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 0206624M *I Marine Corps Cmbt Services Supt*							
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	148.321	56.390	35.647	20.999	-	20.999	23.666	19.021	18.405	14.940	Continuing	Continuing
0201: *Logistical Veh Sys Replacement (LVSR)*	35.537	0.509	2.392	0.385	-	0.385	0.328	0.311	0.237	0.211	Continuing	Continuing
2316: *Combat Service Support Eng Equip*	40.959	30.763	20.401	7.271	-	7.271	6.097	5.861	7.668	7.452	Continuing	Continuing
2509: *Motor Transport Mod*	27.959	9.107	2.538	6.978	-	6.978	3.320	1.471	0.951	1.027	Continuing	Continuing
2510: *MAGTF CSSE & SE*	0.000	12.648	4.518	4.930	-	4.930	9.306	7.933	4.468	4.487	Continuing	Continuing
2929: *Testing Measuring Diag Equip & SE*	4.789	1.577	2.571	0.248	-	0.248	0.518	0.546	0.582	0.624	Continuing	Continuing
9C90: *MTVR Mod*	39.077	1.786	3.227	1.187	-	1.187	4.097	2.899	4.499	1.139	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This program element (PE) provides funding for Marine Air-Ground Task Force requirements for Combat Service Support equipment improvement. It will enhance combat breaching capabilities of the ground combat elements, logistics, maintenance and transportation. The PE also provides improvements in all areas of Combat Service Support Equipment Vehicles by determining the replacement for the heavy, medium and light fleet vehicles. This includes projects such as: Alternative Power Sources for Communications Equipment (APSCE) which is a suite of devices that provide the commander with the capability to use existing power to operate his communication equipment, computers and peripheral equipment instead of using batteries or fossil fuel generators; the Marine Corps Family of Automatic Test Systems (ATS), formerly TETS, which provides automatic testing capability for use by technicians both in garrison and forward edge of the battlefield; improvements in all areas of the M1A1 main battle tank; the High Performance Capabilities for Military Vehicles Project which is dedicated to applying the best practices of the motor sports industry to military vehicles including engineering expertise, equipment and technology.

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 0206624M *I Marine Corps Cmbt Services Supt*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	65.155	42.647	46.984	-	46.984
Current President's Budget	56.390	35.647	20.999	-	20.999
Total Adjustments	-8.765	-7.000	-25.985	-	-25.985
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-7.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.217	-			
• SBIR/STTR Transfer	-1.477	-			
• Program Adjustments	-	-	-1.477	-	-1.477
• Rate/Misc Adjustments	-0.002	-	-24.508	-	-24.508
• Congressional General Reductions Adjustments	-5.503	-	-	-	-
• Congressional Directed Reductions Adjustments	-4.000	-	-	-	-

Change Summary Explanation

The FY14 to FY15 decrease reflects the adjustment of Marine Corps fiscal priorities which includes the termination of funding for the Route Reconnaissance and Clearance (R2C), Low Metallic Signature Mine Detector (LMSMD), and Engineer Squad Robot programs.

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 0206624M / *Marine Corps Cmbt Services Supt*	Project (Number/Name) 0201 / *Logistical Veh Sys Replacement (LVSR)*	

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
0201: *Logistical Veh Sys Replacement (LVSR)*	35.537	0.509	2.392	0.385	-	0.385	0.328	0.311	0.237	0.211	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

The Logistics Vehicle System Replacement (LVSR) program is the replacement for the Logistics Vehicle System (LVS) fleet. The LVSR Modification line funds numerous modifications and initiatives that are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, tool malfunctions, product quality deficiencies, and other issues that effect vehicle reliability, availability, maintainability and readiness. A proactive and focused approach ensures proper vehicle sustainment and life cycle management and it allows the flexibility to develop and implement improvements as needed to respond to the evolving needs of the Marine Corps. Reduction of funding from FY14 to FY15 is due to the decreased number of ECPs and safety mods required.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: LVSR: Engineering Change Proposal (ECP)	0.075	1.196	0.192
Articles:	-	-	-
FY 2013 Accomplishments: Completed Engineering Change Proposal (ECP) development and testing for Emergency Egress Lighting for all variants (cargo, tractor and wrecker) of the Logistics Vehicle System Replacement (LVSR) required to address concerns of decreased visibility issues by the Marines. Also completed Engineering Change Proposal (ECP) development and testing for UIK and 360 Degree Lighting for the LVSR Wrecker variant.			
FY 2014 Plans: Continue to support Engineering Change Proposal (ECP) development and testing for all variants (cargo, tractor and wrecker) of the Logistics Vehicle System Replacement (LVSR). Continual changes in the threat environment requires an on-going and proactive approach.			
FY 2015 Plans: Will support Engineering Change Proposal (ECP) development and testing for all variants (cargo, tractor and wrecker) of the Logistics Vehicle System Replacement (LVSR). Continual changes in threat environment requires an on-going and proactive approach.			
Title: LVSR: Safety	0.434	1.196	0.193
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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 0201 / *Logistical Veh Sys Replacement (LVSR)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Completed safety modification development and testing required to meet the diverse environments of current and future operations of MAGTF Expeditionary Maneuver Warfare. Specifically, funding supported the development and testing of the Wrecker Underbody Improvement Kits (UIK) and Automatic Fire Extinguishing System (AFES) for the unarmored vehicles. Incorporated new safety upgrades protecting the warfighter and LVSR vehicle from possible catastrophic events as warranted by continual changes in threat environment. ***FY 2014 Plans:*** Continue to support safety modification development and testing required to meet the diverse environments of current and future operations of MAGTF Expeditionary Maneuver Warfare. Incorporating new safety upgrades will protect the warfighter and LVSR vehicle from possible catastrophic events as warranted by continual changes in threat environment. ***FY 2015 Plans:*** Will continue to support safety modification development and testing required to meet the diverse environments of current and future operations of MAGTF Expeditionary Maneuver Warfare. Incorporating new safety upgrades will protect the warfighter and LVSR vehicle from possible catastrophic events as warranted by continual changes in threat environment.			
Accomplishments/Planned Programs Subtotals	0.509	2.392	0.385

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/5093: *LVSR*	36.713	-	-	-	-	-	-	-	-	-	1,118.167
• PMC/5050: *Motor Transport Mod: LVSR*	5.877	1.595	0.469	-	0.469	2.576	2.074	1.663	2.263	-	16.517

Remarks

D. Acquisition Strategy

The LVSR program uses a two-phase, single-step acquisition approach rather than an evolutionary acquisition approach. Phase I developed the Cargo variant and Phase II developed the Tractor and Wrecker variants. The program is currently in full rate production and sustainment utilizing RDT&E funding to address required ECPs to maintain relevancy on the battlefield and implement system requirements.

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 0201 / *Logistical Veh Sys Replacement (LVSR)*

LVSR (430598) Program Schedule

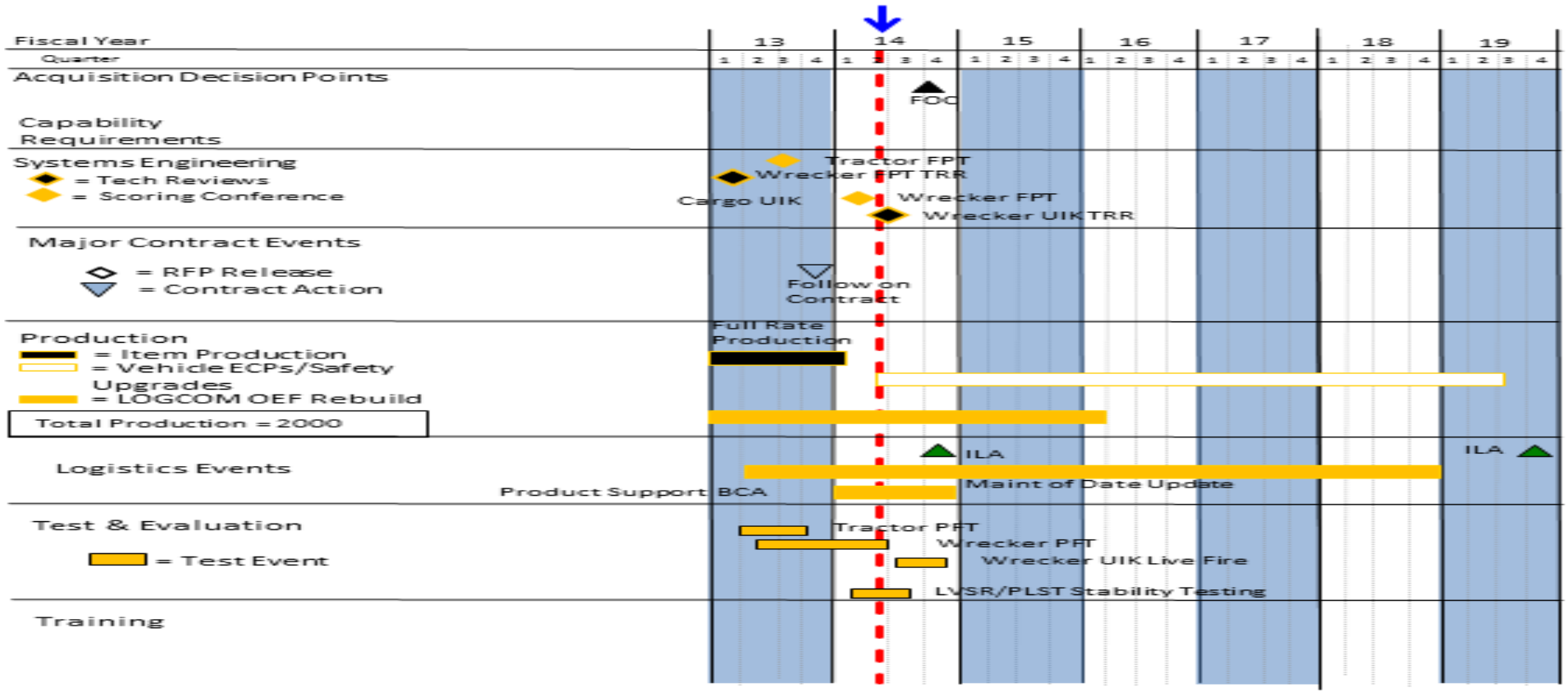


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Services Supt*				Project (Number/Name) 2316 / *Combat Service Support Eng Equip*			
COST ($ in Millions)	**Prior 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**
2316: *Combat Service Support Eng Equip*	40.959	30.763	20.401	7.271	-	7.271	6.097	5.861	7.668	7.452	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

The M1A1 Mod Kit effort includes improvements in all areas of the M1A1 main battle tank and the Armored Vehicle Launched Bridge (AVLB). The M1A1 tank provides armor protected firepower to the USMC ground combat element. Efforts under the mod line pertaining to the M1A1 include improvements in lethality systems to increase armament accuracy, increase the crew's situational awareness through sensor enhancements and intra-vehicular data sharing, providing for off-board targeting improvement, and environmental testing of components. The AVLB provides the Marine Corps only armor-protected assault gap crossing capability. Continued funding is required to address obsolescence, address operational deficiencies to adapt the tank and AVLB to a changing operational environment and support user-defined product improvements. These improvements directly address Marine Corps Lessons Learned, after action reports, and will ensure maximum survivability, sustainability, and readiness.

