilities, enhanced software and upgrades to counter the evolving threat and delay technology obsolescence for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi, and Universal Test Set systems. ***FY 2014 Plans:*** In FY14 the program will continue to manage the new techniques, improve capabilities, enhance software and upgrades to counter the evolving threat and prevent technology obsolescence for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi, and Universal Test Set systems. ***FY 2015 Plans:*** In FY15 the program will continue to manage the new techniques, improve capabilities, enhance software and upgrades to counter the evolving threat and prevent technology obsolescence for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi, MEU(SOC) Phase II and MARCENT mounted/dismounted and the Universal Test Set systems.			
Title: *GBOSS - Product Development	5.907	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued Technology Readiness Assessments and integration of capability enhancements per acquisition strategy to update the existing G-BOSS 3.1 systems with a common operating system and equipment interface to increase operational availability. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: *GBOSS - Support	1.064	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Technical engineering services, analysis of alternatives, and research studies to include CARD and LCCE development. Continued the IA accreditation efforts, IA and software management, and associated engineering for incorporation as system enhancements. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** N/A			
Title: *GBOSS - Test and Evaluation. ***Articles:*** ***FY 2013 Accomplishments:*** Continued testing, evaluation and design verification/validation of G-BOSS version upgrades ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.148 -	- -	- -
Title: *GBOSS - Management. ***Articles:*** ***FY 2013 Accomplishments:*** Provided design oversight, task scheduling, estimate development, reports and test support for the program office ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.024 -	- -	- -
Accomplishments/Planned Programs Subtotals	12.619	8.630	7.080

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC 6520: *USMC CREW*	102.430	-	-	-	-	-	-	-	-	-	493.022
• PMC 6438: *GBOSS*	55.500	-	-	-	-	-	-	-	-	-	279.907
• PMC 7000: *USMC CREW SPARES*	1.535	-	-	-	-	-	-	-	-	-	1.535

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

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 kits, 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 beginning in FY12 and are being fielded to selected MEU(SOC) units starting in FY13. The Thor III are dismounted systems fielded to OEF in FY12 and are also being fielded to selected MEU(SOC) units starting in FY13. The Modi is a dismounted system which commences initial replacement of the Thor III and transition to the MEU(SOC) program. 40 Modi were procured in FY13 with expected delivery in FY14. The CREW MEU(SOC) program consists of 150 mounted 360 dismounted systems and was initiated as an ongoing effort to develop new techniques, improve capabilities, enhance software and develop waveform load sets to counter evolving threats and prevent technology obsolescence for both mounted and dismounted systems.

GBOSS. The acquisition approach has been to use existing government contracts (US Navy, US Army, US Air Force) for Commercial-Off-the-Shelf (COTS) and Government-Off-the-Shelf (GOTS) material and services that meet the basic requirements of the UUNS and give priority to materials and services already integrated into an existing or similar architecture. In FY13, the acquisition approach will be to maintain NSWC Crane as the system integrator to leverage their engineering and contracting vehicles for product development and test and evaluation. This approach is the most expeditious to deliver equipment and services to the forces in theater.

E. Performance Metrics

Milestone Reviews

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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*

G-BOSS Program Schedule

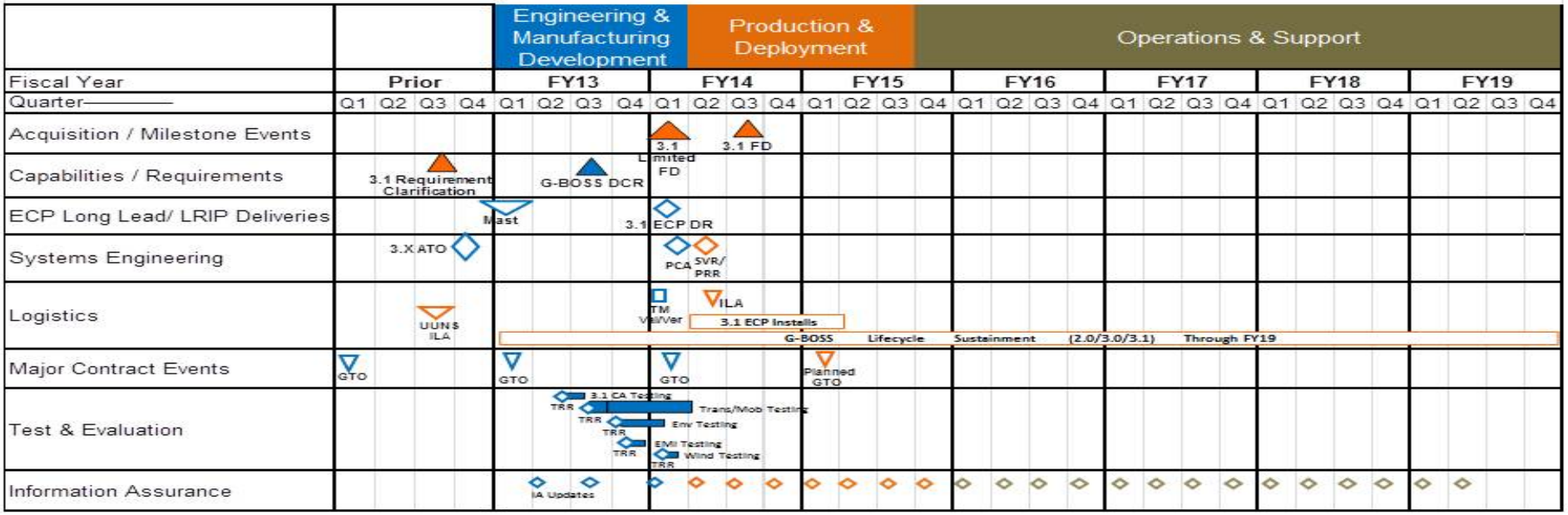
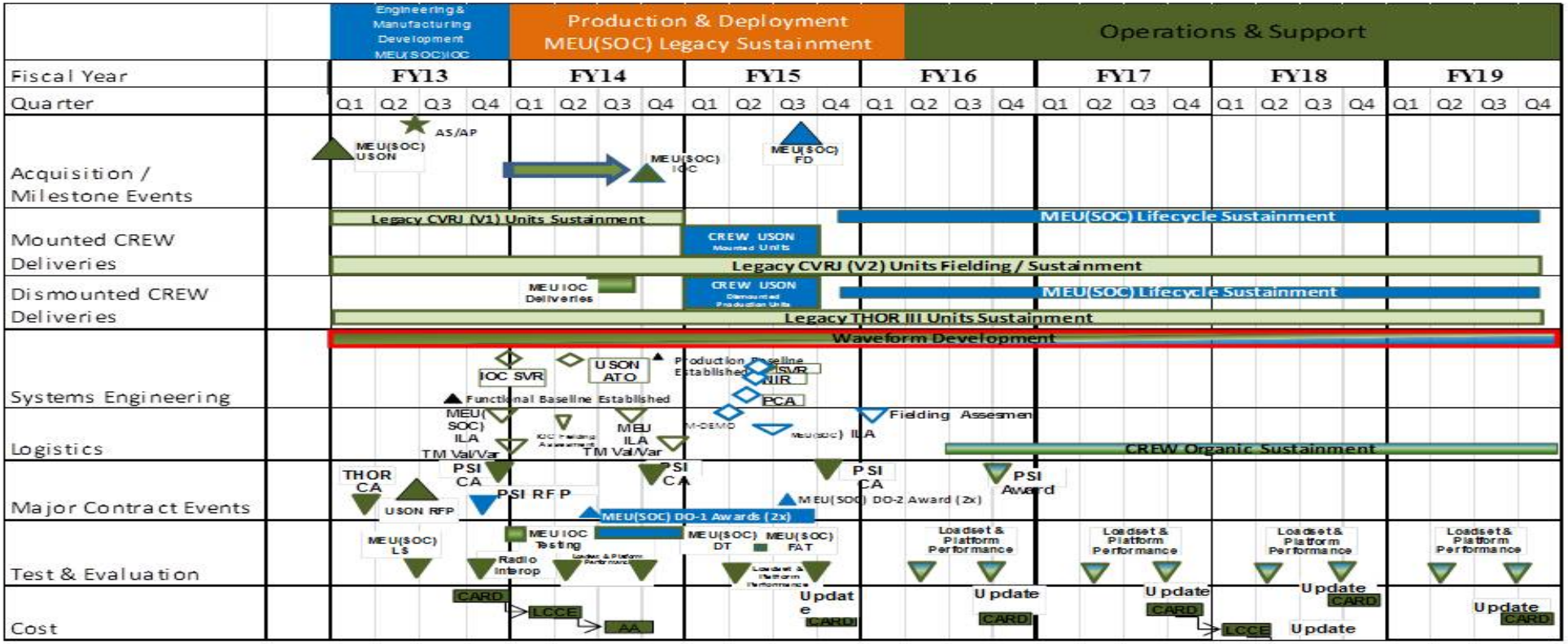


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2274 / *Command & Control Warfare Sys*

USMC CREW Program Schedule



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2275: *Marine Corps Tactical Radio Systems*	11.442	8.307	18.832	4.036	-	4.036	3.539	3.956	2.712	2.771	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

(U) Tactical Communications Modernization (TCM): TCM was established to procure interim radio systems to bridge the gap between legacy systems and forecasted deliveries from the Joint Tactical Radio System (JTRS) program. The program schedule and budget profile for TCM procures leading edge radio systems to support the primary operational voice and data communications requirements for mounted and dismounted forces. 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, AN/MRC-145B service life extension program.

(U) 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 MAGTF. NOTM achieved initial operational capability at I MEF in March 2013 and will continue fielding a total of 56 systems at I MEF, II MEF, III MEF and the support establishment through August 2014.

(U) Very Small Aperture Terminal (VSAT): Very Small Aperture Terminal (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 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. The primary variant of VSAT is the Support Wide Area Network Terminal Version D (SWAN-D), which itself comes in three modular variants, dependent on MAGTF-size and mission.

(U) Lightweight Multiband Satellite Terminal (LMST)/PHOENIX are quad-band Super High Frequency (SHF) satellite terminals mounted in transit cases and High Mobility Multipurpose Wheeled Vehicles (HMMWVs) and can be used as either the hub or spoke terminal in a SATCOM network. LMST/PHOENIX provide SHF SATCOM transmissions to any size MAGTF and can be deployed as a "first in" communications source across the entire spectrum of conflict via various deployment configurations. With the signing of the SATCOM Collapse (20 May 2011), the Marine Corps will consolidate three programs: Lightweight Multiband Satellite Terminal

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

(LMST), Phoenix Tactical SHF Satellite Terminal (TSST), and the Very Small Aperture Terminal Large (VSAT-L) into one requirement defined as the Universal Satellite Access Tactical Terminal (USATT). RDT&E funding will be utilized to research/integrate VSAT X-Band development during the SATCOM Collapse transition process.

(U) Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): SMART-T provides tactical users with protected data and voice via Advanced Extremely High Frequency (AEHF) satellite communications. The SMART-T system is transported on High Mobility Multipurpose Wheeled Vehicles (HMMWVs), providing MAGTF Commanders a secure, survivable, long-haul, low/medium data rate communications link not subject to terrain masking and horizon limitations. The SMART-T is also capable of operation when removed from the HMMWV. SMART-T is currently undergoing an upgrade to be interoperable with the new Advanced Extremely High Frequency (AEHF) constellation and will require certification testing and a Multi-service Operational Test and Evaluation (MOT&E).

(U) Terrestrial Wideband Transmission 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 (FOS), Troposcatter Support Radio (TSSR), and Wireless Point-to-Point-Link version D (WPPL-D)). 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. AN/MRC-142 FoS consists of the AN/MRC-142B (ship to shore) and C variants to provide LOS, two-way, secure voice and data communications up to 35 miles. TSSR is a multi-channel LOS wireless cable replacement communication system. The TSSR is commonly used in place of fiber optic or coaxial cable at expeditionary airfields. WPPL-D is an integrated communications system consisting of Commercial Off-the-Shelf (COTS) radios, antennas, and IP networking equipment that provides NIPR/SIPRNet data connectivity, voice and video services. TEAMS is a 34-meter telescopic mast system, extending support to various organic LOS systems (AN/MRC-142 and TSSR) by increasing operational reach by overcoming obstacles to communications.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: TCM: Test and Evaluation Support	0.054	1.490	0.500
Articles:	-	-	-
FY 2013 Accomplishments: Funding provided for test and certification services for the AN/PRC-117F Ultrahigh Frequency (UHF) Satellite Communication (SATCOM) terminal.			
FY 2014 Plans: Initiate engineering and test and evaluation support for the Mobile User Objective System (MUOS).			
FY 2015 Plans: Continue engineering and test and evaluation support for the Mobile User Objective System (MUOS).			
Title: NOTM: Product Development	2.176	7.929	-
Articles:	-	-	-
FY 2013 Accomplishments: Proof of concept development and computer based training.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Provide product development to reduce Size, Weight, and Power (SWaP) and incorporate Engineering Change Proposals (ECPs) that will provide system efficiencies. ***FY 2015 Plans:*** N/A			
Title: NOTM: Engineering and Program Support	3.384	0.199	0.205
Articles:	-	-	-
FY 2013 Accomplishments: Supported developmental efforts and engineering and program support. ***FY 2014 Plans:*** Funds will provide product improvements/Engineering Change Proposals (ECPs) and engineering support. ***FY 2015 Plans:*** Continue engineering and program support and product improvements/Engineering Change Proposals (ECPs).			
Title: NOTM: Test and Evaluation Support	1.043	3.000	0.562
Articles:	-	-	-
FY 2013 Accomplishments: Completed test efforts at MCTSSA and DTIC. ***FY 2014 Plans:*** Funds will provide test and evaluation support and testing. ***FY 2015 Plans:*** Continues test and evaluation support and testing.			
Title: VSAT: Engineering and Program Support	0.085	0.321	0.681
Articles:	-	-	-
FY 2013 Accomplishments: Continued technical support through MITRE for research and development activities, testing and evaluations. ***FY 2014 Plans:*** Funds will provide Information Assurance support through MITRE ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Continues Information Assurance support through MITRE.			
Title: VSAT: Test and Evaluation Support	1.460	-	-
Articles:	-	-	-
FY 2013 Accomplishments: - Funds initiated an Electromagnetic Interference (EMI) study conducted on the Very Small Aperture Terminal (VSAT) in the X band frequency at the Aberdeen Test Center. - Funds completed a test and evauluation on the new configuration of 19 in rack-mounted cases. - Funds completed testing of four VSAT ISA terminals and associated training in support of a User Evaluation (UE). ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: LMST: Engineering Program Support	0.011	0.280	-
Articles:	-	-	-
FY 2013 Accomplishments: Funds continued technical support through MITRE for engineering and technical support. ***FY 2014 Plans:*** Continue MITRE engineering support. ***FY 2015 Plans:*** N/A			
Title: SMART-T: Engineering and Program Support	0.094	0.100	0.193
Articles:	-	-	-
FY 2013 Accomplishments: Funds continued technical support through MITRE for engineering, development activities, testing and evaluations. ***FY 2014 Plans:*** Continue engineering and technical support through MITRE. ***FY 2015 Plans:*** Continue engineering and technical support through MITRE.			
Title: SMART-T: Test and Evaluation Support	-	0.067	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Funding will support Multi-service Operational Test and Evaluation (MOT&E) at PM WIN-T in Abeerden, MD. ***FY 2015 Plans:*** N/A			
Title: TWTS: Product Development	-	0.500	1.700
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Initiate design development to mitigate the obsolesence issues and develop service life extension plans for MRC-142 and TRC-170. ***FY 2015 Plans:*** Continue design development to mitigate the obsolesence issues and design service life extension plans for MRC-142 and TRC-170.			
Title: TWTS: Test and Evalution Support	-	4.946	0.195
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Initiate MRC-142 testing, validation, and verification in addition to TRC-170 design and test. These activities will support the mitigation of obsolescence of both systems. ***FY 2015 Plans:*** - Continue research and design of obsolescence mitigation for MRC-142 and TRC-170. - Initiates support test activities for operating system upgrades for WPPL-D.			
Accomplishments/Planned Programs Subtotals	8.307	18.832	4.036

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/4633-1: *Tactical Satellite LMST*	5.387	1.240	-	-	-	-	-	-	0.001	-	15.411
• PMC/4633-2: *Very Small Aperture Terminal (VSAT)*	18.296	0.591	7.271	-	7.271	3.019	3.050	3.109	3.211	Continuing	Continuing
• PMC/4633-3: *TCM*	71.916	47.742	49.215	-	49.215	70.172	33.397	23.841	4.244	Continuing	Continuing
• PMC/4633-4: *SMART-T*	5.662	0.797	0.417	-	0.417	0.639	1.051	1.075	1.110	Continuing	Continuing
• PMC/4633-5: *TWTS*	-	6.254	6.046	-	6.046	7.463	9.210	10.240	3.098	Continuing	Continuing
• PMC/4631: *NOTM*	-	7.963	3.229	-	3.229	1.418	1.418	1.488	1.644	Continuing	Continuing
• PMC/7000: *SMART-T*	0.188	0.174	0.197	-	0.197	0.200	0.203	0.207	0.211	Continuing	Continuing

Remarks

D. Acquisition Strategy

(U) Tactical Communications Modernization (TCM): Provides for the testing and evaluation of the next generation tactical radio systems supporting: AN/MRC-145 service life extension program (AN/MRC-145B) and the MUOS terminals.

(U) 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.

(U) Very Small Aperture Terminal (VSAT): VSAT systems are currently in fielding and sustainment phases. VSAT systems primarily support operations on costly commercial SATCOM bandwidth. Some additional military SATCOM frequencies (Ka-band) have already been incorporated into the large, trailer mounted VSAT systems to alleviate reliance on commercial SATCOM bandwidth procurements. Additional military Ka-band upgrades to smaller variants of VSAT systems are pending. Additionally, VSAT systems have been recently identified as the platform required to support operations on military X-band SATCOM frequencies as other X-band capable systems reach obsolescence. In order to subsume the capabilities lost in the phase out of the obsolete systems, VSAT systems require ECPs to incorporate X-band capability in addition to upgrading ancillary subsystems. ECPs will involve procurement of COTS upgrade kits that are designed and integrated in accordance with government owned drawings and specifications. Contract delivery orders will be awarded to competent bidders on US Army PM Warfighter Information Network-Tactical multi-award IDIQ contracts on a FFP basis. The majority of candidate upgrade kits and components exist as previously awarded CLINs on current contracts. Upon

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

determination of final configuration of upgraded SATCOM terminal, program office will use the same U.S. Army contracting vehicles to procure the approved quantity of new terminals to replace the obsolete terminals being phased out.

(U) LIGHTWEIGHT MULTIBAND SATELLITE TERMINAL (LMST)/PHOENIX: With the signing of the SATCOM Collapse (20 May 2011), the Marine Corps will consolidate three programs: Lightweight Multiband Satellite Terminal (LMST), Phoenix Tactical SHF Satellite Terminal (TSST), and the Very Small Aperture Terminal Large (VSAT-L) into one requirement defined as the Universal Satellite Access Tactical Terminal (USATT). The acquisition strategy for the Lightweight Multi-band Satellite Terminal (LMST) and Phoenix program is to sustain terminals to maintain joint interoperability through FY17.

(U) 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 32 AN/PSQ-17 Network Planning tools. SMART-T will be upgraded for compatibility with Advanced Extremely High Frequency (AEHF) waveforms and data rates. The AEHF capable SMART-T and planning tools will replace the legacy SMART-T. Terminal out of warranty repair for legacy components will be executed, when necessary, using the Army National Maintenance Contract.

(U) Tactical Wideband Communication Systems (TWTS): Requires R&D to proceed with design of obsolescence mitigation of TRC-170, MRC-142. These funds are identified to cover system developmental activities along with different test activities to include durability (life), interoperability, performance and operational activities; test activities to support operation system upgrade for WPPL-D & removal of networking capabilities in support of Warfighter Networking Services concept. Reduction of funding in the amount of $3.551M from FY14 to FY15 reflects 95% completion of TRC-170 ECP refinement and an 80% completion of MRC-142 testing.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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*