Route Reconnaissance and Clearance (R2C) is an incremental development project to enhance the capabilities of the R2C systems, a family of systems fielded in support of Operation Iraqi Freedom (OIF) via the Urgent Needs Statement (UNS) process. This research and development effort will integrate future vehicles, robots, and associated equipment to provide standoff detection, marking, and neutralization of Explosive Hazards such as mines and Improvised Explosive Devices (IEDs). Enhancements for R2C will provide capabilities not found in the current inventory to defeat explosive hazards and will protect Marines and equipment while conducting route and area clearance operations. The integration of the next generation of armored security and support vehicles, Vehicle Mounted Mine Detectors (VMMDs), specialized robots, and a new suite of detection, marking, and neutralization systems will enable maneuver commanders to make timely and informed decisions in avoiding or neutralizing explosive hazards that impede their missions. Multiple detection and marking capabilities will detect a broader spectrum of explosive hazards and achieve higher overall effectiveness rates, while standoff and remote-controlled detection, marking, and neutralization capabilities will enhance force protection and system survivability. Operational speeds and rates will increase, which will better support the maneuver force operational tempo. This program does not have funding beyond FY2014.

The Engineer Mods and Tool Kits line funds modifications and initiatives which are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, product quality deficiencies and other issues that affect vehicle reliability, availability and readiness. This proactive and focused approach ensures proper vehicle sustainment and life cycle management in response to evolving needs of the Marine Corps fleet. Operational needs to provide personnel survivability on engineer equipment is essential to current and future operations. Research and development funding develops and integrates new lighter, compact armor technology and supports ballistic testing for applications to existing and future acquisitions.

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

Corrosion Prevention and Control (CPAC): The useful life of Marine Corps assets will be extended through a comprehensive CPAC RDT&E program aimed at identifying and certifying new corrosion control products, materials, processes and procedures for legacy and new acquisition.

The Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV) provides tactical mobility for Warfighters with multi-mission vehicles designed to support urgent operational needs and protect personnel from the effects of improvised explosive devices (IEDs), underbody mines, and small arms fire threats. Five vehicle categories (CATs) have been tested, procured, fielded and sustained: Category I - Urban combat operations, ambulance. Category II - Multi-mission ops-convoy lead, troop transport, ambulance, utility vehicle. Category III - Mine/IED clearance ops, explosive ordnance disposal. MRAP All Terrain Vehicle (M-ATV) - Combat operations (ops) in rural, mountainous, urban terrain. Other Protected Vehicles- Specialty mission or unique configuration. Provides the same threshold ballistic, mine and IED protection as other MRAP vehicles. Includes the MRAP Recovery Vehicle (MRV) variant.

The Low Metallic Signature Mine Detector (LMS MD) will provide a light-weight, man portable, handheld detection capability that is capable of detecting traditional, low metallic, non-metallic mines, and explosive devices. The LMS MD capability enables mobility of dismounted forces by significantly increasing their ability to locate, mark, avoid, and/or reduce mine and IED threats. It will enable better categorization and identification of explosive hazards as it will be capable of detecting and discriminating between symmetric mines and asymmetric explosive devices, to include metallic, low metallic and zero metallic mines, IEDs, and Unexploded Ordinance (UXO) throughout a MAGTF Area of Operations (AO). The replacement detection capability to the interim VMR2 Minehound and AN/PSS-14 Mine Detector Program of Record, the LMS MD will be fielded throughout the Combat Engineer and EOD communities to provide dismounted maneuver and mobility support to a MAGTF in an expeditionary environment. This program does not have funding beyond FY2014.

Engineer Squad Robot (ESR) provides the Ground Combat Element with a lightweight back packable robot to support the maneuver commander with organic route and obstacle reconnaissance, urban scouting and breaching capabilities, explosive detection, interrogation and reduction in support of dismounted tactical maneuver across the spectrum of conflict. The Robot will be part of the T/E of Combat Engineer Squads in both active and reserve Combat Engineer Battalions (CEB), Marine Wing support Squadrons (MWSS) and additional systems are allocated for supporting establishments. This program does not have funding beyond FY2014.

The FY14 to FY15 decrease reflects the adjustment of Marine Corps fiscal priorities which includes the termination of funding for the Route Reconnaissance and Clearance (R2C), Low Metallic Signature Mine Detector (LMSMD), and Engineer Squad Robot programs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Engineer Mods and Tool Kits	1.085	0.372	0.254
Articles:	-	-	-
FY 2013 Accomplishments: Worked on solving the highest priority issues identified during testing and integration of modifications for the Engineer Family of Systems Ballistic and Add on Armor applications for the light capability rough terrain forklift.			
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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Funds Ballistic and Add on Armor applications for Extended Boom Forklift in support of the Engineer Family of Systems. ***FY 2015 Plans:*** Funding will initiate support work for Matting applications in support of Engineer Family of Systems.			
Title: M1A1 Modifications	1.467	3.272	3.911
Articles:	-	-	-
FY 2013 Accomplishments: This project in conjunction with the Army, initiated qualification of tank turret systems as replacements to obsolescing units; addressed fire control system deficiencies; continued evaluation of attack-detection systems; developed plans for long-term modernization for the M1A1 in the Marine Corps inventory to include secondary armament targeting. ***FY 2014 Plans:*** FY14 funding continues to identify and develop upgrades to the M1A1 turret to include obsolescence mitigation, lethality, and survivability enhancement and evaluate broader platform modernization needs. ***FY 2015 Plans:*** FY15 funding will continue to identify and develop upgrades to the M1A1 turret to include obsolescence mitigation, lethality, and survivability enhancement and evaluate broader platform modernization needs.			
Title: Route Reconnaissance and Clearance (R2C):	3.182	2.751	-
Articles:	-	-	-
FY 2013 Accomplishments: FY13 funds continued development, integration and testing of events which began in FY12. FY13 also funded the preliminary efforts planned for Increment II of the Route Reconnaissance and Clearance (R2C) effort. ***FY 2014 Plans:*** FY14 funds initiate and complete development and testing of the Unmanned Launch Vehicle (ULV) and Electronically Triggered Explosive Obstacle Neutralization (ETEON) integrations. ***FY 2015 Plans:*** N/A			
Title: MRAP Vehicles	6.762	-	-
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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Performed Ballistic Testing and Engineering Support on MRAP Family of Vehicles (FoV) in support of survivability and mobility upgrades. Performed Testing and Evaluation of capabilities requested in Urgent Universal Needs Statement/Joint Urgent Operational Needs Statement (UUNS/JUONS) and other planned survivabilty and mobility upgrades. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Corrosion Prevention and Control (CPAC) ***Articles:*** ***Description:*** Corrosion Prevention and Control (CPAC): The useful life of Marine Corps assets will be extended through a comprehensive CPAC RDT&E program aimed at identifying and certifying new corrosion control products, materials, processes and procedures for legacy and new acquisition. The CPAC RDT&E Program works to standardize and substantially improve strategies, objectives and processes to prevent, detect, and treat corrosion and its effects on Marine Corps ground vehicles and weapons systems. This mission responds to the Congressional directives and DoD and SECNAV instruction to reduce the negative operational effects and associated total ownership cost of Marine Corps ground vehicles and weapons systems ***FY 2013 Accomplishments:*** The CPAC program continued to provide support to all major PEO / PMs concerning corrosion control. Key efforts include review and modification of program CPAC Planning documents, support of Design Review meetings, and evaluation of corrosion testing on prototype assets. Additionally the USMC CPAC program has completed significant engineering efforts including revision to the USMC painting technical manual TM 4750-OD/1: Painting, Coating, Underbody, and Registration Marking for Marine Corps Combat and Tactical Equipment that included specified surface preparation methods based on substrate type and thickness, modified Chemical Agent Resistant Coating (CARC) specifications, coating quality assurance requirements, undercoating specifications, and the addition of a procedure for bedliner applications. Throughout this document, technical modifications were made on the basis of USMC and OSD-funded corrosion control engineering projects which yielded positive changes in corrosion control processes. ***FY 2014 Plans:*** The CPAC RDT&E program continues to identify new corrosion control products, materials, processes and procedures and continues to impact Marine Corps corrosion control processes through Science and Technology initiatives in some of the following areas: Thermally Sprayed Metal Coatings (TSMC) for Corrosion Protection of Areas Subject to Wear, Compatibility of Chemical Agent Resistant Coating (CARC) Systems During Re-Paint, Chip Resistant, Flexible Nonslip Coatings and Corrosion Resistant	1.900 -	2.122 -	3.106 -

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Insulating Foams. Along with stewardship of the Corrosion Products, Processes and Materials project for vendor submissions to the Marine Corps and product qualification for chip and abrasion resistant coatings. ***FY 2015 Plans:*** The CPAC RDT&E program will increase the identification of new corrosion control products, materials, processes and procedures and continues to impact Marine Corps corrosion control processes through Science and Technology initiatives in some of the following areas: Thermally Sprayed Metal Coatings (TSMC) for Corrosion Protection of Areas Subject to Wear, Compatibility of Chemical Agent Resistant Coating (CARC) Systems During Re-Paint, Chip Resistant, Flexible Nonslip Coatings and Corrosion Resistant Insulating Foams. Along with stewardship of the Corrosion Products, Processes and Materials project for vendor submissions to the Marine Corps and product qualification for chip and abrasion resistant coatings.			
Title: Engineer Squad Robot ***Articles:*** ***FY 2013 Accomplishments:*** (U) Engineer Squad Robot (ESR) FY13 funding supports an Analysis of Alternatives (AoA) and Whole Systems Trades Analysis (WSTA) to assist in identifying the best alternative, acquisition approach, and technology development strategy for the Joint ESR and Army Common Robotic System (Individual)(CRS-I). The Army and USMC have jointly developed the ESR/CRS-I Capability Development Document (CDD) which will be updated based on the outcome of the AoA. ***FY 2014 Plans:*** The ESR/CRS-I program is scheduled to complete the AoA study and enter into AoA Approval (PoPS Gate 4) in 4th Qtr FY14. During 3rd Qtr FY14, the CRS-I CDD will be submitted into formal staffing concurently with Army Requirements Oversight Committee (ROC), the Marine Corps ROC, and then through Joint ROC. Using Dynamic Object Oriented Requirements System (DOORS), the Requirements Traceability Matrix (RTM) will be initiated in FY14 along with the System Performance Specification (SPS), System Evaluation Plan, and System Engineering Plan. ***FY 2015 Plans:*** N/A	5.205 -	4.289 -	- -
Title: Low Metallic Signature Metal Detector (LMSMD) ***Articles:*** ***FY 2013 Accomplishments:*** FY13 funded support for the development, integration, test, evaluation of a new dual sensor handheld detector system that incorporates advanced metal detection and ground penetrating radar (GPR) to provide improved performance, miniaturization,	11.162 -	7.595 -	- -

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
longer operating time, and optimized human systems integration. The new hand-held mine detector system replaces the interim VMR2 Minehound detector and AN/PSS-14 Mine Detector Program of Record. ***FY 2014 Plans:*** FY14 funds complete the development and testing of a new hand held detector system that will provide greater efficiency, improved target discrimination, miniaturization and longer operating time. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	30.763	20.401	7.271

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: *EOD Systems - R2C*	34.409	44.256	-	-	-	-	-	-	-	-	301.311
• PMC/6670: *Items Less than $5M - CPAC*	0.484	0.848	0.837	-	0.837	0.857	0.872	0.874	0.891	Continuing	Continuing
• PMC/2061: *Modification Kits - M1A1 Mod Kits*	20.676	29.819	19.316	-	19.316	14.947	14.839	15.143	15.484	Continuing	Continuing

Remarks

D. Acquisition Strategy

(U) The M1A1 modification kits program will leverage Army initiatives to the maximum extent and incorporate modifications to adapt Army solutions to the USMC environment. The USMC will research, develop, and evaluate programs to improve the survivability and lethality of the USMC tank. These efforts include the Abrams integrated Display and Targeting System, threat detection and warning, situational awareness, survivability, and ownership cost reduction work. M1A1 Mods will exercise options on existing contracts of varying types to conduct research and analysis associated with the development of modifications and corrosion prevention to the M1A1 Tank and supporting platforms.