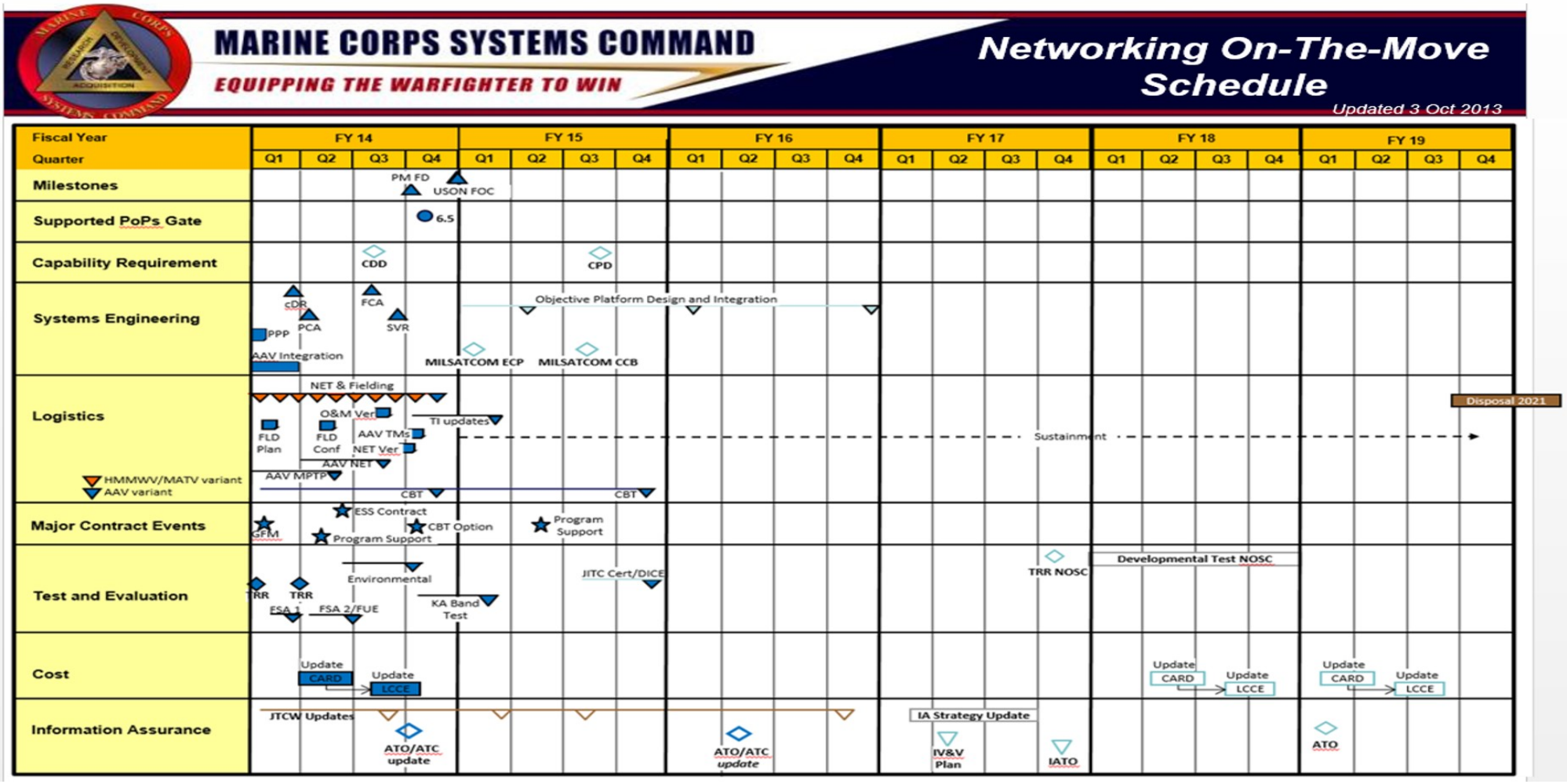


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

VSAT PoPS Schedule

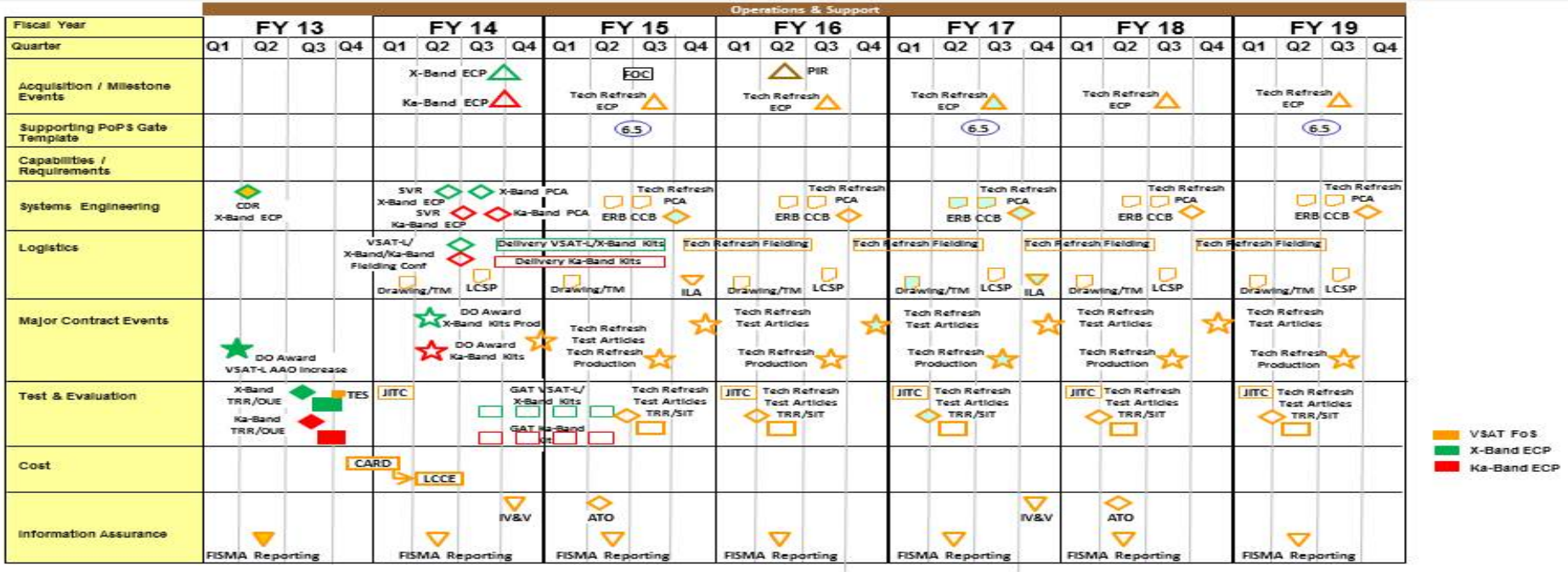


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

SMART-T Schedule

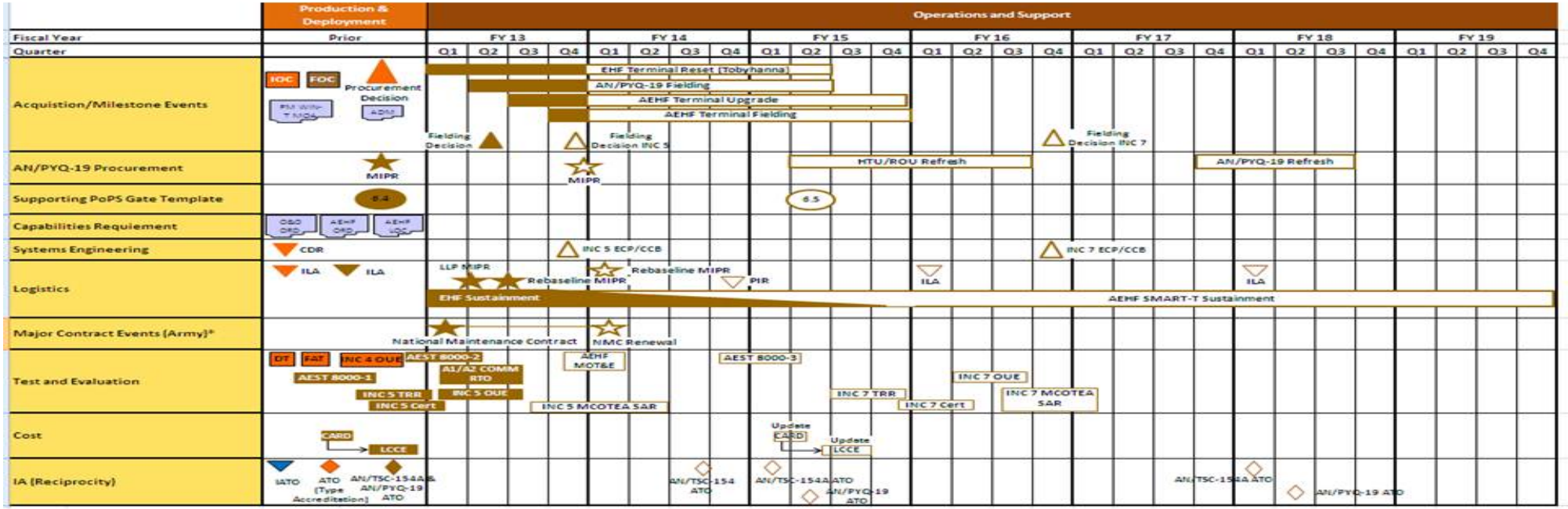
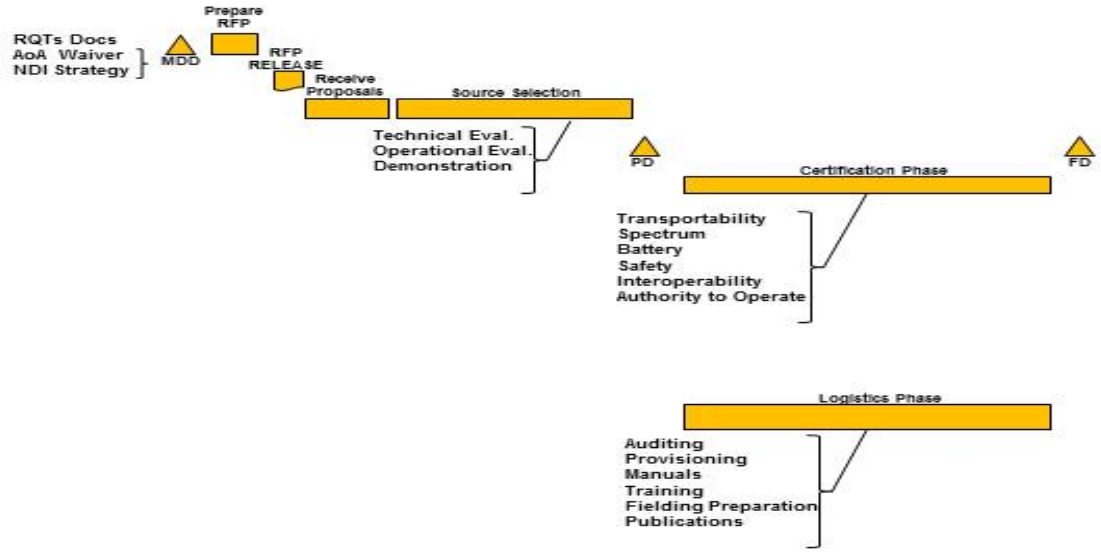


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

Mobile User Objective System (MUOS) Strategy

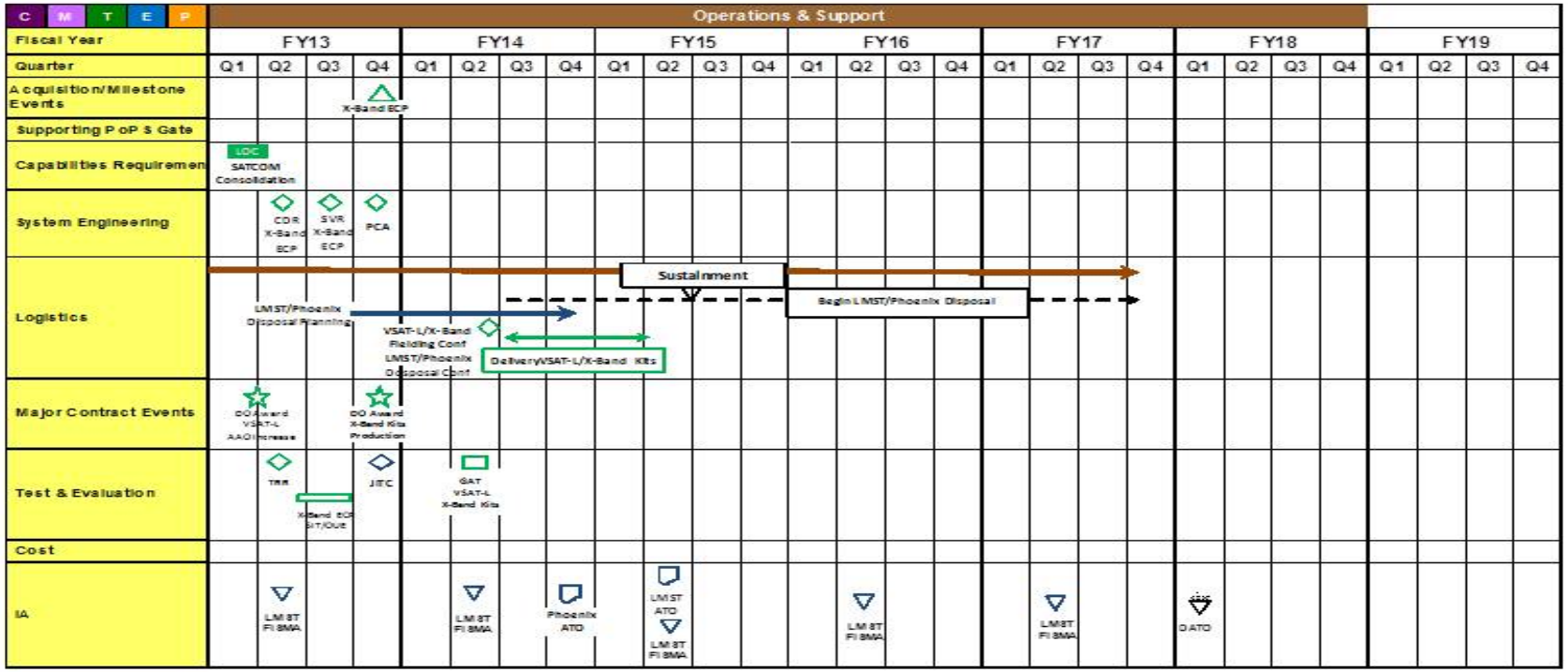
Fiscal Year	FY14		FY15				FY16				FY17				FY18				FY19			
Quarter	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4



CPD = Capability Production Document
AoA = Analysis of Alternatives
NDI = Non Developmental Item
MDD = Materiel Development Decision
RFP = Request For Proposal
PD = Production Decision
FD = Fielding Decision

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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*

LMST/Phoenix Program Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2275 / *Marine Corps Tactical Radio Systems*

TWTS Portfolio
IMS PoPs Schedule

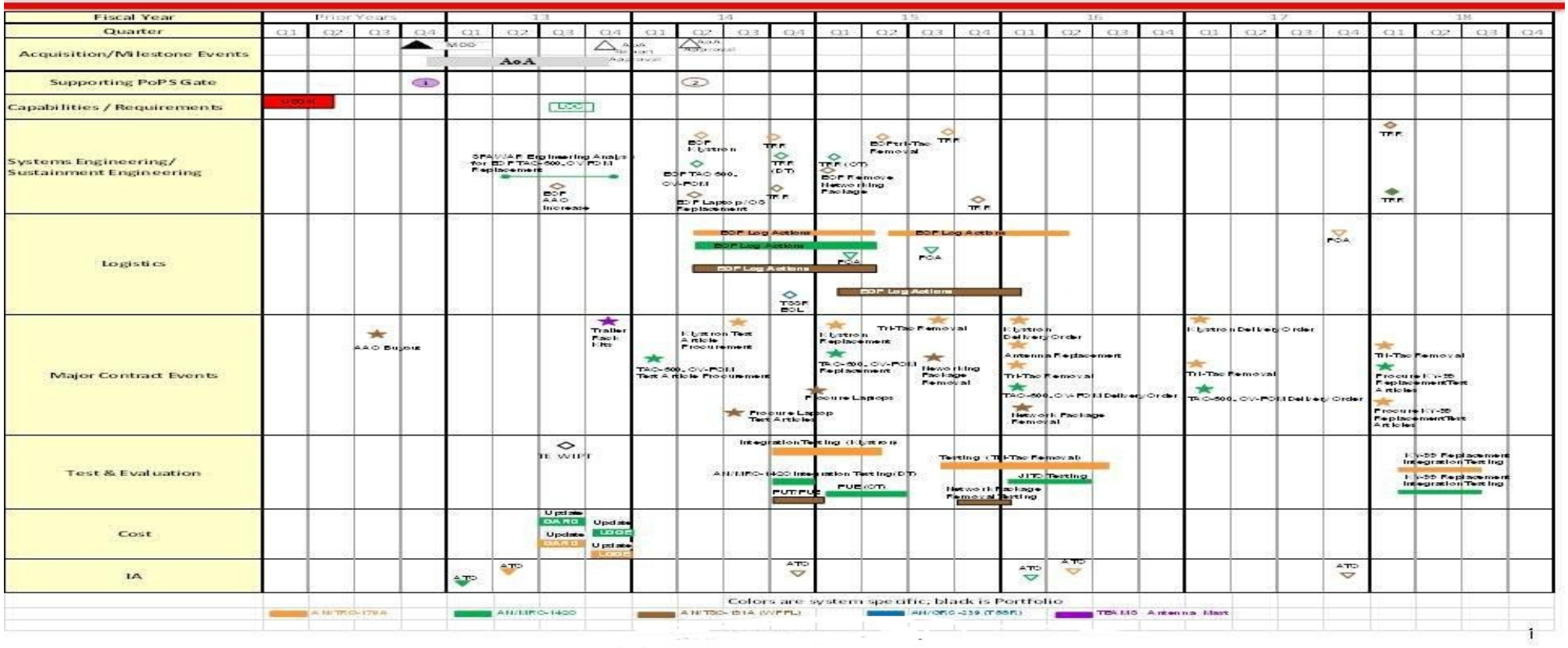


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 2276 / *Comms Switching and Control Sys*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2276: *Comms Switching and Control Sys*	28.401	6.844	12.446	3.715	-	3.715	3.769	3.546	4.064	5.124	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

(U) Network Planning & Management (NPM), formerly Joint Network Management System (JNMS), is a portfolio of communications planning and Network Management applications for use throughout the Marine Air-Ground Task Force (MAGTF). NPM includes the Systems Planning Engineering and Evaluation Device (SPEED). NPM provides the MARFOR (Marine Forces) 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. The funding decrease from FY14 to FY15 is due to completion of added capabilities and functional improvements. Funds will support task book place for SPAWARLANT to continue development of SPEED software.

(U) Transition Switch Module (TSM): 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) Expeditionary Command and Control Suite (ECCS): Will provide reach back capability to the Global Information Grid (GIG) to access the Defense Switch Network (DSN), Defense Information System Network (DISN) Secret Internet Protocol Router Network (SIPRNET), Non-secure Internet Protocol Router Network (NIPRNET), and DISN Video Services (DVS), enabling a small advance force/liaison team to communicate with a Marine Air-Ground Task Force (MAGTF), Joint Task Force (JTF) or other Joint Force Commander, and to maintain situational awareness.

(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) as well as a Coalition networking capability and 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

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

can operate from the SBU up to the TOP SECRET (TS)/SENSITIVE COMPARTMENTED INFORMATION (SCI) level and contains integral In-line Network Encryption (INE) device supporting IP Security (IPSec) and Virtual Private Networking (VPN). The funding decrease from FY14 to FY15 is due to the completion of research and development for the Session Boundary Controller (SBC) in FY14.

(U) Joint Enhanced Core Communications System (JECCS): Formerly known as First In Command and Control System (FICCS). JECCS is the Joint Task Force (JTF) enabler "first in" integrated, processor-controlled communications and management system that provides C2 capabilities supporting a Marine Expeditionary Unit (MEU) deployment ashore of the early phases of a deployment by a larger command element such as a Marine Air-Ground Task Force (MAGTF) or JTF Commander's mission into an Area of Operation. The JECCS is easily scalable and capable of "fly-away" deployment. It is a system of systems composed of Commercial Off-the-Shelf (COTS) and Government Off-the-Shelf (GOTS) equipment. It provides the primary interface between subscriber equipment/systems and the long-haul multi-channel transmission systems. The JECCS facilitates secure and non-secure voice and data communications, switching functions, network routing, and management functions. The JECCS augments the current and planned communications architectures and provides technical control and network management services for the broad range of switching and radio connectivity requirements.

(U) Digital Technical Control (DTC): DTC and other communications are a switch network infrastructure which provides voice, SIPR, NIPR, coalition, data, and video services. DTC provides the deployed warfighter with a standard data and voice architecture that is interoperable with joint and other services' communications systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: NPM: Product Development	0.910	0.885	0.800
Articles:	-	-	-
FY 2013 Accomplishments: Funds supported testing and recompete of SPEED contract for software development and program support.			
FY 2014 Plans: Funds will provide additional enhancements and capabilities within the SPEED software testing, and research on additional software applications to be utlitized within NPM.			
FY 2015 Plans: Funds will continue to provide additional enhancements and capabilities within the SPEED software testing.			
Title: NPM: Engineering and Program Support	-	1.125	0.218
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Funds provide for engineering and program support.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Funds continue to provide for engineering and program support.			
Title: TSM: Product Development	0.195	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Funds procured 2 VOIP prototypes for development and testing. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: TSM: Engineering and Program Support	0.100	0.065	0.261
Articles:	-	-	-
FY 2013 Accomplishments: Funds continued engineering, research and development and technical support. ***FY 2014 Plans:*** Funds will continue engineering and technical support. ***FY 2015 Plans:*** Funds will provide engineering and technical support for a network migration plan			
Title: TSM: Test and Evaluation Support	-	0.213	-
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Funds will provide VoIP Information Assurance (IA) Independent Validation & Verification (IV&V) scans, First Article Test and testing for VoIP. ***FY 2015 Plans:*** N/A			
Title: ECCS: Engineering and Program Support	0.372	0.850	-
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Funds continued Information Assurance (IA), engineering and program support. ***FY 2014 Plans:*** Funds will support systems engineering, interoperability analysis, integration support, and development of technical data packages for VSAT as required for SATCOM Consolidation. ***FY 2015 Plans:*** N/A			
Title: ECCS: Test and Evaluation Support	0.693	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Funds provided support for testing of the Block 1 Consolidated Base Station (CBS), participation in Joint Interoperability Test Center (JITC) test events, and the VSAT ISA User Evaluation. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: DDS-M Product Development	1.360	3.314	0.436
Articles:	-	-	-
FY 2013 Accomplishments: Funds supported research and review of the current TDN DDS-M equipment and provided technology suggestions which will either improve the performance of the DDS-M or minimize the size, weight or power of equipment ***FY 2014 Plans:*** Funds will support the Edge Boundary Controller initiative (DISA mandated) that provides a proxy service for real-time services which include VTC and Voice Over IP (VoIP). ***FY 2015 Plans:*** Funds will support research, development, and implementation of required hardware updates (routers and switches); software integration and regression testing (information assurance mandates).			
Title: DDS-M: Engineering and Program Support	0.901	1.178	0.901
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Funds supported systems engineering, interoperability analysis, acquisition planning and integration, and support for technology research and obsolescense. ***FY 2014 Plans:*** Funds continue support for systems engineering, interoperability analysis, acquisition planning, support for technology research and obsolescence, and support for the integration of the Session Boundary Controller. ***FY 2015 Plans:*** Funds will continue to support systems engineering, interoperability analysis, acquisition planning and integration, and support for technology research and obsolescence.			
Title: DDS-M: Test and Evaluation Support ***Articles:*** ***FY 2013 Accomplishments:*** Funds supported Data Distribution System Modular (DDS-M) testing for an initial Defense Information Systems Network-Tactical Edge (DISN-TE) demonstration of converged voice, video, and data services over Internet Protocol (IP) using the DDS-M System, IPv6 validation and joint interoperability test certification efforts for connections to the Teleport, Army, Air Force and Joint Task Force. ***FY 2014 Plans:*** Funds will support continued testing of Defense Information Systems Network-Tactical Edge (DISN-TE) demonstration of converged voice, video, and data services over Internet Protocol (IP) using the DDS-M System (adding Quality of Service, various transmission systems, updated internal DDS-M equipment), IPv6 validation in line with updated hardware internal to DDS-M and continued joint interoperability test certification efforts demonstrated through DoD Interoperability Communication Exercises. ***FY 2015 Plans:*** Funds will continue to support joint interoperability test certification efforts demonstrated through DoD Interoperability Communication Exercises.	0.037 -	0.260 -	0.090 -
Title: JECCS: Engineering and Program Support ***Articles:*** ***FY 2013 Accomplishments:*** Funds continued engineering and technical support. ***FY 2014 Plans:***	0.035 -	2.206 -	0.454 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Funds will support research, development, and implementation of required crypto hardware/wiring; software regression testing; and continued engineering and program support. ***FY 2015 Plans:*** Funds will continue engineering and technical support.			
Title: JECCS: Test and Evaluation Support	0.073	0.752	0.555
Articles:	-	-	-
FY 2013 Accomplishments: Funds supported testing activities at Joint Interoperability Testnig Center (JITC). ***FY 2014 Plans:*** Funds will continue to support testing activities at JITC. ***FY 2015 Plans:*** Funds planned to support testing activities at MCTSSA.			
Title: DTC: Engineering and Program Support	2.168	1.598	-
Articles:	-	-	-
FY 2013 Accomplishments: Funds supported Engineering Change Proposals (ECPs), software integration, and continued engineering, IA and program support. ***FY 2014 Plans:*** Funds will support engineering and further development of additional IP/Black Core routing, ECPs, and continued engineering and program support. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	6.844	12.446	3.715

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/4634-1: *TSM*	28.300	18.103	7.404	-	7.404	9.367	21.866	11.069	10.427	-	233.209
• PMC/4634-2: *ECCS*	0.297	4.777	-	-	-	-	-	-	-	-	15.353
• PMC/4634-5: *DDS-M*	32.146	12.980	60.635	-	60.635	59.216	44.800	57.587	48.511	-	414.028

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/4634-6: *DTC*	3.282	3.656	1.899	-	1.899	1.100	0.350	-	-	-	26.982
• PMC/4634-7: *JECCS*	3.941	5.192	1.245	-	1.245	1.276	9.917	9.102	10.311	-	40.984
• PMC/4634-8: *NPM*	-	0.750	-	-	-	-	-	-	-	-	0.750
• PMC/4630-1: *TSM/CCR*	-	1.169	-	-	-	-	-	-	-	-	1.169

Remarks

D. Acquisition Strategy

(U) Network Planning and Management (NPM), formerly Joint Network Management Systems (JNMS): The NPM will maximize use of existing COTS and 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 in meet user requirements. R&D effort will focus on the development, integration, and testing of improved versions of existing capabilities.
(U) Transition Switch Module (TSM): TSM will maximize use of existing COTS, GOTS, and GFE. TSM 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) Expeditionary Command and Control Suite (ECCS): ECCS has been reduced in scope. FY13 funds will support testing and evaluation efforts which must be completed in order to provide a certified interoperable and secure system. FY14 funds will be transferred to the VSAT program for development of technical data packages in support of SATCOM Consolidation.

(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 ride external contracts that satisfy requirements and analysis of alternatives.

(U) Joint Enhanced Core Communications System-Refresh (JECCS): JECCS will maximize use of existing COTS, GOTS, and GFE. JECCS 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) Digital Technical Control (DTC): DTC will use existing funds to retrograde and dispose of all systems in the inventory. Select components will be de-integrated and reused elsewhere in the networking portfolio.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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*

TSM Program Schedule

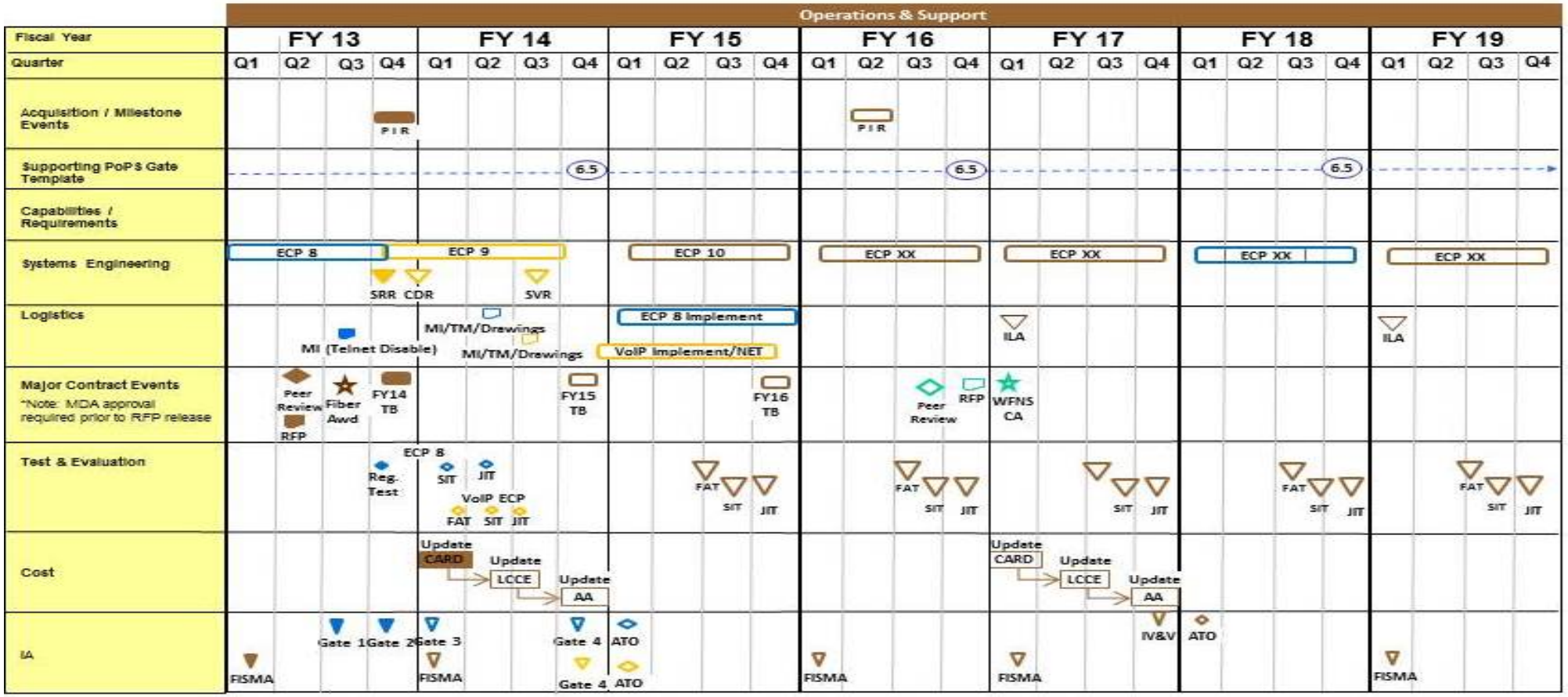


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

JECCS Program Schedule

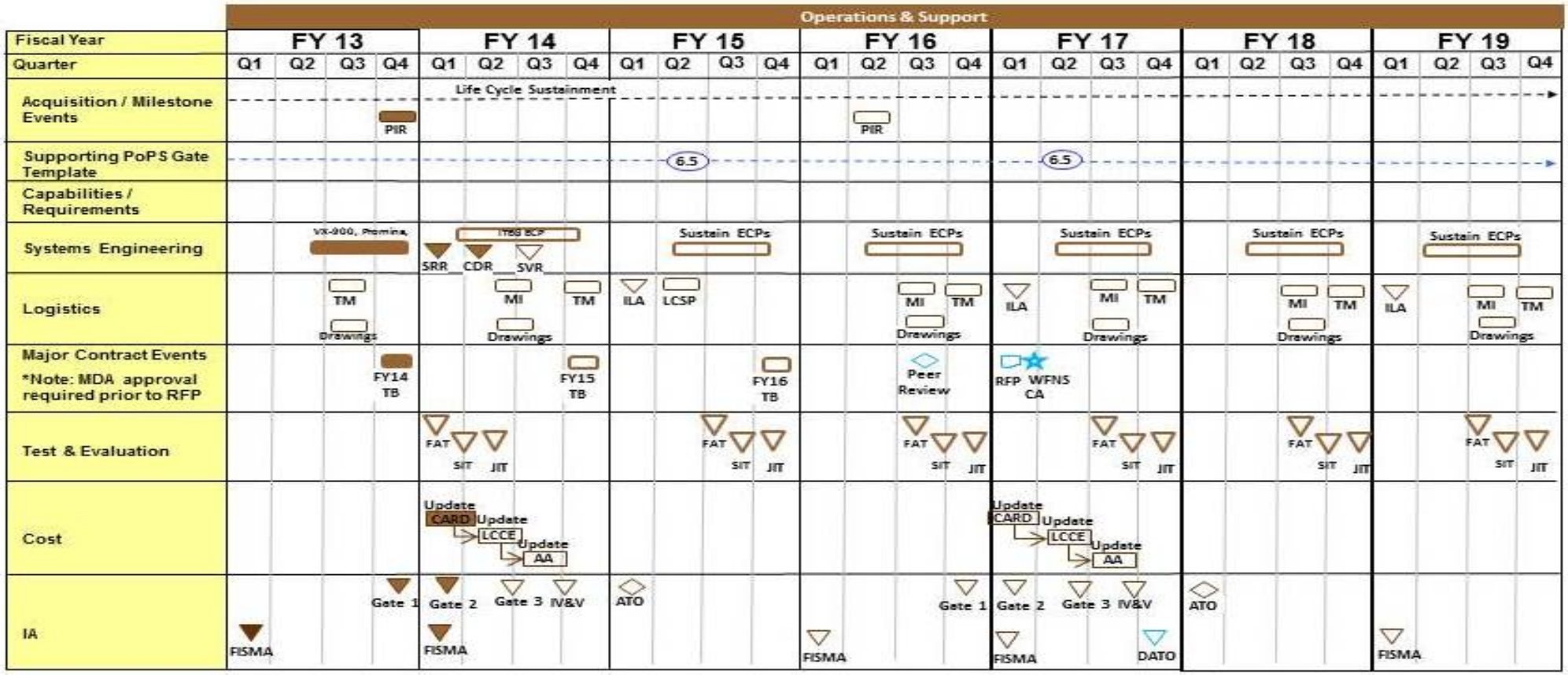
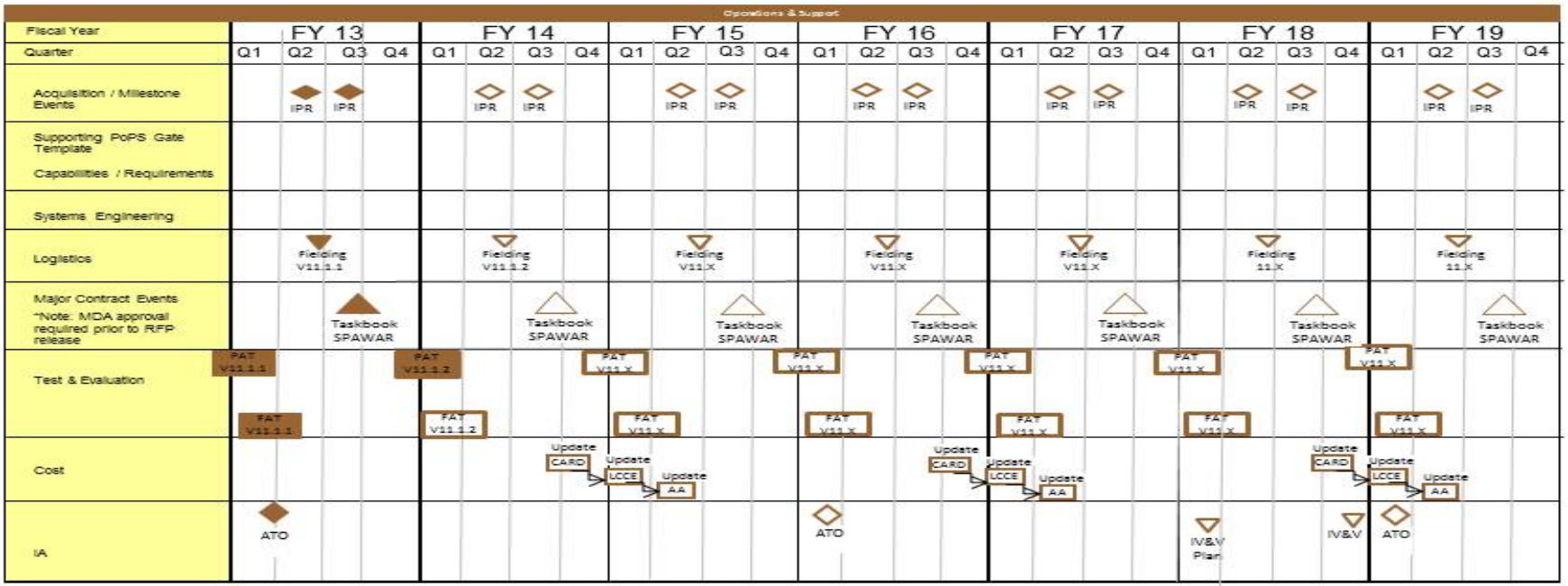