(U) Route Reconnaissance and Clearance (R2C): Starting in FY10, the Marine Corps began to procure a fleet of standardized Route Reconnaissance and Clearance systems based upon the successful route clearance teams operating in Iraq using Capabilities Production Documents for current systems and leveraging contracts already in place. Concurrently, supports a research and development effort to integrate future vehicles with enhanced mobility and survivability, a suite of improved detection and marking capabilities, and robots with greater detection, marking, and neutralization capabilities. As a result of adjustments to Marine Corps fiscal priorities the R2C program has been terminated. This program does not have funding beyond FY14.

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

(U) Engineer Mods and Tool Kits: This is a roll-up line of various engineering efforts, modifications and other related items less than $5 Million each. This program provides for significant improvements to a various pieces of engineering equipment by enhancing their capabilities and improving readiness.

(U) Corrosion Prevention and Control (CPAC) Program: The Program will execute the RDT&E Program through direct allocation of funding to the Naval Surface Warfare Center - Carderock Division Corrosion Research and Engineering Branch for comprehensive program aimed at identifying and certifying new corrosion control products, materials, processes and procedures for legacy and new acquisition.

(U) Mine Resistant Ambush Protected (MRAP): The Program will execute RDT&E funds in support of Cougar Egress and Seat Survivability testing. Funds will also support research and development efforts associated with Engineering Change Proposals (ECP) for survivability and mobility upgrades.

(U) The Low Metallic Signature Mine Detector will develop, integrate, test, evaluate and procure a new hand-held mine detector system to replace the current AN/PSS-14 Mine Detector Program of Record. Ground Penetrating Radar (GPR) technology has improved significantly since the development of the AN/PSS-14, allowing greater efficiency, target discrimination, miniaturization, longer operating time and command & control. The Low Metallic Signature Mine Detector will be effective against low and non metallic devices, capable of identifying man-made objects, weigh less than 7 lbs, capable of start-up and calibration in less than 60 seconds, and be integrated with existing C2 systems. As a result of adjustments to Marine Corps fiscal priorities the LMS-MD program has been terminated for FY15 thru FYDP.

(U) The Engineer Squad Robot(ESR)/CRS-I provides Marines and Soldiers a dismounted standoff capability for scouting and explosive hazard detection. USMC ESR will formally merge with the Joint USMC/Army Common Robotic System (Individual) (CRS-I) starting in FY16. By combining efforts, there will be an improvement in meeting "Better Buying" initiatives as the Approved Acquisition Objective (AAO) will increase from a USMC AAO of 274 to a Joint AAO of 3,734. Prior to FY16, the ESR will conduct a Joint AoA for the multi-mission Unmanned Ground System (UGS) and a WSTA to assist in determining the best alternative for the ESR/CRS-I program. After completion of the WSTA and AoA, the acquisition approach for the Joint ESR/CRS-I will be determined. AoA approval is scheduled for 4th Qtr FY14. As a result of adjustments to Marine Corps fiscal priorities the ESR program has been terminated for FY15 thru FYDP.

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 0206624M / *Marine Corps Cmbt Services Supt*				Project (Number/Name) 2509 / *Motor Transport Mod*			
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**
2509: *Motor Transport Mod*	27.959	9.107	2.538	6.978	-	6.978	3.320	1.471	0.951	1.027	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

The Marine Corps Tactical Motor Transport Modification project manages procurement and life cycle sustainment for more than 40,000 principle end items divided among four fleets: Light Fleet, Medium Fleet, Heavy Fleet, and Special Fleet. A sustained effort is maintained in the Marine Corps for development and testing in support of fleet Service Life Extension Program (SLEP) initiatives, vehicle quality deficiency resolutions, safety initiatives, environmental/state transportation mandated vehicle changes, and system component refresh modifications efforts. Since transportation asset operational availability declines at a steady rate over time, SLEP, fleet overhauls, and enhanced depot level modifications are essential in maintaining a viable transportation capability in the Marine Corps Operating Forces.

The Improved Recovery Vehicle (IRV) project includes improvements in all areas of the M88A2 Improved Recovery Vehicle. Continued funding is required to address obsolescence and support pre-planned product improvements. In addition, will implement lessons learned and develop safety related Engineering Change Proposals (ECPs) to correct hazards noted during the standard day to day operation of the M88A2 Improved Recovery Vehicle.

The HMMWV Sustainment Modification Initiative (SMI) program will restore selected variants of the remaining armored HMMWV fleet to 2004 Operational Requirements Document (ORD) performance parameters. This will be accomplished via a modification through kitting approach. The improvements will focus on restoring the vehicles to safe operating parameters over the expeditionary mission profile, restoring reliability, payload, and mobility to ORD thresholds. The FY15 funding increase reflects the commencement of vendor drive-off testing operational assessment.

The Material Handling Equipment (MHE) line is a roll-up line that provides for the replacement and Service Life Extension Program (SLEP) of Marine Corps MHE including forklifts, cranes, and container handlers. Funds will be used to explore techniques and technology to help survivability of the various platforms while also working to help sustain reliability and performance of the equipment.

The Family of Construction Equipment (FCE) line is a roll-up line that provides for the replacement and Service Life Extension Program (SLEP) of Marine Corps construction equipment. Funds will be used for Ballistic and Add on Armor (AoA) application tests and integration into the Engineer Family of Systems construction equipment.

P-19 Replacement (P-19R) will replace the aging A/S32P-19A Crash Fire Rescue fleet in support of expeditionary airfield operations and the supporting establishment. The vehicle will be outfitted with advanced fire suppression equipment and provide rescue and aircraft fire fighting capabilities to permanent and expeditionary airfields throughout the Marine Corps. The P-19 Replacement may also be employed to fight structure fires in support of base camps and as firefighting support to other

elements of the MAGTF, such as ammunition supply points, Petroleum, Oil, and Lubricant (POL) distribution points, or hazardous material storage facilities. The increase in funding from FY14 to FY15 is due to an additional testing requirement to support Full Rate Production (FRP) of the P-19R.

MTVR Trailer and Family of Tactical Trailers programs will explore options for "lightening the Marine Air Ground Task Force (MAGTF)" weight and cube attributes of our light and medium trailer fleet. Seeking technologies and other current and emerging options that can be employed to achieve optimum lift capability while constrained to the desired weight and cube. Transportation and expeditionary goals will be considered in the research and development phase for the trailer fleet. The MTVR Trailer program is a USMC initiative to replace the current M105/MK149/M353 Trailers with a trailer capable of augmenting the MTVR's increased mobility without degrading its operational capabilities. This program will develop and field a trailer which will have greater mobility characteristics while increasing the payload up to 12,000 lbs. The FY14 to FY15 decrease is due to completion of developmental testing and movement of program to Full Rate Production (FRP).

Family of Material Handling Equipment will explore ways to armor or design survivability for various pieces of equipment in the Material Handling Family.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Improved Recovery Vehicle (IRV)	0.274	0.266	0.208
Articles:	-	-	-
FY 2013 Accomplishments: Developed long-term modernization plans for the M88A2 within the Marine Corps and continued efforts to mitigate emergent operational deficiencies such as analysis on the exhaust components for the M88A2 to reduce the possibility of engine fires. ***FY 2014 Plans:*** Develop long-term modernization plans for the M88A2 within the Marine Corps to address safety, obsolescence mitigation and mobility improvement; to include Situational Awareness, exhaust system redesign, Improved Track and Electronic Fuel Injection. ***FY 2015 Plans:*** Develop long-term modernization plans for the M88A2 within the Marine Corps to address operating safety enhancements, maintainability enhancements, and crew ergonomic improvements.			
Title: High Mobility Multipurpose Wheeled Vehicle ECV (HMMWV-ECV)	0.458	0.358	5.355
Articles:	-	-	-
FY 2013 Accomplishments: Completed Concept A, B, C and D design and build. Initiated test analysis support and acquired Modeling and Simulation (M&S) tools and M&S training. New designs will improve vehicle performance, safety and reliability. ***FY 2014 Plans:*** Continue program management support, MS B documentation, review final test reports and activities in support of RFP release for competitive prototypes. New designs will improve vehicle performance, safety and reliability. ***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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Initiate Drive-off testing, operational assessment and ballistic compliance testing. Contracts will be awarded to two vendors for drive-off testing. Vehicle performance, safety and reliability will be improved.			
Title: P-19 Replacement	6.383	0.922	1.008
Articles:	-	-	-
FY 2013 Accomplishments: Achieved Milestone B and awarded prime contract. Funded prototype development, performance & reliability testing, developed engineering data packages, and program management activities in support of the P-19R award. P-19R provides rescue and firefighting capabilities to permanent and expeditionary airfields throughout the Marine Corps and allows the MAGTF the capability to defend itself against aircraft fires caused by crashes or other causes.			
FY 2014 Plans: Continue system support testing and procure engineering data packages.			
FY 2015 Plans: Continue testing of the P-19R in support of Full Rate Production (FRP).			
Title: Motor Transport Modification (MTM)	0.291	0.473	0.108
Articles:	-	-	-
FY 2013 Accomplishments: Completed the modification to improve the M870 Heavy Trailer in support of the Logistics Vehicle Systems Replacement (LVSR) program. Funding also supported the evaluation, testing, and integration of system modifications identified for application on Motor Transportation light, medium, and heavy tactical assets.			
FY 2014 Plans: Continue to evaluate, test, and integrate system modifications identified for application on Motor Transportation light, medium, and heavy tactical assets as well as enhancements to improve vehicle performance including testing in support of the Internally Transportable Vehicle (ITV).			
FY 2015 Plans: Continue to evaluate, test, and integrate system modifications to improve vehicle performance and correct deficiencies identified for application on Motor Transportation light, medium, and heavy tactical assets including testing in support of the Internally Transportable Vehicle (ITV).			
Title: MTVR Trailers	1.241	0.175	-
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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Initiated design and testing of a modular trailer to replace the M105 Trailer. ***FY 2014 Plans:*** Finalize testing of the modular trailer to provide increased capacity with lower weight and achieving the goal of lightening the MAGTF. ***FY 2015 Plans:*** N/A			
Title: Family of Tactical Trailers	-	0.174	0.099
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Initiate safety testing to maintain reliability and effectiveness of Light Tactical Trailers (LTT) with the improved High Mobility Multipurpose Wheeled Vehicle (HMMWV) fleet and Heavy Tactical Trailers (HTT) designed for the Logistics Vehicle System (LVS)/Logistical Vehicle System Replacement (LVSR). ***FY 2015 Plans:*** Continue testing to ensure effectiveness of Light Tactical Trailers (LTT) with the improved High Mobility Multipurpose Wheeled Vehicle (HMMWV) fleet and also provides for the Heavy Tactical Trailers (HTT) designed for the Logistics Vehicle System (LVS)/ Logistical Vehicle System Replacement (LVSR), enabling the fleet to maintain mobility requirements.			
Title: Family of Material Handling Equipment	0.460	0.170	-
Articles:	-	-	-
FY 2013 Accomplishments: Explored techniques and technology for crew survivability on various platforms while also working to help sustain reliability and performance of the equipment. ***FY 2014 Plans:*** Continue exploring techniques and technology for survivability on various platforms while also working to help sustain reliability and performance of the equipment. ***FY 2015 Plans:*** N/A			
Title: Family of Construction Equipment	-	-	0.200

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

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: N/A			
FY 2015 Plans: Initiate exploration of techniques and technology for crew survivability on various platforms while also working to help sustain reliability and performance of the equipment.			
Accomplishments/Planned Programs Subtotals	9.107	2.538	6.978

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/5230: *Motor T Mod*	2.784	2.885	2.964	-	2.964	3.018	3.198	3.259	3.325	Continuing	Continuing
• PMC/5045: *HMMWV*	5.925	1.224	57.255	-	57.255	82.462	55.331	56.295	57.402	Continuing	Continuing
• PMC/5097-01: *Family of Tactical Trailers*	4.904	4.002	0.175	-	0.175	3.185	3.096	2.208	3.450	Continuing	Continuing
• PMC/2061: *IRV*	3.636	3.427	2.593	-	2.593	2.640	2.700	2.749	2.801	Continuing	Continuing
• PMC/4630: *IRV*	0.152	0.134	0.158	-	0.158	0.162	0.165	0.168	0.171	Continuing	Continuing
• PMC/5097-02: *Flatrack Refueler Capability (FRC)*	14.436	18.791	-	-	-	-	-	-	-	-	60.527
• PMC/5097-03: *MTVR Trailers*	8.504	-	10.004	-	10.004	13.853	15.771	1.034	1.064	Continuing	Continuing
• PMC/5006: *P19R*	-	16.940	11.035	-	11.035	30.937	33.132	16.002	16.335	Continuing	Continuing
• PMC/6462: *Family of Material Handling Equipment*	35.932	36.593	8.807	-	8.807	10.087	14.100	9.997	11.175	Continuing	Continuing
• PMC/6544: *Family of Construction Equipment*	43.460	36.583	3.669	-	3.669	6.603	11.380	14.646	16.836	Continuing	Continuing
• PMC/7000: *Family of Material Handling Equipment*	0.036	0.050	0.070	-	0.070	0.050	0.051	0.052	0.053	Continuing	Continuing

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

D. Acquisition Strategy

The Improved Recovery Vehicle (IRV) program leverages Army developmental projects to create a system that more readily meets Marine Corps Heavy Recovery Vehicle requirements. Improvements include Engineering Change Proposals addressing safety, reliability, and technology upgrades.

The HMMWV Sustainment Modification Initiative (SMI) program will take a five-phased approach. The first phase will include trade studies and preliminary design; the second phase will focus on final design and the building of component upgrade kits; the third phase will include performance and RAM testing of production representative kitted vehicles against the requirements in the 2004 HMMWV ORD; the fourth phase will complete development of the technical specification; and the fifth phase will award the production contract. The vehicle improvements will be accomplished by enhancing the HMMWVs at industry facilities, government depots, or a partnering combination of the two, via a modification through kitting approach. Open competition for providing the kits and installing/integrating them into existing platforms is a key goal.

The P-19 Replacement will leverage COTS and/or NDI components in an effort to minimize costs, test requirements, and reduce development time. P-19R will supplant the aging A/S32P-19A fleet in support of expeditionary airfield operations and the supporting establishment. The vehicle will be outfitted with advanced fire suppression equipment and provide rescue and aircraft fire fighting capabilities to permanent and expeditionary airfields throughout the Marine Corps. The P-19 Replacement may also be employed to fight structure fires in support of base camps and as firefighting support to other elements of the MAGTF, such as ammunition supply points, Petroleum, Oil, and Lubricants (POL) distribution points, or hazardous material storage facilities.

Motor Transport Modification funding will focus on streamlined acquisitions of Commercial-Off-The-Shelf/Non-Developmental Items (COTS/NDI) that can be identified, integrated, and tested in a short amount of time. Successful modifications and tests are intended for follow-on procurement and incorporation into existing system component upgrades, SLEPs, or rapid COTS/NDI fielding for the Fleet Marine Forces (FMF).

The Family of Material Handling Equipment acquisition strategy will use RDT&E funding to explore current and new armor options that can be used to achieve optimum crew survivability performance.

The Medium Tactical Vehicle Replacement (MTVR) Trailer program's original acquisition strategy consisted of procuring three variants of trailers that would have greater mobility characteristics, while maximizing the commonality of parts, across the three trailer platform. FY05 RDTE funds were used to procure six prototypes trailers (two of each variants) developed by Choctaw Manufacturing Developing Contractors (CMDC). Prior to a fielding decision, the original MTVR Trailer program was halted due to concerns the trailers did not meet the CMC goal to lighten the MAGTF. As a result, the MTVR Trailer program was restructured for re-design of the cargo trailer and to delay procurement of the Water and General Purpose trailers. On 29 November 2012, a CD&I letter directed that the trailer requirement would now be constructed as a modular trailer capable of hauling the water SIXCON and all expeditionary power units, to include the 100Kw generator. The new modular design would replace the MK149, M353, and M105 trailer and would be designated as the MTVR Modular Trailer, MK593.

The Family of Construction Equipment acquisition strategy will use RDT&E funding to explore current and new armor options that can be used to achieve optimum crew survivability performance.

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

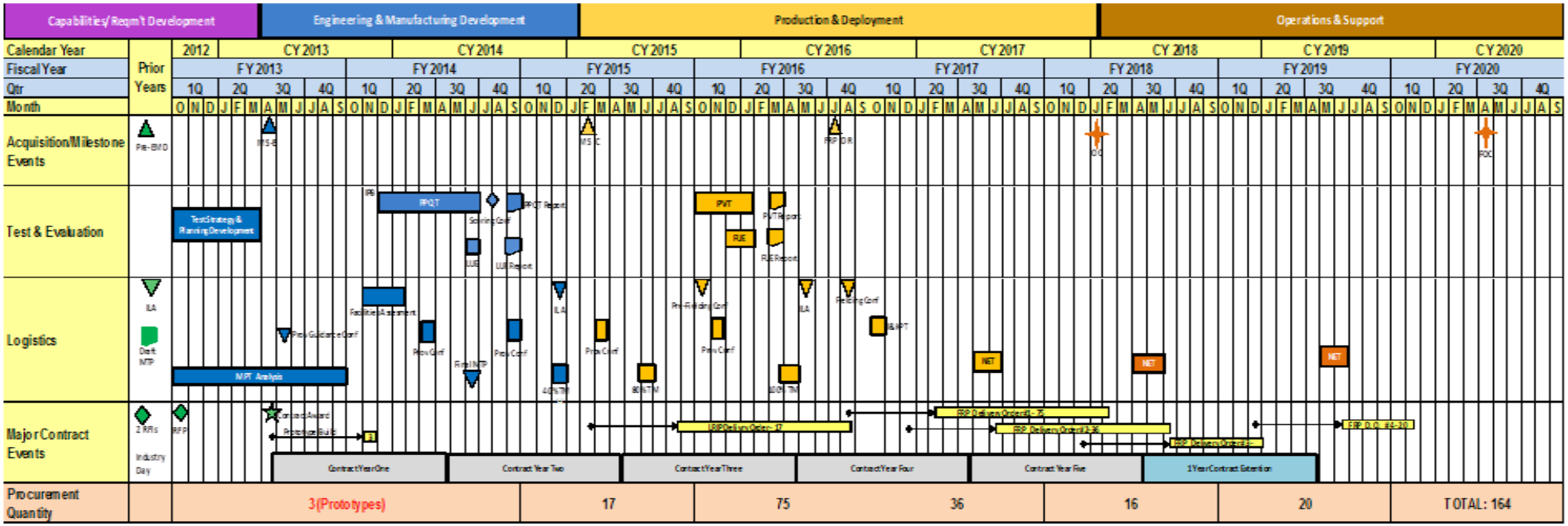
The Family of Tactical Trailer (FTT) acquisition strategy will use RDT&E funding to explore current and new technological options that can be used to achieve optimum lift within the desired weight and cube constraints in support of the "Lightening the MAGTF" initiative. Transportation and expeditionary goals will be considered in the research and development phase for the light and medium/heavy trailer fleet.

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

P-19R, 430308 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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