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

NPM: SPEED Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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*

DTC Program Schedule

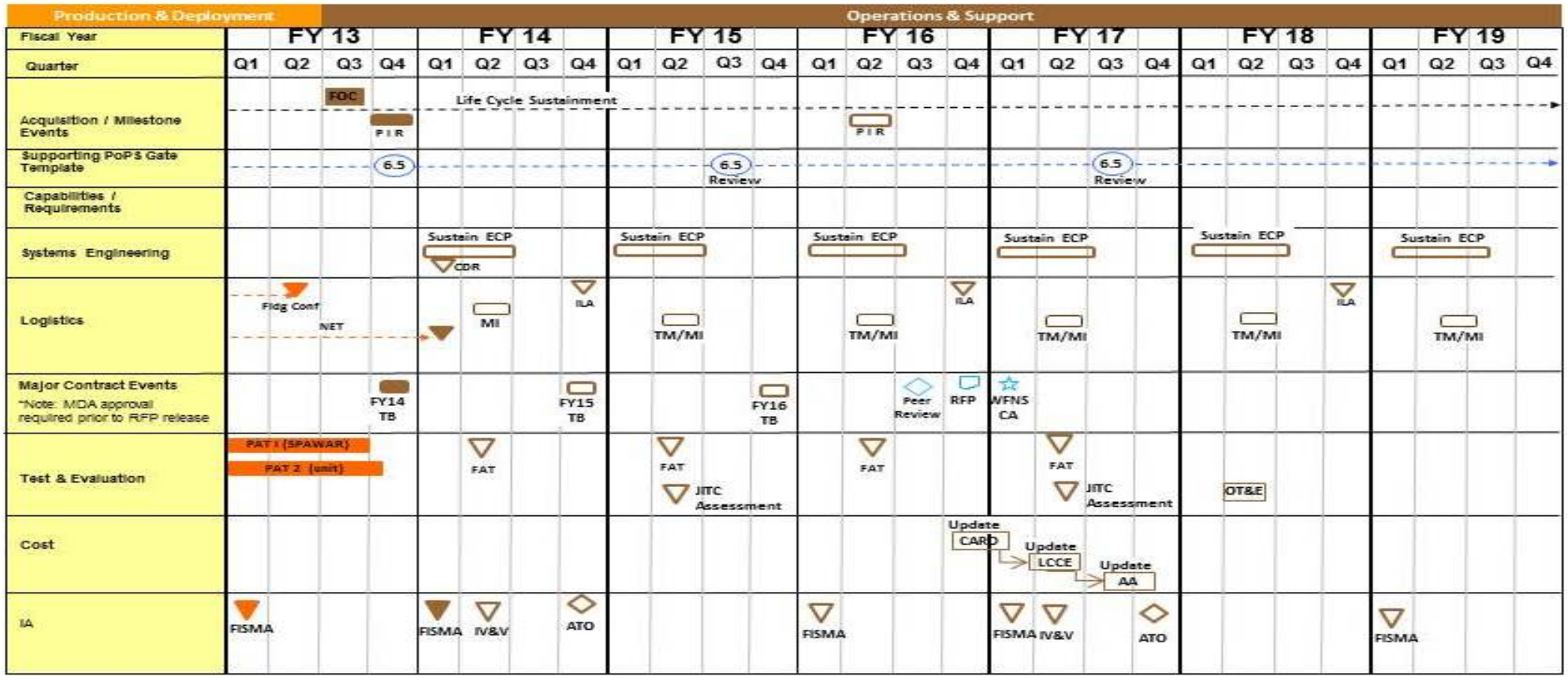


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

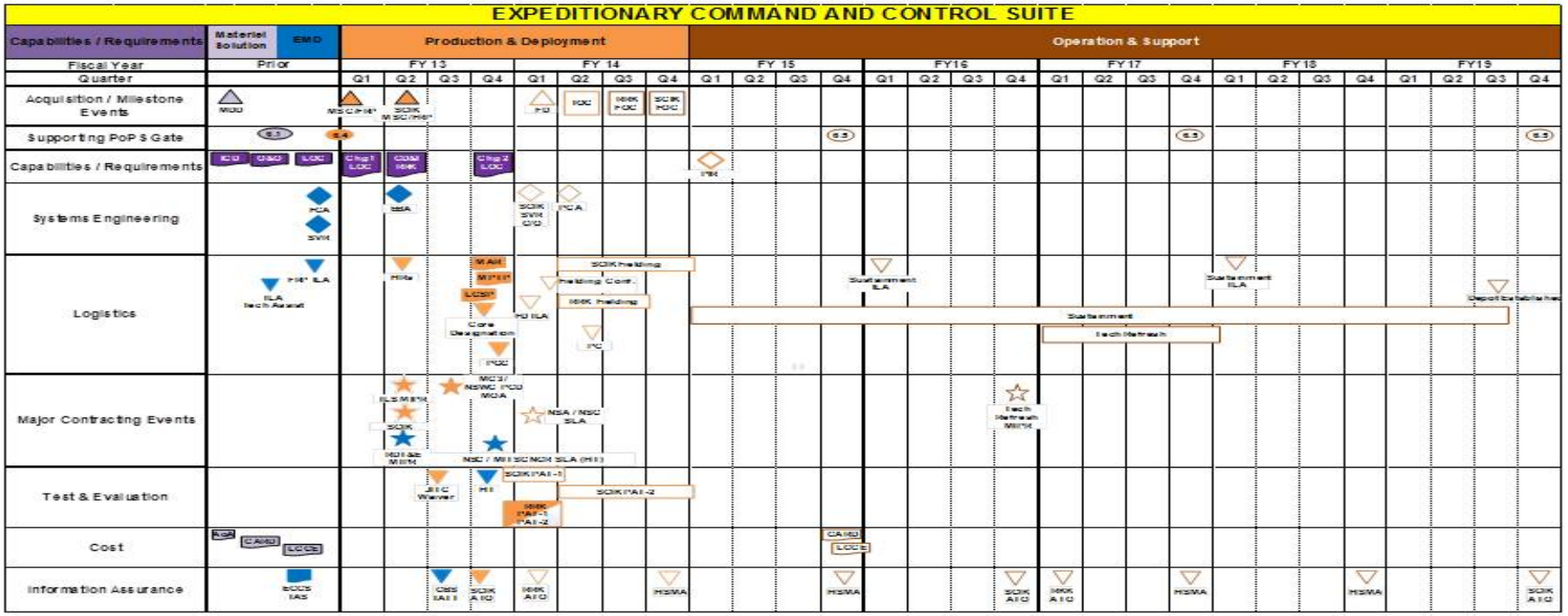


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

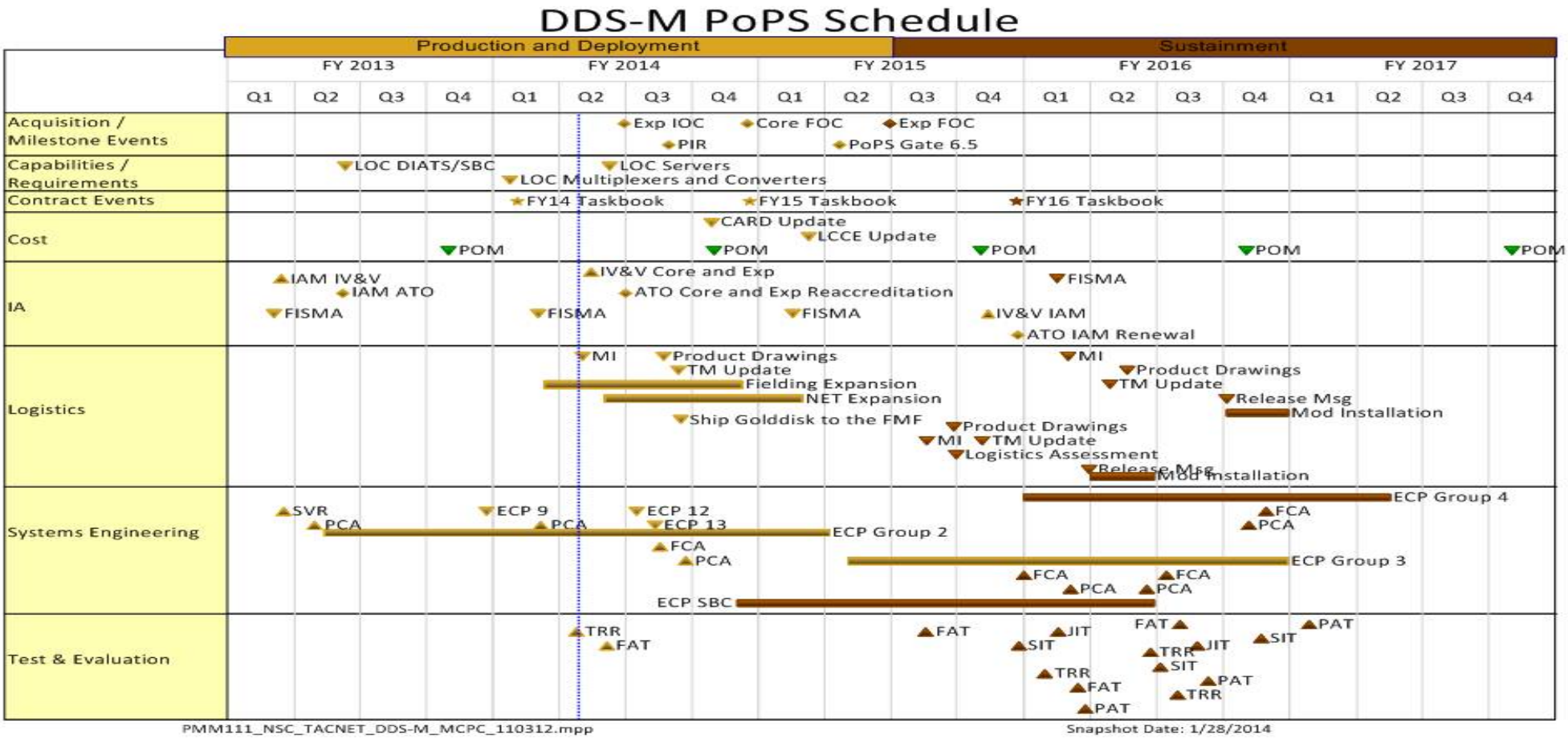


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 2277 / *System Engineering and Integration*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2277: *System Engineering and Integration*	16.638	10.774	11.137	5.188	-	5.188	5.070	4.803	4.825	4.860	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 (Sept 2011), as well as Science and Technology Objectives identified in the 2012 USMC S&T Strategic Plan. The Marine Corps program aligns with 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).

Marine Air-Ground Task Force Command, Control, Communications, Computers, and Intelligence Systems Engineering and Integration, and Coordination (MAGTF C4I SEI&C) provides for the centralized planning and execution of Marine Corps Enterprise Information Technology and National Security Systems. It develops, certifies, and manages the configurations of the Marine Corps Enterprise Systems and Technical Architecture products and uses these to support enterprise-level systems engineering. It supports unified technical representation to joint and coalition communities for Marine Corps Systems and provides top-tier system engineering support to address system of systems technical issues. It is used to conduct direct Marine Expeditionary Unit/Marine Expeditionary Force (MEU/MEF) support in system integration testing with USN. This is part of Deploying Group Systems Integration Testing (DGSIT) and workups supporting Marine Expeditionary Force (MEF) deployments. It is also used to support Marine Corps systems coordination and involvement in DoD initiatives to include ForceNet, Global Information Grid Enterprise Services (GIGES), and other Deployable Information Systems Architecture DISA/NETWARCOM efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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*