MTVR Trailer Schedule

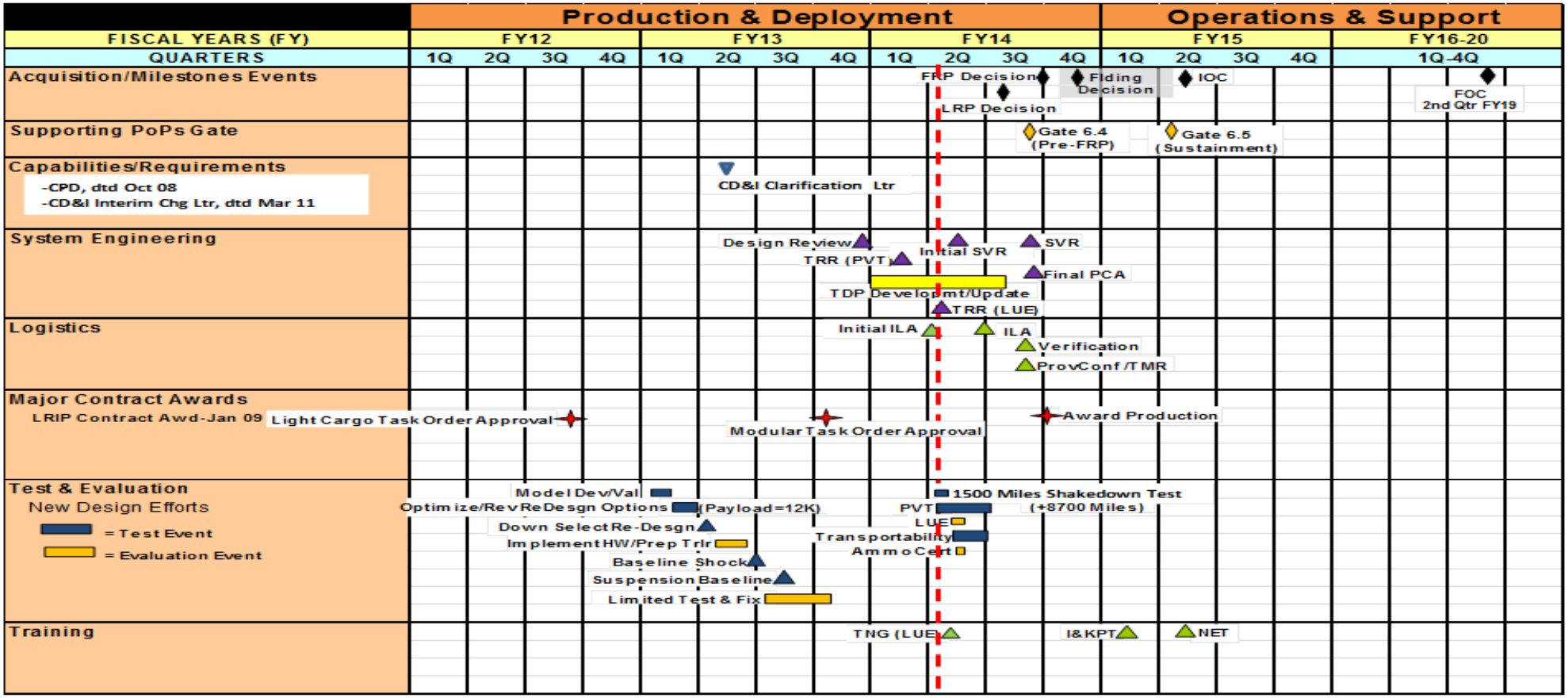


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

HMMWV, 430498 Program Schedule

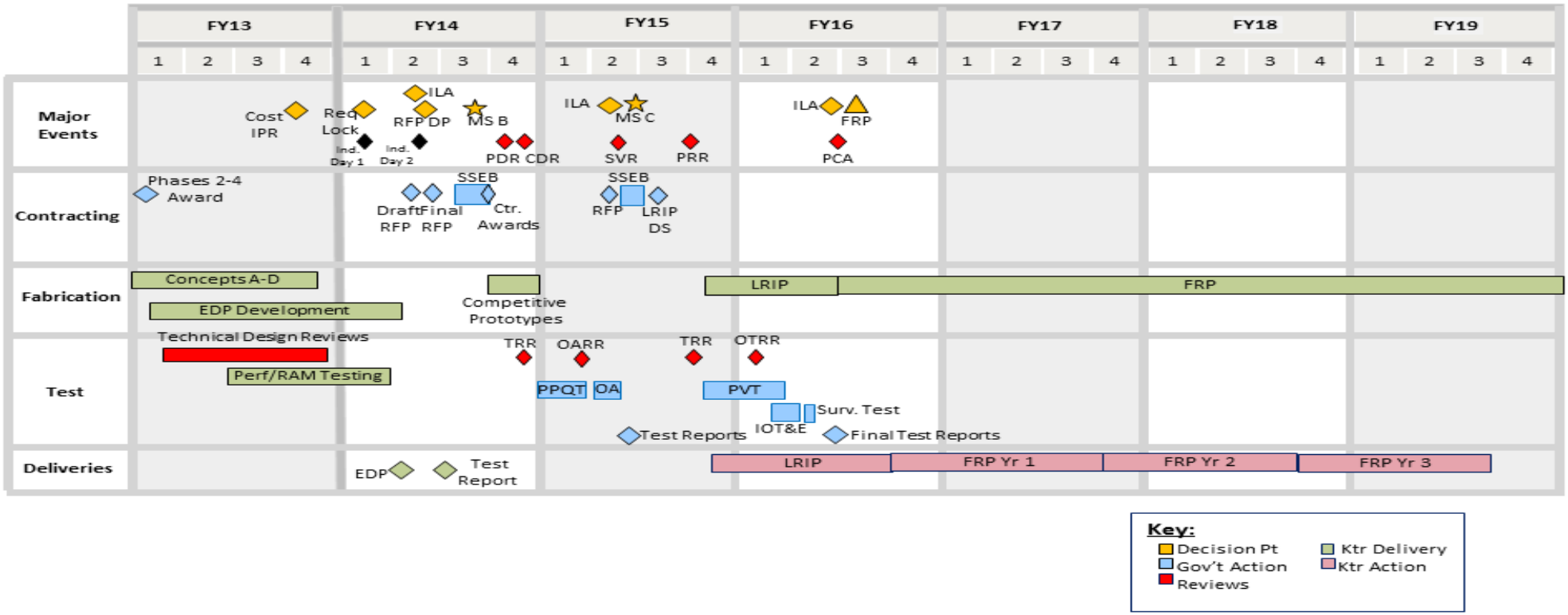
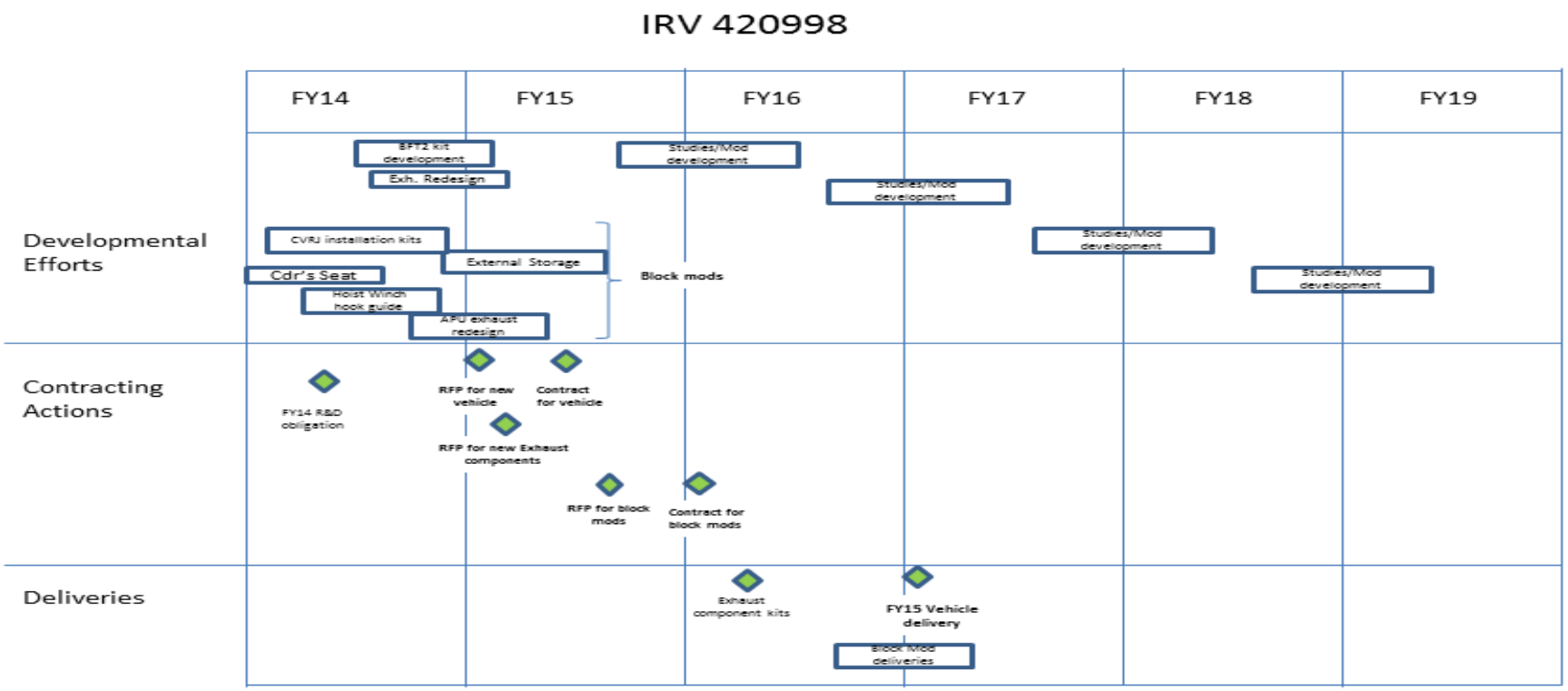


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*



Remarks: Testing is subsumed within developmental efforts
Modification development is an ongoing life cycle effort

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 0206624M / *Marine Corps Cmbt Services Supt*				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*	-	12.648	4.518	4.930	-	4.930	9.306	7.933	4.468	4.487	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

Environmental Control Equipment :
The Enhanced Environmental Control Unit (E2CU) program is the second generation of a family of environmental control units from 9000 BTU to 60,000 BTU/Hr cooling output. The E2CU program will provide tactical Heating, Ventilation and Air Conditioning (HVAC) and superior reliability for all MAGTF units in all operational concepts. E2CU will replace all legacy ECUs starting in 2015 in the following sizes: 9000 BTU/Hr; 18,000 BTU/Hr; 36,000 BTU/Hr; and 60,000 BTU/Hr. These higher reliability and higher efficiency sets will use EPA-approved refrigerants, will be more energy efficient, be more mobile, easier to repair, and quieter than their predecessors. A significant average fuel efficiency improvement over the current ECU family has been demonstrated. With environmental control systems consuming 50-70% of tactical electric power in theater, this savings will be a significant contribution to reducing the USMC fuel demand, and lightening the MAGTF. The Warfighter benefit includes a decreased logistics footprint, less reliance on petroleum-derived fuels, increased local energy security, and reduced tanker losses (fewer on the road). The operational imperative to reduce fuel usage will consequently reduce refueling operations and exposing Marines to hazardous fuel convoy operations. The funding decrease from FY14 and FY15 reflects the requirements and resource realignment of all commodity areas and budget adjustments made by the Marine Corps Combat Development Command.

Mobile Power Equipment:
The Family of Mobile Electric Power Equipment consists of skid and trailer mounted tactical generators ranging from 1 to 200 kilowatts, Mobile Electric Power Distribution Systems, Load Banks, and Electrician's Tool Kits. This equipment is procured and fielded to provide electricity on the battlefield. Combat, combat support, and combat service support units all require tactical power to operate weapons systems, Command, Control, Communications, Computers and Intelligence (C4I) systems, medical and messing facilities, environmental control equipment, and water purification systems. With over 10,000 generators and using diesel engines in the Operating Forces, improving their fuel efficiency and reliability will be a significant contribution to reducing the USMC fuel demand, and lightening the MAGTF. The Warfighter benefit includes a decreased logistics footprint, less reliance on petroleum-derived fuels, increased local energy security, and reduced tanker losses (fewer on the road). The operational imperative to reduce fuel usage will consequently reduce refueling operations and exposing Marines to hazardous fuel convoy operations.

Four discrete efforts will be pursued as follows:
(1) Hybrid Generator: Funding to integrate new AMMPS 10kW Generator and energy storage devices onto a Light Tactical Trailer. Will provide capability to deliver 10kW steady state, supply up to 13kW peak demand for several hours using stored energy, provide 3kW silent operations for several hours (battery only). Will transition into production of a unit that can be integrated with the AMMPS generator.

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

(2) Next Generation Power Distribution: Intelligent power management devices that can integrate with existing MEPDIS-R Power Distribution Boxes and AMMPS generators. Provides capability for safe, efficient centralized power distribution from a single source to multiple loads, Automatic phase balancing of loads, power monitoring and data collection/dissemination for remote system monitoring.
(3) Next-Generation Floodlight System (FLS): Funding to integrate new 10kW AMMPS Generator and a new light tower (floodlight system) onto a Light Tactical Trailer. Provides tactical lighting and exportable 3-phase electrical power. Will transition into production of a unit that can be integrated with the AMMPS generator.
(4) 1kW Diesel Generator: Integration and product qualification testing of new 1kW diesel generator for USMC-unique applications. Generator procurement will be by customers on a DoD contract.
The increase in funding from FY14 and FY15 reflects the requirements and resource realignment of all commodity areas and budget adjustments made by the Marine Corps Combat Development Command. In addition, funding supports the current program strategy for Mobile Hybrid Electric Power System (MEHPS)developmental efforts in concert with SECDEF/CMC energy initiatives.

Advanced Power Sources
These R&D efforts will focus on achieving the Marine Corps goal of lightening the MAGTF and the individual Marine combat load though reduced battery weight and logistical fuel resupply needs. The Mobile Electric Hybrid Power System - Lightweight (MEHPS-L) and Medium Hybrid Expeditionary Energy Systems (MHEES) will focus on hybrid power systems capable of improved fuel efficiency and silent operations in the 0.5-5kW power range. These systems will be smaller, lighter and more efficient systems. The conformal/CFX battery effort will focus on testing and integrating next generation batteries. The Shipboard Battery Management System will focus on developing, testing, and integrating a shipboard battery maintenance structure which will allow the Marine Corps to transport and maintain lithium batteries throughout the fleet in a safe and expeditionary manner. The Squad Electric Power Program will focus on further weight reduction of the Squad Electric Power System and increasing survivability and durability of the system. The On Board Vehicle Power (OBVP) will focus on flexibility and efficiency of research and development to save fuel at idle conditions and improve vehicle energy efficiency on MTVR platforms. The Advanced Battery Charger will allow complete charging of different types of military and commercial batteries used for communications, electronics, and weapon systems. The funding decrease from FY14 and FY15 reflects the requirements and resource realignment of all commodity areas and budget adjustments made by the Marine Corps Combat Development Command.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Enhanced Environmental Control Unit	3.002	0.991	0.435
Articles:	12.000	-	-
FY 2013 Accomplishments: Developed (12) prototype 36,000 BTU/Hr and 60,000 BTU/Hr Environmental Control Units (ECUs).			
FY 2014 Plans: Conduct prototype testing of the Enhanced ECUs developed during FY13.			
FY 2015 Plans: Continue prototype testing and integration of ECP (Engineering Change Proposals) for the Enhanced Environmental Control Units (E2CUs).			
Title: Mobile Power Equip/Hybrid Generator/Next Gen Power Distribution System	1.939	1.779	3.660

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	12.000	-	-
Description: Four discrete efforts will be pursued as follows: (1) Hybrid Generator: Funding to integrate new AMMPS 10kW Generator and energy storage devices onto a Light Tactical Trailer. Will provide capability to deliver 10kW steady state, supply up to 13kW peak demand for several hours using stored energy, provide 3kW silent operations for several hours (battery only). Will transition into production of a unit that can be integrated with the AMMPS generator. (2) Next Generation Power Distribution: Intelligent power management devices that can integrate with existing MEPDIS-R Power Distribution Boxes and AMMPS generators. Provides capability for safe, efficient centralized power distibution from a single source to multiple loads, automatic phase balancing of loads, power monitoring and data collection/dissemination for remote system monitoring. (3) Next-Generation Floodlight System (FLS): Funding to integrate new 10kW AMMPS Generator and a new light tower onto a Light Tactical Trailer. Provides tactical lighting and exportable 3-phase electrical power. Will transition into production unit that can be integrated with the AMMPS generator. (4) 1kW Diesel Generator: Integration and product qualification testing of new 1kW Diesel Generator for USMC-unique applications. Generator procurement will be by customers on a DoD contract.			
FY 2013 Accomplishments: Hybrid Generator Development: Awarded three one-year RDTE contracts to develop and integrate new AMMPS 10kW Generator and energy storage devices onto a Light Tactical Trailer. Articles: Each contractor will produce two (2) for total of six(6) test articles. Next Generation Power Distribution System: Awarded three (3) one-year RDTE contracts to develop Next Generation Power Distribution System. Articles: Each contractor to produce two (2) for total of six (6) test articles.			
FY 2014 Plans: Begin testing and integration of the Hybrid Generator and Next Generation Power Distribution systems.			
FY 2015 Plans: Testing of the Next Generation Power Distribution system and integration of AMMPS Generators with new COTS Floodlight System and testing. Integration of 1KW Generator with Ground Renewable Expeditionary Energy Systems (GREENS) and testing.			
Title: Advanced Power Sources	7.707	1.748	0.835
Articles:	28.000	-	4.000
FY 2013 Accomplishments: RENEWABLE ENERGY Developed new Solar Portable Alternative Communications Energy System (SPACES): Awarded three one-year RDTE contracts to develop more efficient SPACES. Each contractor to produce 2 of each size for total of 6 test articles. Plan for government testing in late FY13.			

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Developed new Medium Hybrid Expeditionary Energy Systems (MHEES) (next gen GREENS): Awarded three one-year RDTE contracts to develop more efficient GREENS. Each contractor to produce 2 of each size for total of 6 test articles. Plan for government testing in FY13. BATTERY MANAGEMENT AND SUSTAINMENT SYSTEM (BMASS) Developed new Suitcase Portable Charger (Advanced Battery Charger) - Awarded three one-year RDTE contracts to develop more efficient Charger. Each contractor to produce 3 of each size for total of 6 test articles. Plan for government testing in late FY13. Naval Surface Warfare Center Carderock Division, Carderock, MD procured batteries and conducted the study. SQUAD ELECTRIC POWER PROGRAM Developed Squad Electric Power - Awarded three one-year RDT&E contracts to develop Squad Electric Power. Each contractor to produce 2 of each size for total of 6 test articles. Government testing will be in late FY13 on the HMMWV platforms. ON BOARD VEHICLE POWER (OBVP) MTVR/HMMWV On Board Vehicle Power, fuel efficiency study - Awarded two one-year RDT&E contracts to develop more fuel efficient OBVP kits. Each contractor to produce 2 each for total of 4 test articles. Plan for government testing in late FY13 on the HMMWV platforms. ***FY 2014 Plans:*** Continue 2nd year of development of (MHEES)(next gen GREENS) and commence testing of developmental articles. Testing will be completed FY14. Continue testing of HMMWV On-Board Vehicle Power developed in 2013. ***FY 2015 Plans:*** CONFORMAL/CFX BATTERY Initiate test, integrate, and qualify Conformal/CFX batteries for Marine Corps use - Naval Surface Warfare Center Carderock Division, Carderock, MD will procure batteries and test. Plan for government testing in mid FY15. ON BOARD VEHICLE POWER (OBVP) Continue deveopment of NEXGEN On Board Vehicle Power, fuel efficiency study - Award two one-year RDT&E contracts to develop more fuel efficient OBVP kits. Each contractor to produce 2 each for total of 4 test articles. Plan for government testing in FY15 on MTVR platforms.			
Accomplishments/Planned Programs Subtotals	12.648	4.518	4.930

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 0206624M / *Marine Corps Cmbt Services Supt*	**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/6054: *Environmental Control Equipment*	13.558	14.491	0.994	-	0.994	0.998	1.770	2.081	5.326	-	145.868
• PMC/6366-1: *Mobile Power Equipment*	42.750	37.139	4.890	-	4.890	2.672	6.679	11.349	13.196	-	268.559
• PMC/6366-2: *Advanced Power Sources*	26.575	26.218	4.095	-	4.095	14.555	14.998	15.227	15.556	-	163.176

Remarks

D. Acquisition Strategy

Initial focus on development of more efficient 30,000 BTU/Hr and 60,000 BTU/Hr size model Environmental Control Units (ECUs), since they make up the greatest percentage of the inventory and are used extensively for shelter heating and cooling. Full and open competition. Three contractors to develop and deliver prototypes in two size models. Government testing to validate performance. Single contractor to produce both models using multi-year ID/IQ production contract. Low Rate Initial Production (LRIP), followed by LRIP testing, then Full Rate Production (FRP) to procure using PMC funds on annual Delivery Orders. ECUs are organically supported by Marines.

Initial focus on development of Hybrid Generator Systems using AMMPS generators beginning in FY13, and Power Distribution, followed by New Floodlight Set development in FY14. For each effort, strategies are very similar: Full and open competition. Three contractors to develop and deliver prototypes in two size models. Government testing to validate performance. Single contractor to produce both models using multi-year ID/IQ production contract. LRIP, followed by LRIP testing, then Full Rate Production to procure using PMC funds on annual Delivery Orders . All equipment is organically supported by Marines. The 1kW Generator effort will be to integrate and test these generators in USMC unique applications. Generators will be procured by others on a DoD contract.

The acquisition strategy for the Renewable Energy Program is to focus on improvements for the next generation Solar Portable Alternative Communications Energy System (SPACES), Ground Renewable Expeditionary Energy System (GREENS)/Medium Hybrid Expeditionary Energy Systems (MHEES), and Mobile Electric Hybrid Power System Lightweight (MEHPS- L). These R&D efforts will focus on achieving the Marine Corps goal of lighting the MAGTF and the individual Marine combat load through reduced battery weight and logistical fuel resupply needs. In particular the development will focus on making these systems smaller, lighter and more efficient. In addition this development effort will also focus on development needed to transition the Office of Naval Research (ONR), Reliable S (SAP - Service Accessible Point) Update Protocol (RSUP), Future Naval Capability (FNC) effort.

The acquisition strategy for the Battery Management and Sustainment System (BMASS) is to focus on the development of the next generation portable Marine Corps charger and a Portable Lithium Battery Maintainer. These R&D efforts will focus on developing a capability which allow the Marine Corps the ability to support battery needs in all locations and environments of operation (land, sea and air). In particular the development will focus on making the next generation of the Suitcase Portable

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

Charger (called the Advanced Battery Charger) smaller, lighter, more efficient and high power. It will also focus on development of a capability which allows the Marine Corps to transport and maintain lithium batteries throughout the fleet in a safe and expeditionary manor.

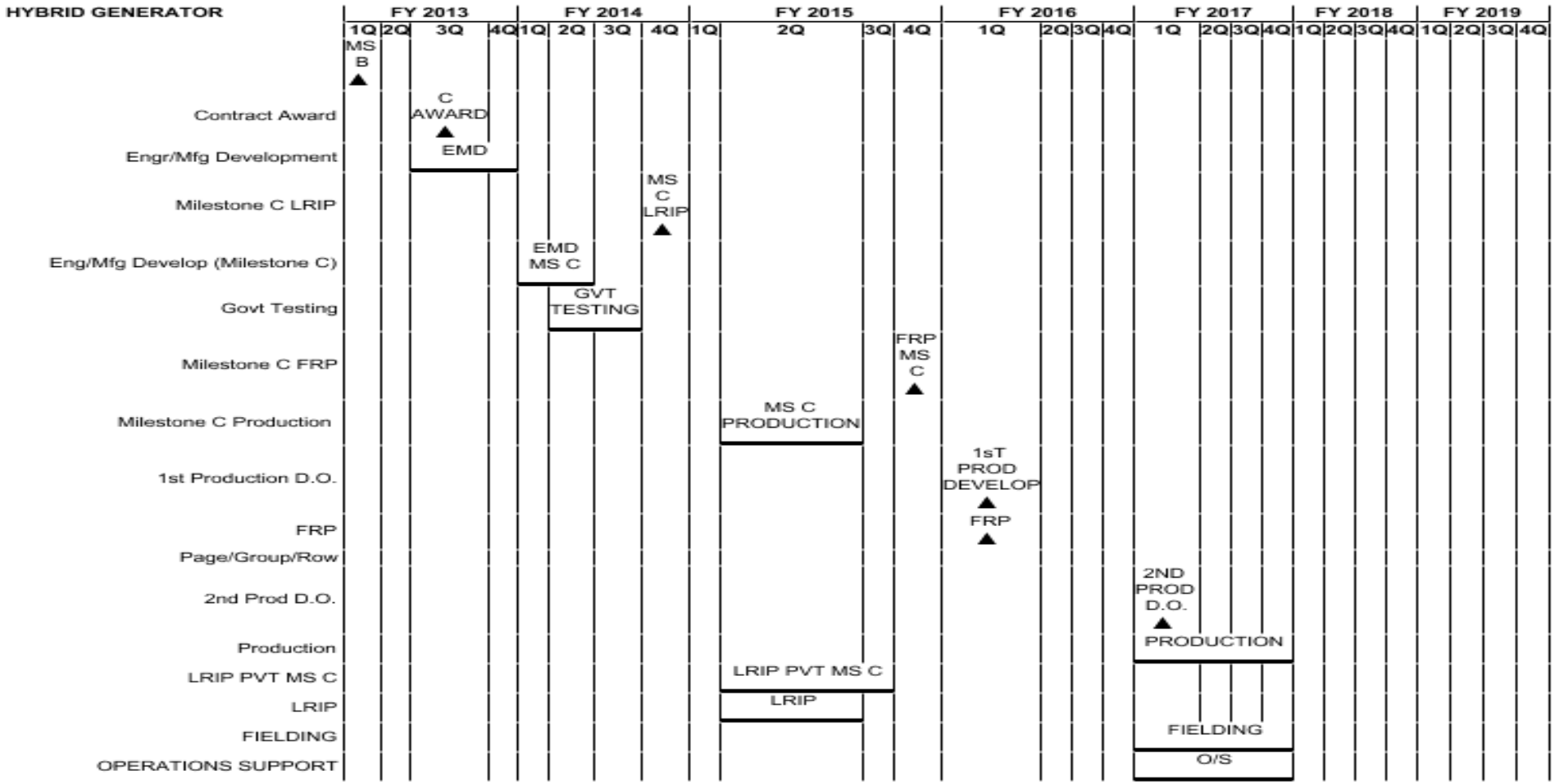
The acquisition strategy for the Squad Electric Power Program is to focus on the transition of the ONR Squad Electric Power FNC effort. This R&D effort will focus on achieving the Marine Corps goal of lighting the individual Marines combat load though reduced battery weight and increase interoperability of Marine Corps gear. In particular the effort will focus on further weight reduction of the Squad Electric Power System and increasing survivability and durability of the system.