Marine Civil Information Management (MARCIM) 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, 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Expeditionary Energy Office (E2O)	2.269	2.028	2.671
Articles:	-	-	-
FY 2013 Accomplishments: FY13 funds supported 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 Science and Technology (S&T) Strategic Plan. Using these priority roadmaps, E2O invested in R&D programs to advance Strategy goals. Priority areas for investment included, 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 2014 Plans: FY14 funds will 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 2015 Plans: FY15 funds will 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.			
Title: JINTACCS: JCS and DoD CIO Data Links Testing	4.272	1.056	0.504
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
JINTACCS: DC SIAT and MCTSSA reviewed and provided updates to all IT Standards applicable to the USMC and maintained the architectural data environment to ensure all developed solution architectures continued to be associated with the appropriate technical IT standards in their Department of Defense Architecture Framework (DoDAF) Standards View. DC SIAT led the Army - Marine Corps C2 interoperability Systems Engineering IPT to align the use of tactical messaging standards creating interoperability between the DoD ground force systems FBCB2/JTCW (VMF), GCCS (OTH Gold), TBMCS/AFATDS (USMTF), and aviation tactical data links (Link 16/22). This effort provided the guidance and direction for development of strategies to allow the Marine Corps to meet its Service level requirements mandated by the DoD Net Centric Data Strategy and participate in the Joint development of XML data standards to enable tactical data exchanges in C2 systems. DC SIAT led the development of data model converter applications to create Standardization Agreement 4677 on interoperability between the NATO JC3IEDM data model to the JTCW (VMF) system allowing coalition interoperability at the dismounted level.			
FY 2014 Plans: JINTACCS: DC SIAT and MCTSSA will 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. DC SIAT will 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). This effort will continue to support 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 participate in the Joint development of XML data standards to enable tactical data exchanges in C2 systems. Additionally, this effort will expand to incorporate the ability to use Tactical Service Oriented approaches to mediate data across multiple environments/domains (Air/Mobile platform/Dismounted/Stationary command posts). DC SIAT will continue to 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.			
FY 2015 Plans: JINTACCS: DC SIAT and MCTSSA will 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. DC SIAT will 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). This effort will continue to support 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 participate in the Joint development of XML data standards to enable tactical data exchanges in C2 systems. Additionally, this effort will expand to incorporate the ability to use Tactical Service Oriented approaches to mediate data across multiple environments/domains (Air/Mobile platform/Dismounted/Stationary			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
command posts). DC SIAT will continue to 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.			
Title: SEIC: Engineering and Technical Support	4.233	7.344	1.963
Articles:	-	-	-
FY 2013 Accomplishments: MAGTF SEI&C: Engineering and technical support for configuration management of MAGTF C4I systems. Review and submittal of multiple Integration Support Plans (ISPs) and Tactical ISPs (TISPs). Pre-deployment assistance to I MEF and multiple MEUs. Participation in ForceNet, NCES, GIGES, and other Joint DoD initiatives. Planned for continued activities to support the interoperability and jointness of the USMC Enterprise IT/NSS systems. Provided support to establish and execute a MAGTF Integration War Room which will serve as a forum for aligning and integrating capability development activities. Alignment and integration activities extended to Naval and Joint processes and reinforced existing capability development processes via systems engineering, operational architecture, requirements transition, and knowledge management methodologies.			
FY 2014 Plans: MAGTF SEI&C: Engineering and technical support for configuration management of MAGTF C4I systems. Review and submittal of multiple Integration Support Plans (ISPs) and Tactical ISPs (TISPs). Pre-deployment assistance to I MEF and multiple MEUs. Participation in ForceNet, NCES, GIGES, and other Joint DoD initiatives. Plans are for continued activities to support the interoperability and jointness of the USMC Enterprise IT/NSS systems. FY14 increased level of funding is needed to provide MAGTF Systems Integration and System of Systems Engineering expertise in support of delivering integrated MAGTF capabilities for the Marine Corps.			
FY 2015 Plans: Provide system engineering policy, process, systems analysis, SE resource management, requirements transition coordination, Systems of Systems Certification, transport engineering analysis, 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.			
Title: MARCIM: Marine Civil Information Management	-	0.709	0.050
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Software and technical data package development, testing, and Information Assurance/Certification and Accrediation activities. ***FY 2015 Plans:*** Further software development to incorporate all remaining threshold requirements to get to Full Operational Capability (FOC).			
Accomplishments/Planned Programs Subtotals	10.774	11.137	5.188

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/4620: *MARCIM*	0.255	1.933	0.568	-	0.568	0.861	0.490	0.637	0.223	-	4.967

Remarks

D. Acquisition Strategy

Marine Civil Information Management (MARCIM) 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).

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2278: *Air Defense Weapons System*	35.829	1.872	3.041	3.453	-	3.453	2.876	2.936	2.984	3.615	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 three efforts: 1) systems engineering support of currently fielded LAAD equipment/assets to include the Stinger Mounted Optic and Mode 5/S IFF Directed UNS; 2) redesign and integration of the Advanced Man-Portable Air Defense System (A-MANPADS) Increment 1 Fire Unit Vehicle (FUV) into an operationally capable vehicle configuration; 3) design, test, and integrate new system 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 Systems (CAC2S) broadcasted link. It will also be capable of interfacing with legacy Marine Air Command and Control System (MACCS) equipment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: GBAD TRANSFORMATION: Program Management Services	0.555	1.673	0.842
Articles:	-	-	-
FY 2013 Accomplishments: Developed acquisition planning documentation for GBAD portfolio of programs and projects and initiated M1114 modeling design efforts to replace current Fire Unit vehicle with a newer vehicle that is logistically supportable and operationally capable			
FY 2014 Plans: Finalize development of acquisition planning documentation for GBAD portfolio of programs and projects. Complete M1114 modeling and design effort and conduct DT test events.			
FY 2015 Plans: Initiate development of GBAD Follow On Weapon 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.			
Title: GBAD TRANSFORMATION: Product Development	0.885	0.412	1.112
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Developed Engineering Change Proposals (ECPs) for the Advanced MANPADS that include performance enhancements and ECP development of prime mover replacement (M1114) for the Fire Unit Vehicle (FUV). ***FY 2014 Plans:*** Begin directed energy research of follow on weapon system. ***FY 2015 Plans:*** Perform Stinger Missile Mounted Optic (AN/PAS-18) replacement development.			
Title: GBAD TRANSFORMATION: Test and Evaluation ***Articles:*** ***FY 2013 Accomplishments:*** Completed Advanced MANPADS Amphibious Operations Joint Range Extension (JRE) datalink testing as well as DoD Interoperability Communications Exercise (DICE) 13-2 to verify SatCom key compatibility. ***FY 2014 Plans:*** Conduct M1114 testing. ***FY 2015 Plans:*** Begin Developmental Test/Operational Test (DT/OT) and Field User Evaluation (FUE) of Stinger Missile Mounted Optic (AN/PAS-18) replacement.	0.174 -	0.385 -	0.940 -
Title: GBAD TRANSFORMATION: Support Costs ***Articles:*** ***FY 2013 Accomplishments:*** Developed GBAD Life Cycle Cost Estimate. ***FY 2014 Plans:*** Continue GBAD-T assessments at the LAAD Battalions and the Stinger School House, ensuring readiness is maintained. ***FY 2015 Plans:*** Development of Stinger missile Mounted Optic (AN/PAS-18) replacement and Life Cycle Cost Estimate support.	0.258 -	0.571 -	0.559 -
Accomplishments/Planned Programs Subtotals	1.872	3.041	3.453

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/300600: *GBAD-T*	13.246	15.713	31.439	-	31.439	8.501	9.352	9.631	12.458	Continuing	Continuing

Remarks

D. Acquisition Strategy

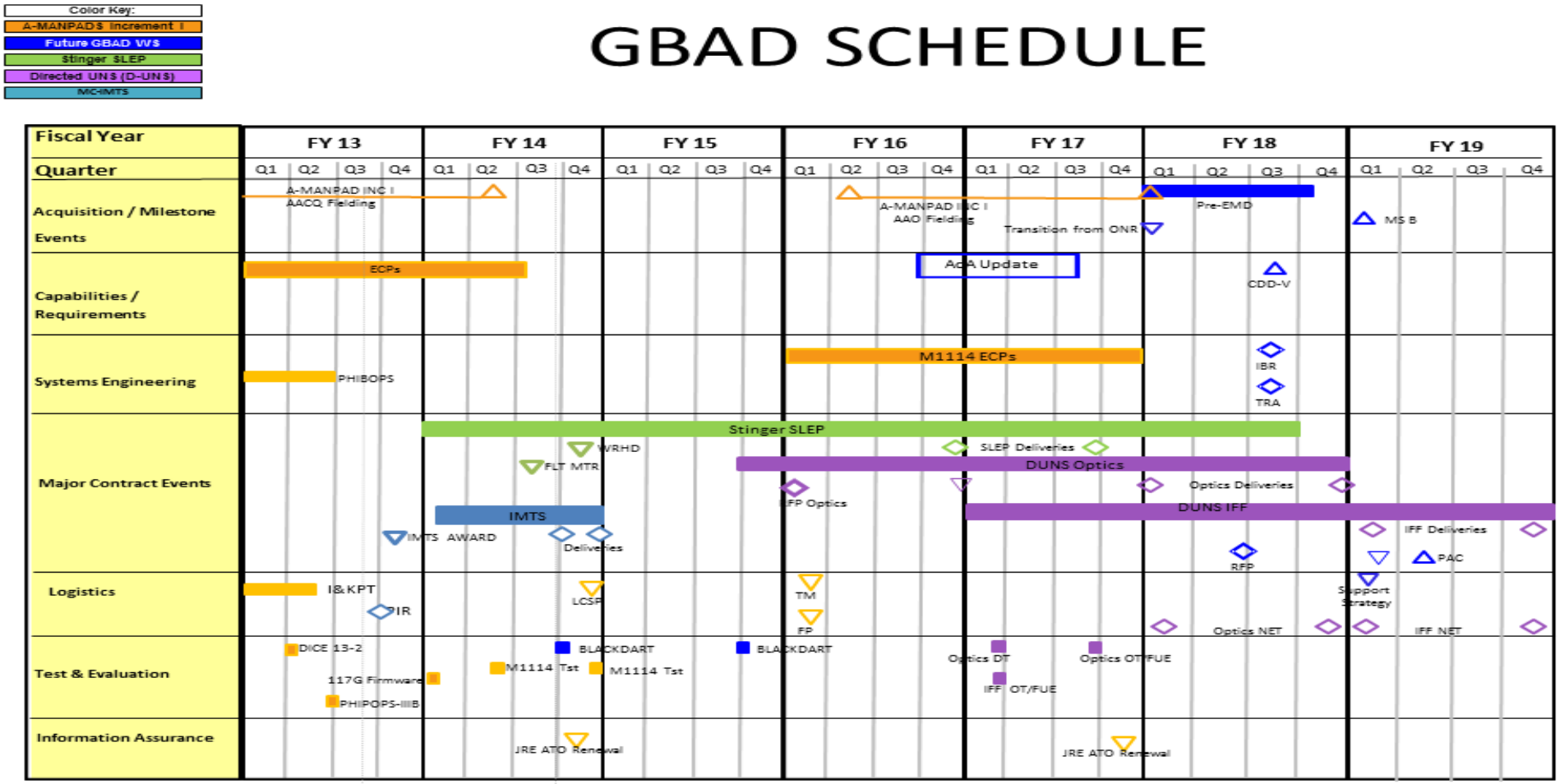
GBAD TRANSFORMATION: A-MANPADS Increment I is an Abbreviated Acquisition Program (AAP), GBAD-T enables the rapid transition from the Avenger/MANPADS weapon system to the more mobile, flexible, and maintainable Advanced MANPADS. The AAP is principally comprised of integrating Government Off The Shelf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

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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*

GBAD SCHEDULE



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2510: *MAGTF CSSE & SE*	246.180	22.372	3.142	4.124	-	4.124	3.055	2.393	1.238	1.012	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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.

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. The initial 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) or GCSS-MC/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 legacy 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.

The GCSS-MC/LCM program will upgrade from the current Oracle EBS 11.5.10 application and all customizations to Oracle Enterprise Business Suite (EBS) Release 12. The (EBS) Release 12 critical refresh and technical insertion will provide a secure sustainable system with increased operational efficiency.

JOINT FORCE REQUIREMENTS GENERATOR II (JFRG II) is a Global Command and Control System (GCCS) software application designed to provide DOD with a Joint Services, state-of-the-art, integrated, and deployable Automated Information System (AIS) that supports strategic force movements. JFRG II provides rapid development of force data to satisfy operational planning and execution requirements. It serves as the essential link between service force requirements and validated/sourced unit 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 contains an exhaustive joint data library and interfaces directly with the Joint Operation Planning and Execution System (JOPES). JFRG II can generate standard, executive, and ad hoc reports, perform database queries, and export or import data from Transportation Coordinators' Automated Information for Movement System (TC-AIMS) II, MAGTF Deployment Support System (MDSS) II, War Reserve System (WRS) and JOPES. JFRG II operates and functions in a classified environment.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

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 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.

ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS) is composed of several main components including Electronic Maintenance Devices (EMD), regional servers, deployment servers, charger racks, and ruggedized deployment cases. EMSS is a rugged organizational-level (O-level), light-weight, one-man portable maintenance device capable of supporting multiple platforms and systems across maintenance communities. EMSS provides a Commercial Off-The-Shelf (COTS) hardware device equipped with network interfaces, 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), access to Subject Matter Experts (SMEs) over USMC networks, and other maintenance applications to be hosted on EMSS. With these capabilities, maintainers will make more informed decisions, thereby sustaining force readiness over time.