The acquisition strategy for the On Board Vehicle Power Program is to focus on the continued adaptation and development of technologies transitioned from the Office of Naval Research Future Naval Capability. Primary focus will be on adaptation for different vehicle platform models (M1151, M1165) as well as updates to system configuration due to Armor requirement changes. Further, changes in deployment methodology with command guidance to focus on flexibility and efficiency will drive research and development to save fuel at idle conditions and improve energy export efficiency.

E. Performance Metrics

E2CU: Energy efficiency; size; weight; EPA-approved refrigerant; affordability; organically supportable.
MOBILE POWER: Energy efficiency; size; weight; affordability; organically supportable.
SPACES: 50% size reduction of controller, 50% reduction in panel surface area, 50% increase in panel efficiency
GREENS/MHEES/MEHPS-L): 20% reduction in weight, 50% increase in power capability, 20% reduction in volume
BMASS: ABC - Energy efficiency; size; weight; ability to charge specified batteries
SQUAD ELECTRIC POWER PROGRAM: N/A
OBVP: 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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

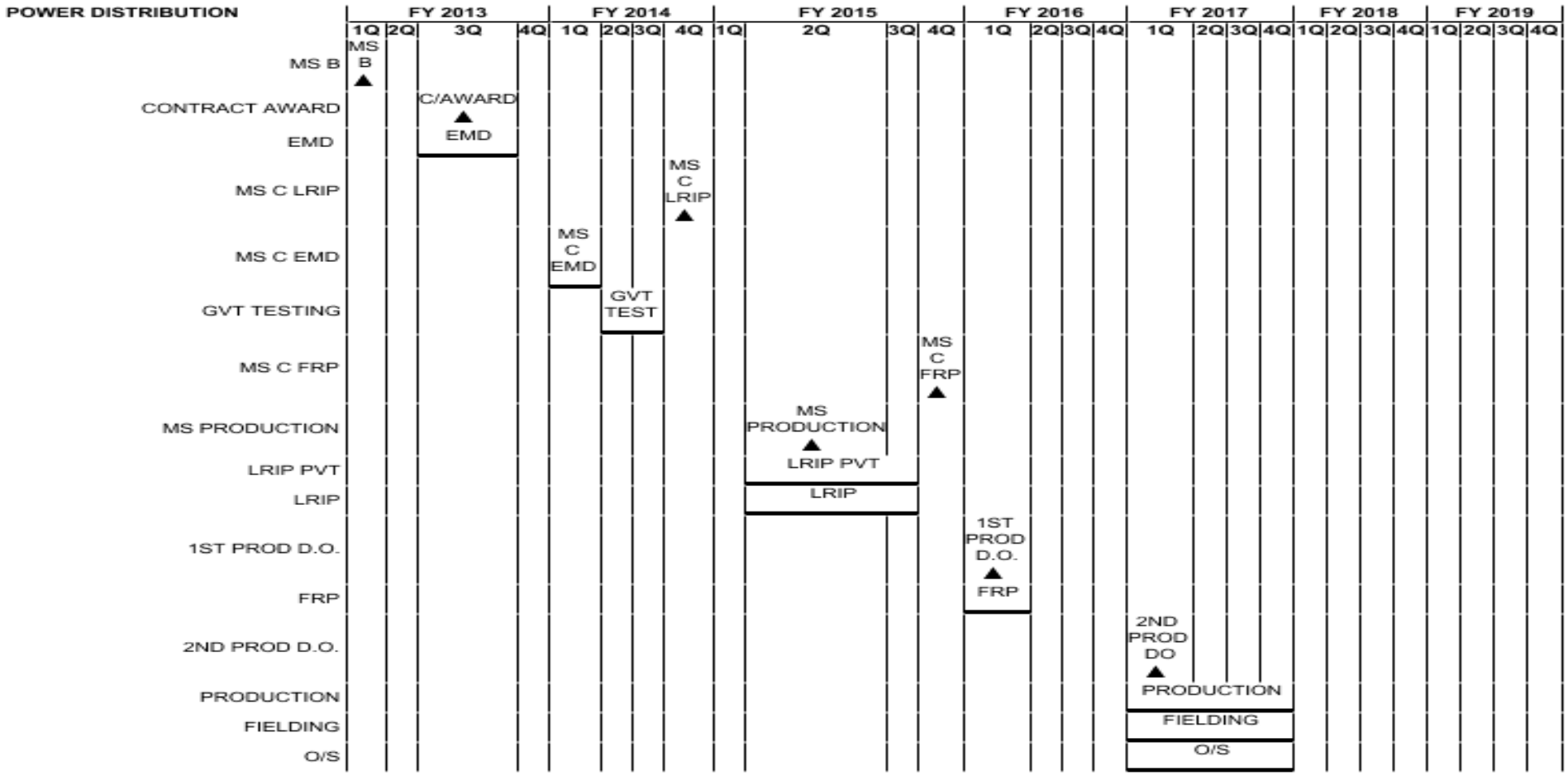
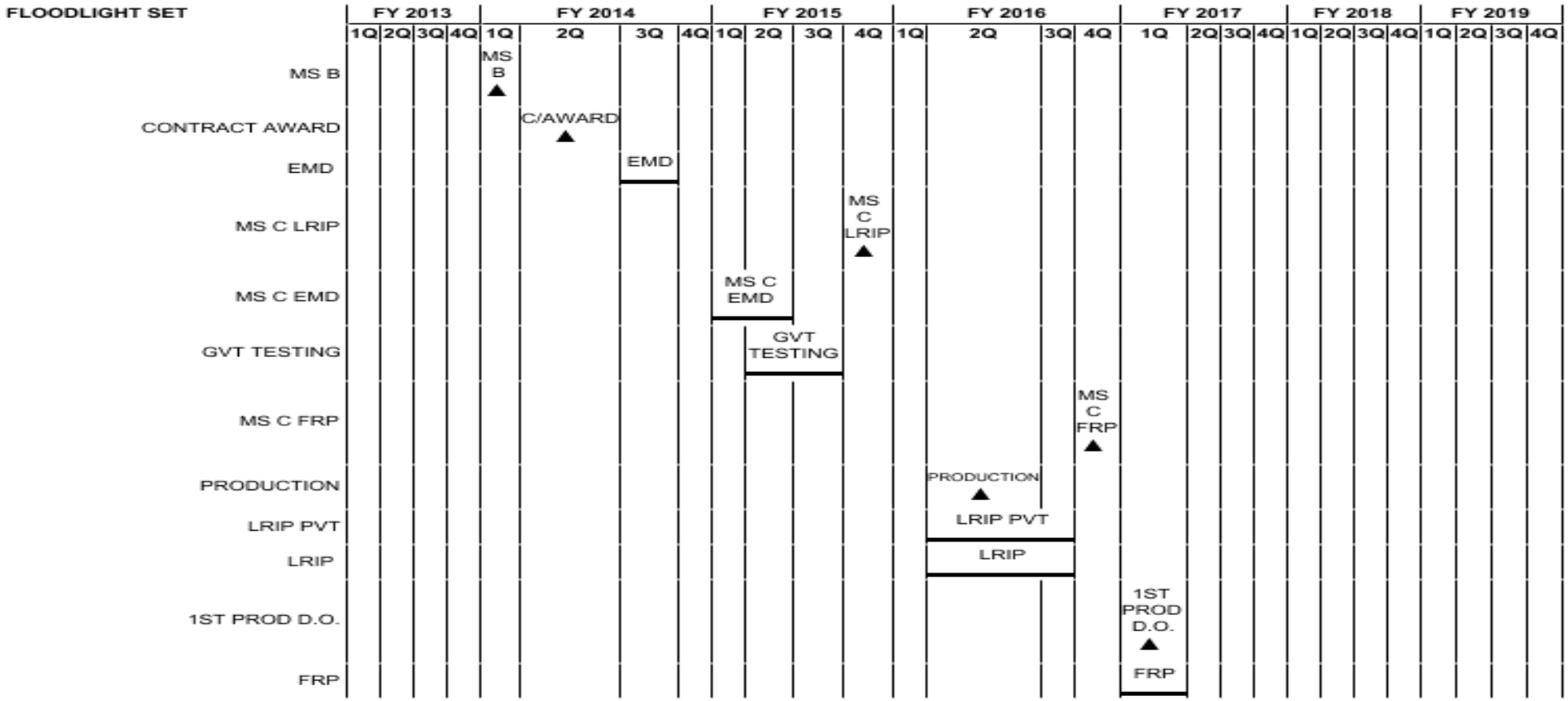