TRANSPORTATION SYSTEMS PORTFOLIO (TSP): provides funding that supports the USMC Deployment and Execution Support Systems and the Distribution Management Support 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 and passive radio frequency identification (aRFID/pRFID) 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: BASE TELECOM (BTI)	0.427	0.406	0.487
Articles:	-	-	-
FY 2013 Accomplishments: Continued test and evaluation (T&E) engineering support for unique systems such as multiplexing technology or other Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems. This support will provide designs for telecommunications systems modification and solutions to complex problems, calculations, and research standards in support of system modernization. Additionally, these funds will be utilized for optical domain test equipment to support testing efforts.			
FY 2014 Plans: Participate in the Defense Information Systems Agency (DISA) Unified Capabilities (UC) (voice, video, collaboration, and data) pilot is critical to BTI modernization strategy. The RDT&E funds will be utilized for testing efforts in support of the DISA UC			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Everything over Internet Protocol (EoIP) effort. After the testing is reviewed by the Joint Interoperability Test Command (JITC), successfully evaluated products will be placed on the DISA Approved Products List (APL). ***FY 2015 Plans:*** Continue test and evaluation (T&E) engineering support for Defense Information Systems Agency (DISA) Unified Capabilities (UC) (voice, video, collaboration, and data) implementation and provide optical domain test equipment to support testing efforts.			
Title: GCSS-MC LOGISTICS CHAIN MANAGEMENT (GCSS-MC) ***Articles:*** ***FY 2013 Accomplishments:*** GCSS-MC/LCM Increment 1 reported a critical change based on schedule as defined by 10 U.S.C. Chapter 144A. The Full Deployment Decision event has slipped more than a year past the Program Manager's estimate based on the 31 December 2011 MAR (Dec 2012). The Increment 1 program schedule critical change was caused by significant technical challenges surrounding Release 1.2 Deployed capability requirements. While the Release 1.2 hardware/software baseline continued to mature throughout FY12, additional Developmental Test and Operational Test (DT&OT) events required to validate the automated Task Organization and Data Synchronization functionalities of the deployed capability were not successful. The Program continued the GCSS-MC baseline upgrade from Oracle eBusiness Suite Release 11 to Release 12 with the award of the system integrator contract. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	19.870 -	- -	- -
Title: JOINT FORCES REQUIREMENT GENERATION II (JFRG II) ***Articles:*** ***FY 2013 Accomplishments:*** FY13 funds utilized to implement Global Force Management Data Initiatives (GFMDI) ***FY 2014 Plans:*** FY14 funds support the modernization effort to incorporatee GFMDI data elements. ***FY 2015 Plans:*** FY15 funds support the modernization effort to incorporatee GFMDI data elements.	0.163 -	0.159 -	0.203 -
Title: TRANSPORTATION SYSTENS PORTFOLIO (TSP) ***Articles:***	- -	- -	2.780 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Conduct requirements decomposition and design efforts for the modernization of the Marine Air Ground Task Force (MAGTF) Deployment Support System (MDSS) II.			
Title: ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS)	1.912	2.577	0.654
Articles:	-	-	-
FY 2013 Accomplishments: Commenced Research and Development for the Block II version of the Electronic Maintenance Support Systems to include all subcomponents. The program office conducted investigation and technology analysis to facilitate the transition to Block II using a Pre-Planned Product Improvement (P3I) version of EMSS for wireless capability, advanced diagnostics software applications, and Interactive Electronic Test Manual (IETM) software development. ***FY 2014 Plans:*** Continue Research and Development to establish interfaces with built in test systems residing on various weapon system platforms. The program office will conduct studies and research using a Pre-Planned Product Improvement (P3I) version of EMSS. Capability areas will deploy wireless capability, advanced diagnostics software applications, and IETM software development. ***FY 2015 Plans:*** Commence Research and Development to investigate the utility/ benefit of additional software defined test instruments (SDTI) and software applications which support enhanced maintenance capabilities as well as existing weapon system platform components identified by the fleet.			
Accomplishments/Planned Programs Subtotals	22.372	3.142	4.124

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/BLI 461700 GCSS: *GCSS-MC*	20.829	0.541	-	-	-	-	-	-	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/BLI 463000 PKI: *PKI*	0.001	-	-	-	-	0.427	-	-	-	Continuing	Continuing
• PMC/BLI 463500 BTI: *BTI*	22.103	14.593	27.367	-	27.367	30.472	20.483	20.642	16.891	Continuing	Continuing
• PMC/BLI 418100: *EMSS*	7.394	7.946	3.679	-	3.679	3.606	3.868	3.952	3.045	Continuing	Continuing
• PMC/BLI 463500 PKI: *PKI*	-	1.304	1.449	-	1.449	1.081	1.353	1.578	1.639	Continuing	Continuing
• PMC/BLI 461700: *TSP*	-	-	0.498	-	0.498	0.399	0.601	-	-	Continuing	Continuing
• PMC/BLI 461600: *GCSS-MC*	-	-	-	-	-	-	1.400	7.654	-	-	9.054

Remarks

D. Acquisition Strategy

GLOBAL COMBAT SUPPORT SYSTEM-MARINE CORPS (GCSS-MC) is pursuing an Evolutionary Acquisition (EA) strategy in order to field operationally suitable and supportable capabilities in the shortest time possible that meets the Logistics Advocate goals. EA offers the fastest method to field this highest of advocate priorities and allows for requirements to be time-phased as the users become more familiar with the strengths and weaknesses of the fielded system. In addition to quicker fielding, an EA approach is particularly well suitable for software intensive programs and offers these benefits: rapid delivery of an initial capability with the explicit intent of delivering continuously improving capabilities in the future and a reduction in the "cycle time" from identification of emergent user requirements, priorities and fielding. The GCSS-MC acquisition strategy will deliver capabilities in increments. Each increment capability will follow a complete acquisition process in accordance with the DOD 5000 publications and OSD's Enterprise Integration roadmap. Increments will include emergent user priorities, advanced technology improvements and expanded functionality. Each increment will repeat the complete acquisition program cycle going through a milestone (MS) C Full Rate Production Decision Review. Increment 1 is divided into two major independent releases: Enterprise Release 1.1 and Deployed Access Release 1.2. This approach differs from the original plan of delivering one release due to the technical complexities related to the overall scope of the solution. More substantial software improvement/system upgrades will be fielded with each Increment as required and prioritized by the user community.

JOINT FORCES REQUIREMENT GENERATOR II (JFRG II) is maintaining current Legacy application until 2016. Program is conducting research and development to design, develop, and deploy a modernized version of the application.

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 testing efforts in support of the DISA Unified Communications Everything over Ethernet effort. After the testing is reviewed by the JITC, successfully evaluated products will be placed on the Approved Products List (APL).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS) is pursuing an evolutionary acquisition strategy in order to field operationally suitable and supportable capability across the Marine Corps as a maintenance aid. EMSS must evolve in concert with the supported platforms maintenance philosophy to provide extended functionality and access to network connectivity.

TRANSPORTATION SYSTEMS PORTFOLIO (TSP): within this portfolio, follows an Evolutionary Acquisition (EA) approach: 1. Define, develop, and deliver an initial or "core" capability based on mature technology. 2. "Core" capability will be incrementally improved over an extended period of time. Incremental Development Model: 1. Iterative cycles of requirements definition, design, build and evaluation. The contracting strategy across the portfolio is to utilize competitive firm-fixed price contracts.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

EMSS Summary Schedule (Multi-Version)

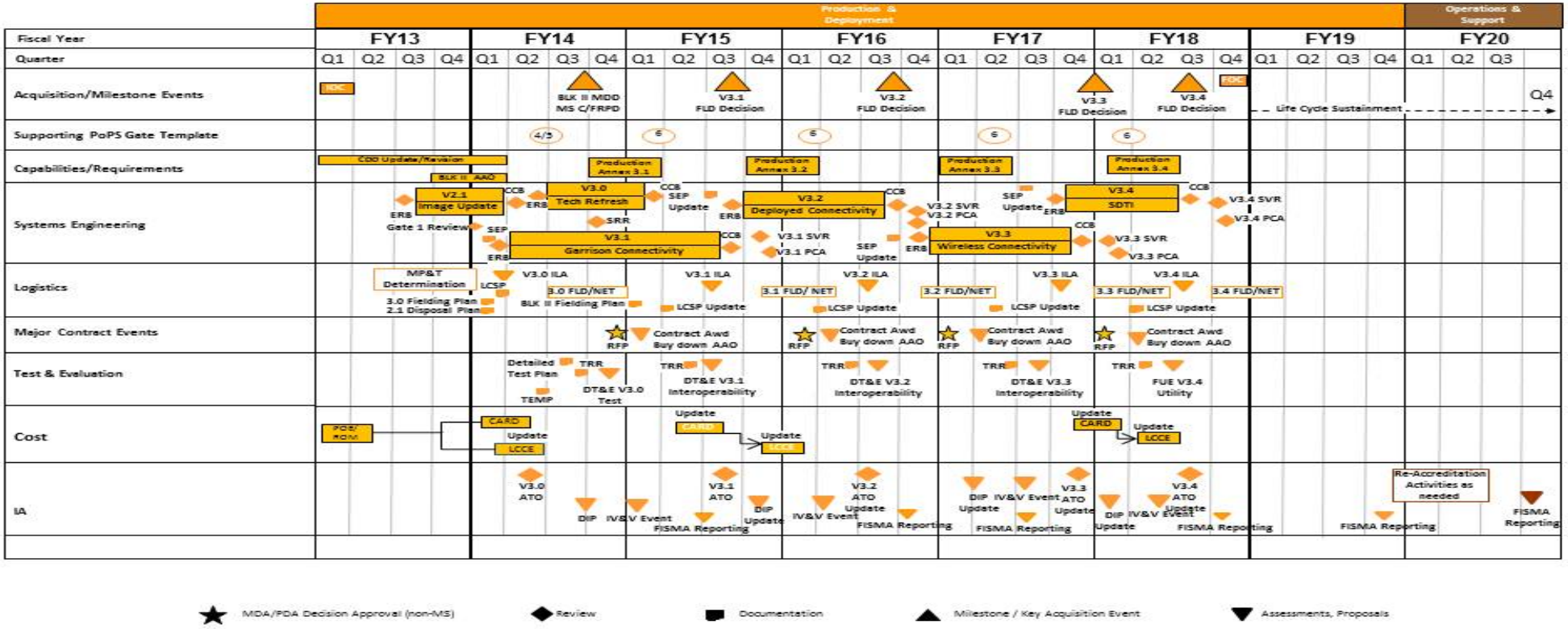


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

JFRG Program Schedule

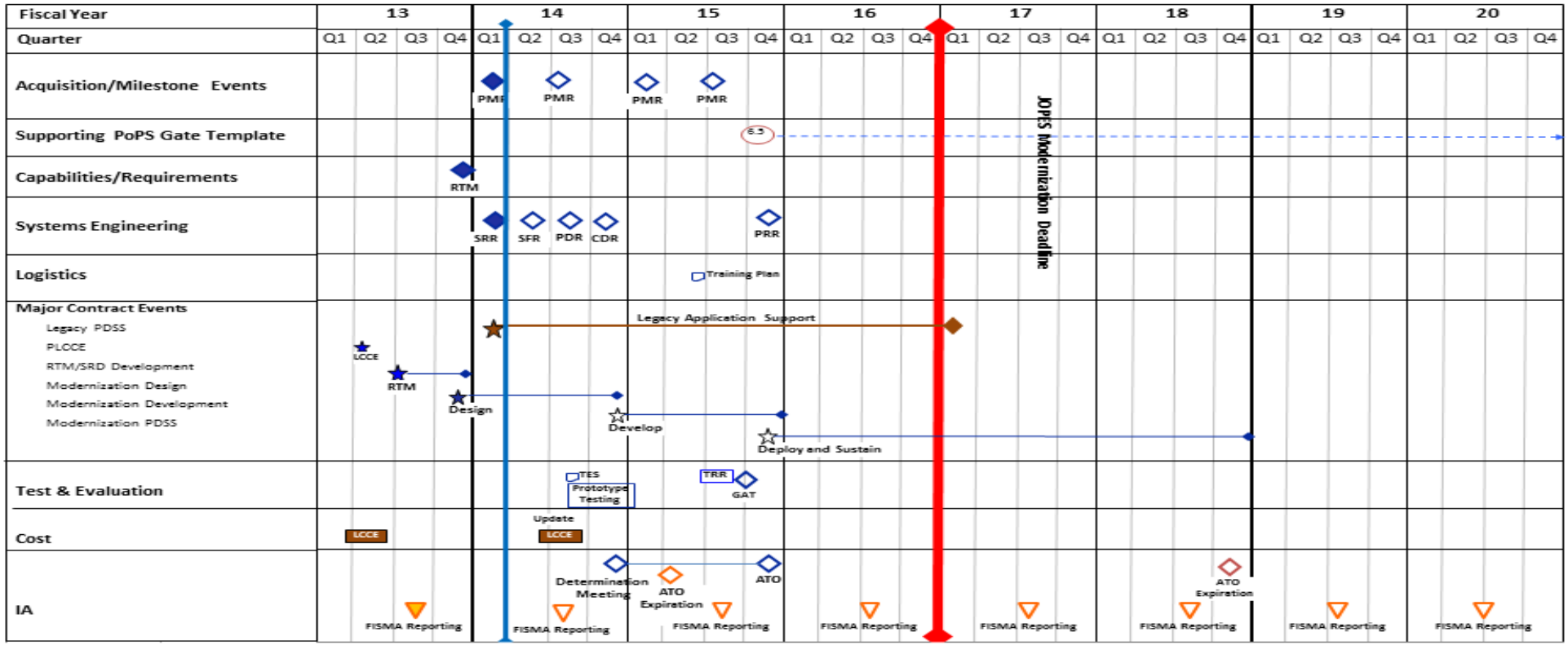


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

TSP (MCPC 431600) Integrated Program Schedule

3 Feb 14 AVP

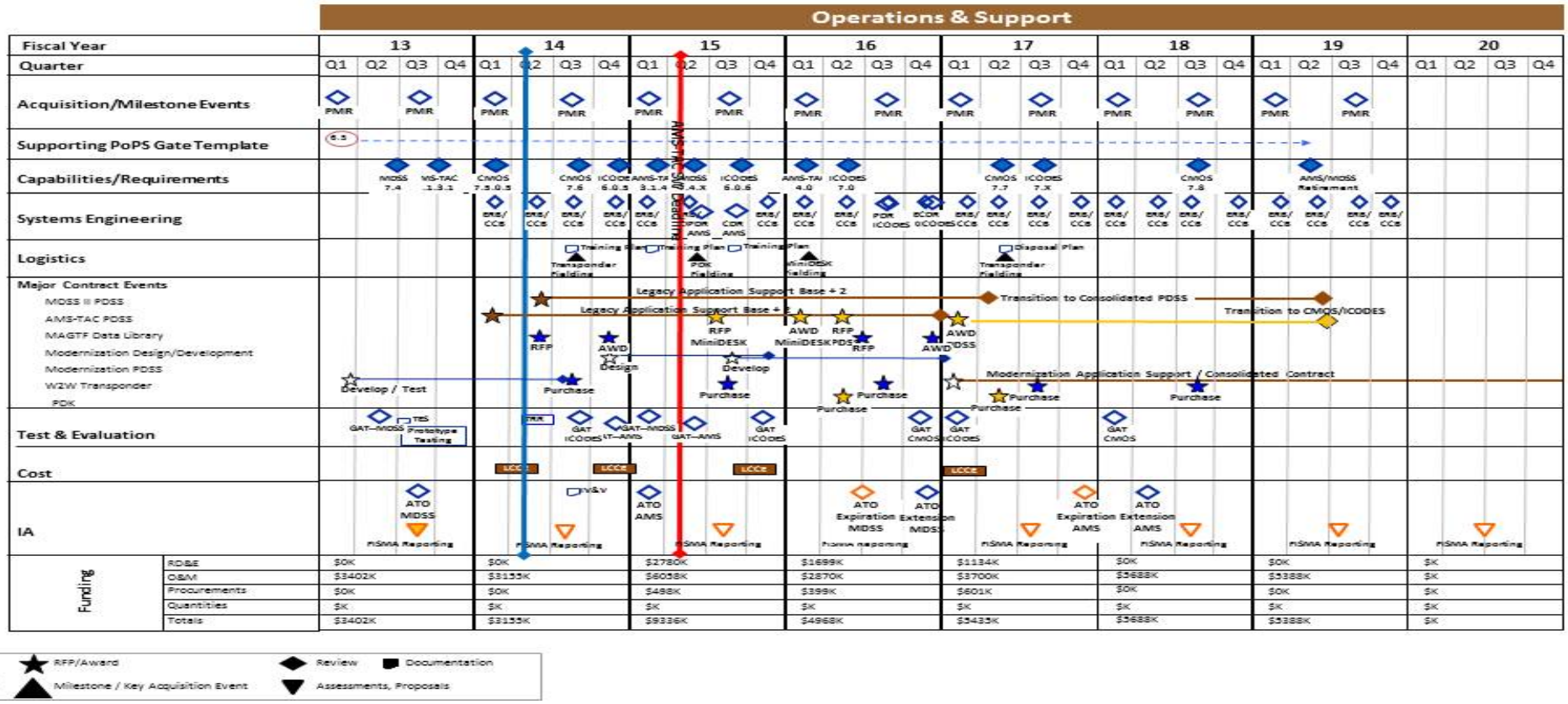


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

BTI Top-Level Program Schedule

As of 4 February 2014

Operations & Support

Fiscal Year	FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19			
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Acquisition / Milestone Events		MDD					SR			SR	SR				SR				SR				SR				SR	FOC			SR	
Supporting PoPS Gate Template	1						6.5			6.5					6.5				6.5				6.5				6.5				6.5	
Capabilities / Requirements	SON – APR 10	LOC 9 FEB 12					LOC 26 JUN 13																									
Systems Engineering Note: Detailed activities & reviews are depicted in the notional Project Schedule						SEP	CMP PESHE				ISR			ISR	PIR				ISR				ISR				ISR	PIR			ISR	
	PROJECT SYSTEM ENGINEERING																															
Logistics		Checklist								LCCE	LCSP LRFS FP										ILA											
Major Contract Events (Award)																																
Test & Evaluation Note: Detailed T&E activities and reviews are depicted in the notional Project Schedule										TES	TEMP																					
	PROJECT SYSTEM ACCEPTANCE TESTS & ATO																															
Cost							CARD			LCCE				UPDATE CARD	UPDATE LCCE			UPDATE CARD	UPDATE LCCE			UPDATE CARD	UPDATE LCCE			UPDATE CARD	UPDATE LCCE			UPDATE CARD	UPDATE LCCE	
IA		IA Strategy				IA Gate Reviews				Type Accreditation Transport (DWDM) - Authority to Operate Switch (UC) – Authority to Operate												Update Type Accreditation Transport (DWDM) - Authority to Operate Switch (UC) – Authority to Operate											

(In $1,000.00)		FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
PB-15 Controls (29 Jan 2014)	Funding								
	RDT&E	$445	$427	$406	$487	$493	$501	$510	$520
	O&M	$364	$341	$704	$605	$613	$626	$634	$646
	PMC	$21,151	$22,103	$14,593	$27,367	$30,472	$20,483	$20,642	$16,891
	Quantities	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Totals	$21,960	$22,871	$15,703	$28,459	$31,578	$21,610	$21,786	$18,057

Legend: MDA Decision Approval (non-MS); Milestone / Key Acquisition Event; Review; Assessments, Proposals; Documentation

FUNDED & PROGRAMMED

P126	29 Palms Host DWDM/UC
P583	Yuma DWDM/UC
P1047	Lejeune (French Creek) DWDM/UC
P1266	Lejeune (Courthouse Bay) DWDM/UC
P1653	Pendleton Naval Hospital DWDM/UC

UNFUNDED & UNPROGRAMMED

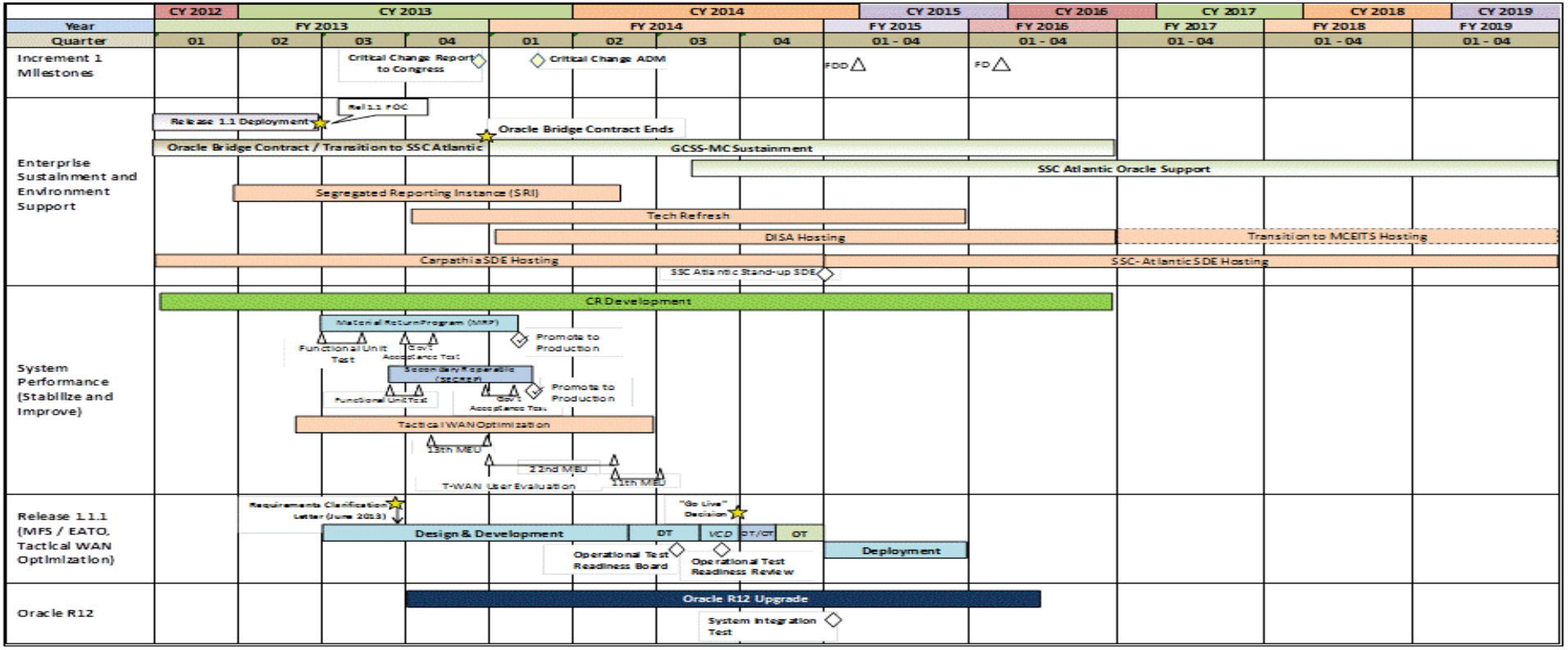
P541	MCU DWDM/UC
P726	New River DWDM/UC
P818	PAC HQ DWDM/UC

Pendleton
P1014 Area 33 DWDM/UC
P1016 Area 41 DWDM/UC
P1131 MCI-W HQ DWDM/UC
P1132 DCO

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

PEO EIS
ENTERPRISE INFORMATION SYSTEMS
DEPARTMENT OF THE NAVY

GCSS-MC Program Schedule



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 3099 / *Radar System*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
3099: *Radar System*	148.379	25.066	9.613	12.169	-	12.169	11.813	15.186	17.239	16.369	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

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 Post Production Support (PPS) contract and Other Government Activities (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 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 engineering issues that arise due to DMSMS items within the FTAS.

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 to improved system reliability with the specific purpose of meeting increased fleet operational requirements.

Three Dimensional Expeditionary Long Range Radar (3DELRR) - The Three-Dimensional Expeditionary Long-Range Radar (3DELRR) is a USAF program established to develop a lightweight, expeditionary, transportable, long-range surveillance radar system capable of detecting Airborne Ballistic Targets (ABTs) and Theatre Ballistic Missiles (TBMs). Marine Corps personnel are providing technical, engineering, and programmatic support, as well as, source selection support to the U.S. Air Force 3DELRR program. The program support consists of program management, engineering, logistics, test, and requirements activities. Commencing in FY14, the Marine Corps will no longer provide funding to support the Air Force to support the 3DELRR program.

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 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

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 2013	FY 2014	FY 2015
Title: AN/TPS-59 : Develop Engineering Change Proposals	8.685	3.096	1.065
Articles:	-	-	-
Description: The program will address Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues by continuing use of a Post Production Support (PPS) contract as well as use of Other Government Activities (OGAs). The AN/TPS-59 modification will address DMSMS and the DOD mandated Mode 5 Implementation of the AN/TPS-59 Radar System. ***FY 2013 Accomplishments:*** Continued software integration and ECPs to address obsolescence and DMSMS issues. ***FY 2014 Plans:*** Continue software integration and ECPs to address obsolescence and DMSMS issues. ***FY 2015 Plans:*** Continue software integration and ECPs to address obsolescence and DMSMS issues.			
Title: AN/TPS-59 : Management Service Support	2.024	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Program management and technical support for Long Range Radar efforts. ***FY 2014 Plans:*** Program Office transitions to PMC funding for Program Management and Technical Support in FY14. ***FY 2015 Plans:*** N/A			
Title: AN/TPS-59: Test and Evaluation	0.020	0.330	1.600
Articles:	-	-	-
FY 2013 Accomplishments: Civil Air Patrol (CAP) - Testing Support. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
N/A			
Title: AN/TPS-59 : Engineering and Technical Support	7.488	3.585	5.386
Articles:	-	-	-
FY 2013 Accomplishments: MITRE/NSWC Dahlgren - Engineering Support, SPAWAR - IA Support, MCCDC CD&I - Requirements Support, MCSC - Program Office Travel, Lockheed Martin - Post Production Services and Support.			
FY 2014 Plans: MITRE/NSWC Dahlgren - Engineering Support, SPAWAR - Engineering Support, MCSC - Program Office Travel, Lockheed Martin - Post Production Services and Support.			
FY 2015 Plans: Continue MITRE/NSWC Dahlgren - Engineering Support, SPAWAR - Engineering Support, MCSC - Program Office Travel, Lockheed Martin - Post Production Services and Support.			
Title: FTAS: Engineering and Technical Support	0.664	0.500	0.254
Articles:	-	-	-
FY 2013 Accomplishments: Tobyhanna Army Depot (TYAD)- ECP development on the AN/TSQ-267. NSWC Dahlgren - Engineering Support for the Family of Target Acquisition systems. Tobyhanna Army Depot (TYAD)- AN/TPQ-46 MILTOPE Computer Refresh Engineering Change Proposal (ECP). MCSC Albany - Program Travel in support of Equipment and Logistics SME.			
FY 2014 Plans: Tobyhanna Army Depot (TYAD)- Continuation of ECP development on the AN/TSQ-267 and ECP development on the AN/TPQ-49. NSWC Dahlgren - Engineering Support for the Family of Target Acquisition systems, and Government liason with Fires Software Engineering Directorate (FSED) Ft. Sill. MCSC Albany - Program Travel in support of Equipment and Logistics SME.			
FY 2015 Plans: NSWC Dahlgren - Engineering Support for the Family of Target Acquisition systems. MCSC Albany - Program Travel in support of Equipment and Logistics SME.			
Title: FTAS: Develop Engineering Change Proposals	-	-	1.910
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Initiate development and testing of an engineering change to resolve a newly identified DMSMS issue within the Radar Cylinder of the AN/TPQ-49. Pending product outcome of the Correlation and Fusion Naval Future Capability Study, FTAS will initiate Correlation and Fusion ECP for the AN/TSQ-267.			
Title: SHORAD: Engineering and Technical Support ***Articles:*** ***Description:*** Continuing development effort to resolve ongoing DMSMS and obsolescence issues. ***FY 2013 Accomplishments:*** NSWC Dahlgren/NSWC Crane/Tobyhanna Army Depot (TYAD) - Engineering Support, Aberdeen Proving Ground (APG) - Testing Support, MCSC - Program Office Travel. ***FY 2014 Plans:*** SPAWAR - IA Support, MCSC - Program Office Travel. ***FY 2015 Plans:*** Tobyhanna Army Depot (TYAD) - Engineering Support, MCSC - Program Office Travel.	0.614 -	0.161 -	0.193 -
Title: 3DELRR: Management Service Support ***Articles:*** ***Description:*** Provides for programmatic and technical support to U.S. Air Force 3DELRR Program. ***FY 2013 Accomplishments:*** Program management and technical support to U.S. Air Force 3DELRR Program. ***FY 2014 Plans:*** Commencing in FY 2014, the Marine Corps will no longer provide program management and technical support to U.S. Air Force 3DELRR Program. ***FY 2015 Plans:*** N/A	1.727 -	- -	- -
Title: VWC: Testing Support	3.844	1.941	1.761

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 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 2014 Plans: Continuation of 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 2015 Plans: Continuation of 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.			
Accomplishments/Planned Programs Subtotals	25.066	9.613	12.169

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/465003: *AN/TPS-59*	37.937	10.009	9.699	-	9.699	30.984	21.826	19.768	21.280	Continuing	Continuing
• PMC/465005: *FTAS*	3.817	3.004	8.923	-	8.923	10.207	8.623	8.410	8.495	Continuing	Continuing
• PMC/465007: *SHORAD (AN/TPS-63)*	3.631	1.713	0.973	-	0.973	1.421	0.729	0.743	-	Continuing	Continuing
• PMC/463000: *AN/TPS-59 MCHS*	0.099	0.092	0.098	-	0.098	0.121	0.143	0.149	0.151	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 Post Production Support (PPS) contract 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.

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.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

E. Performance Metrics

Milestone Reviews

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

AN/TPS-59 Program