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

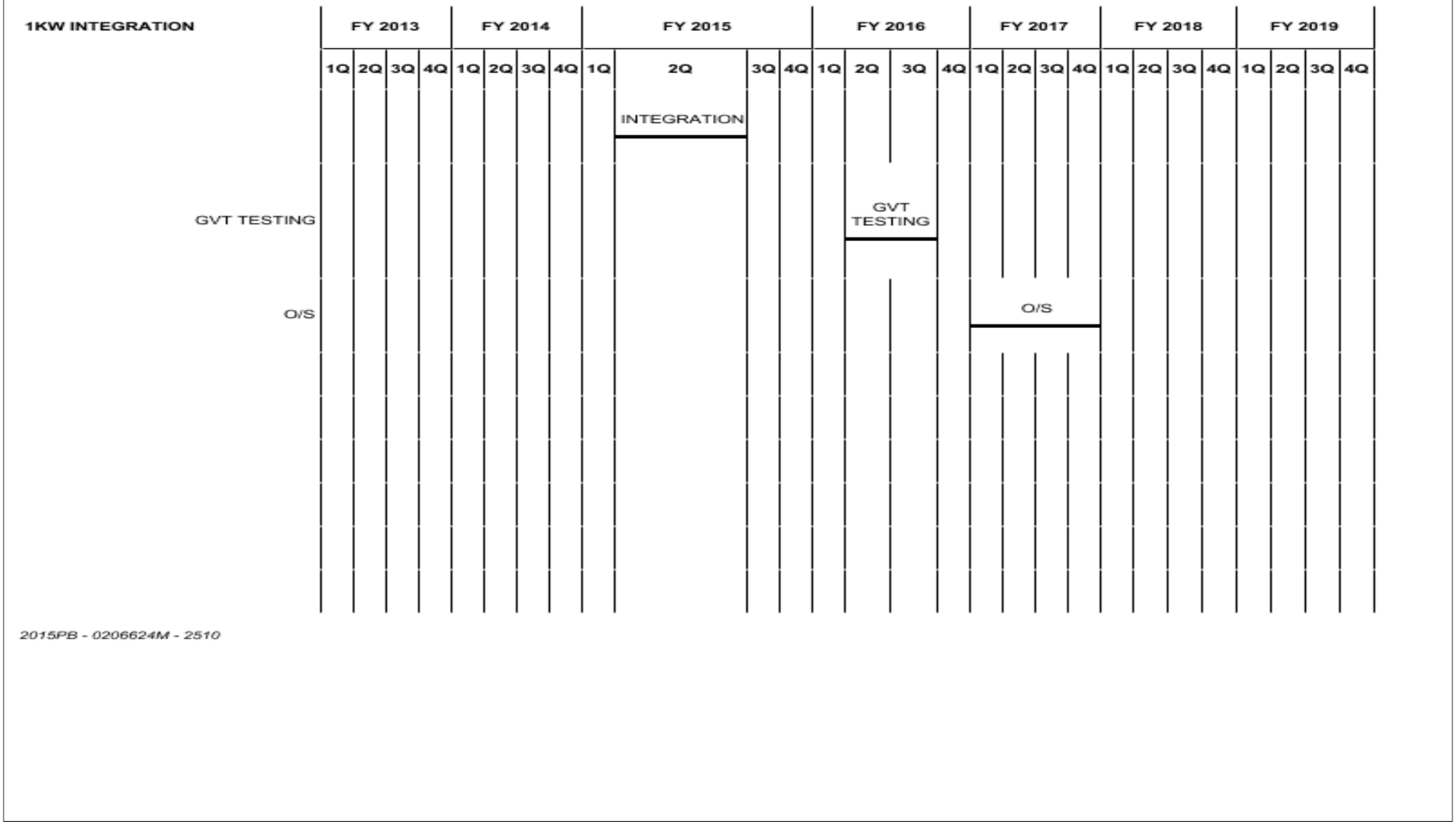


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

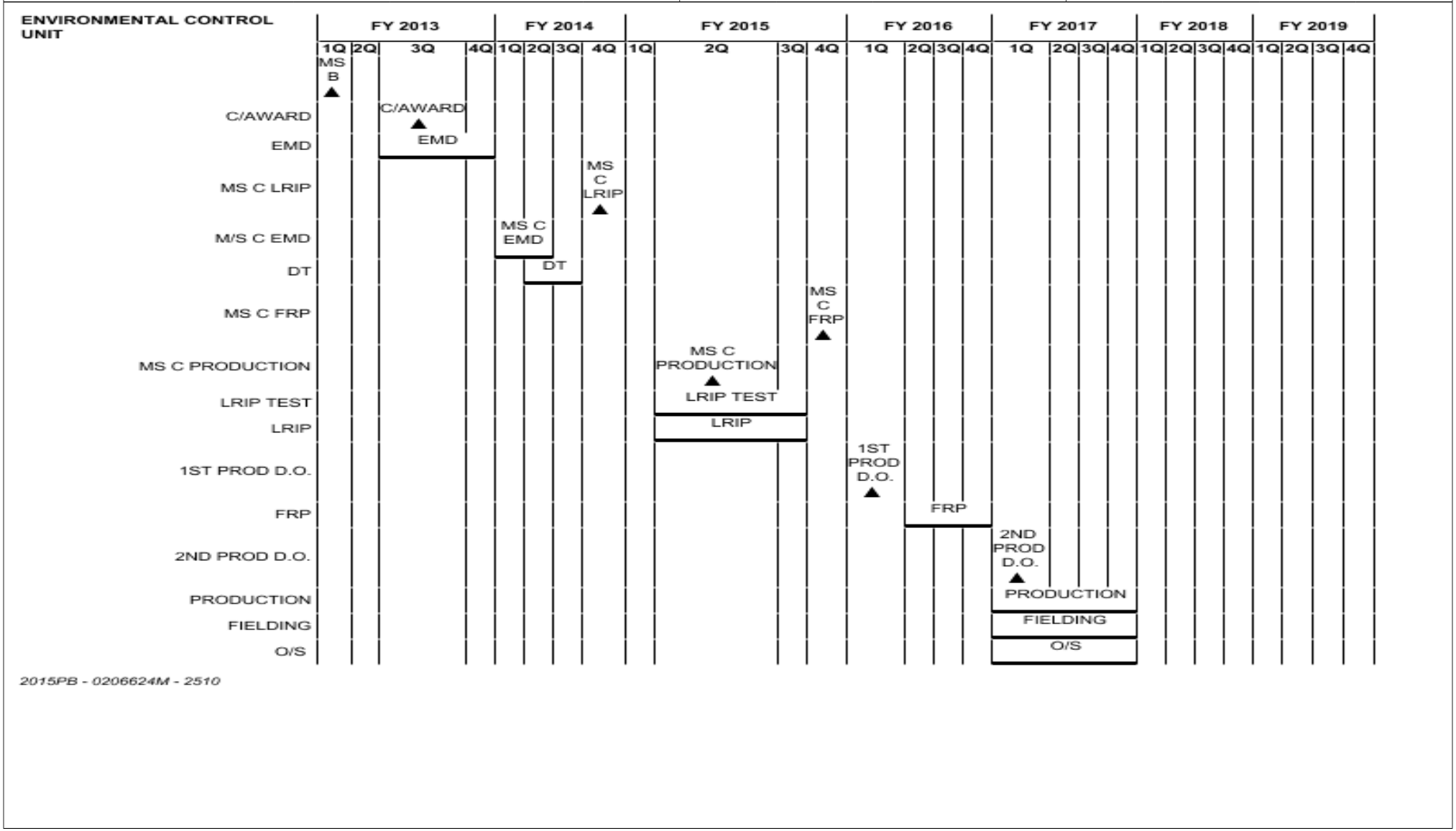


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

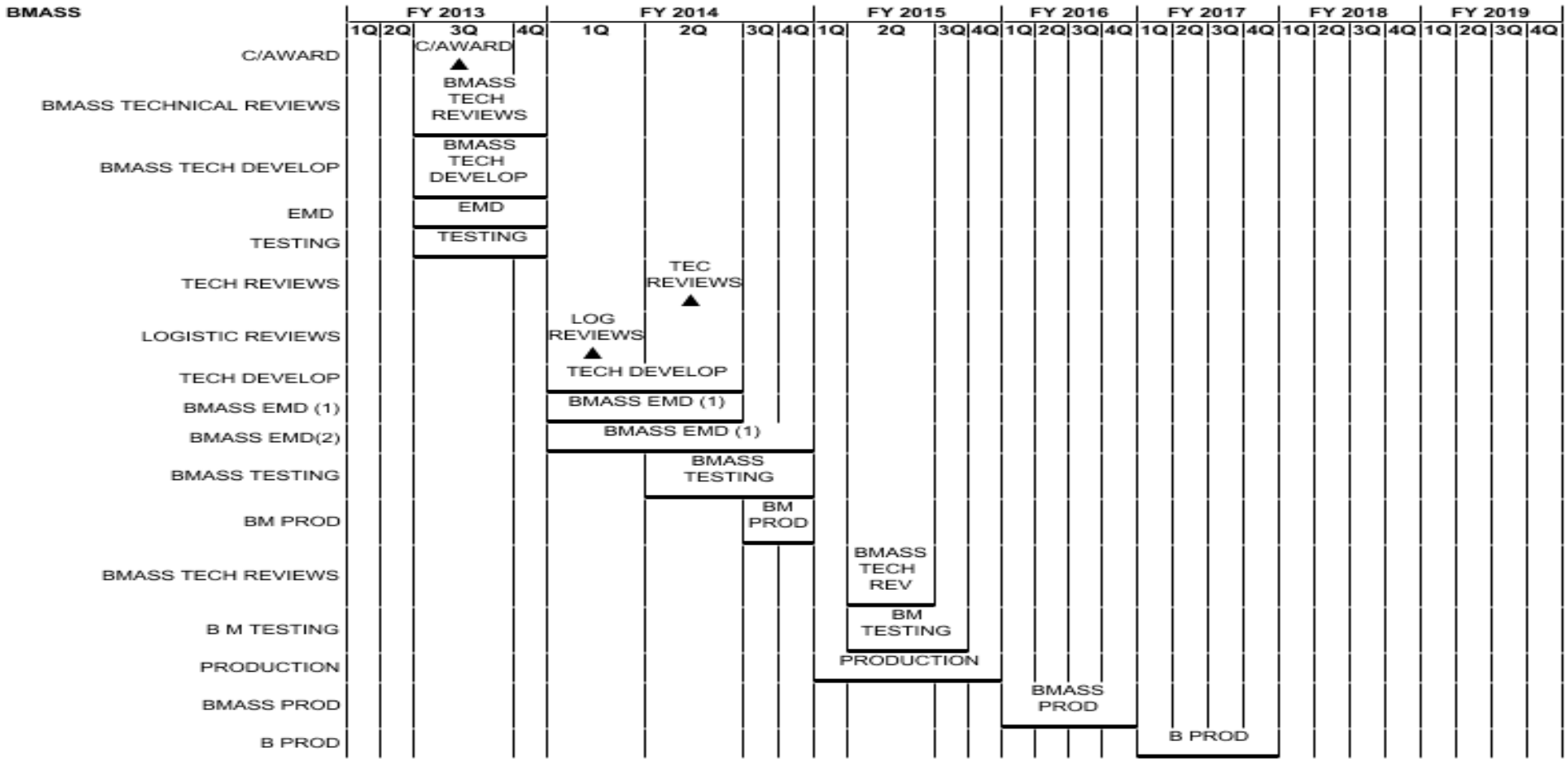
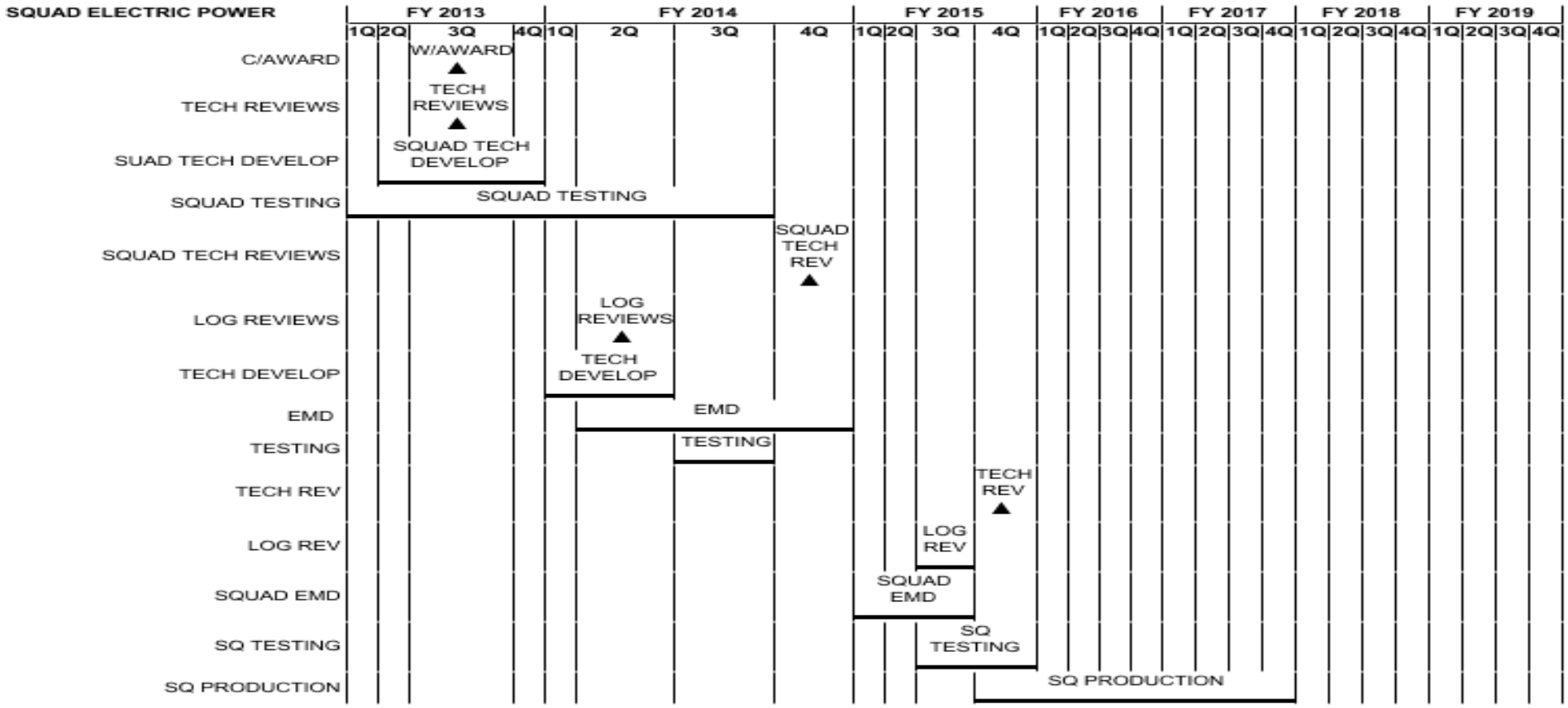
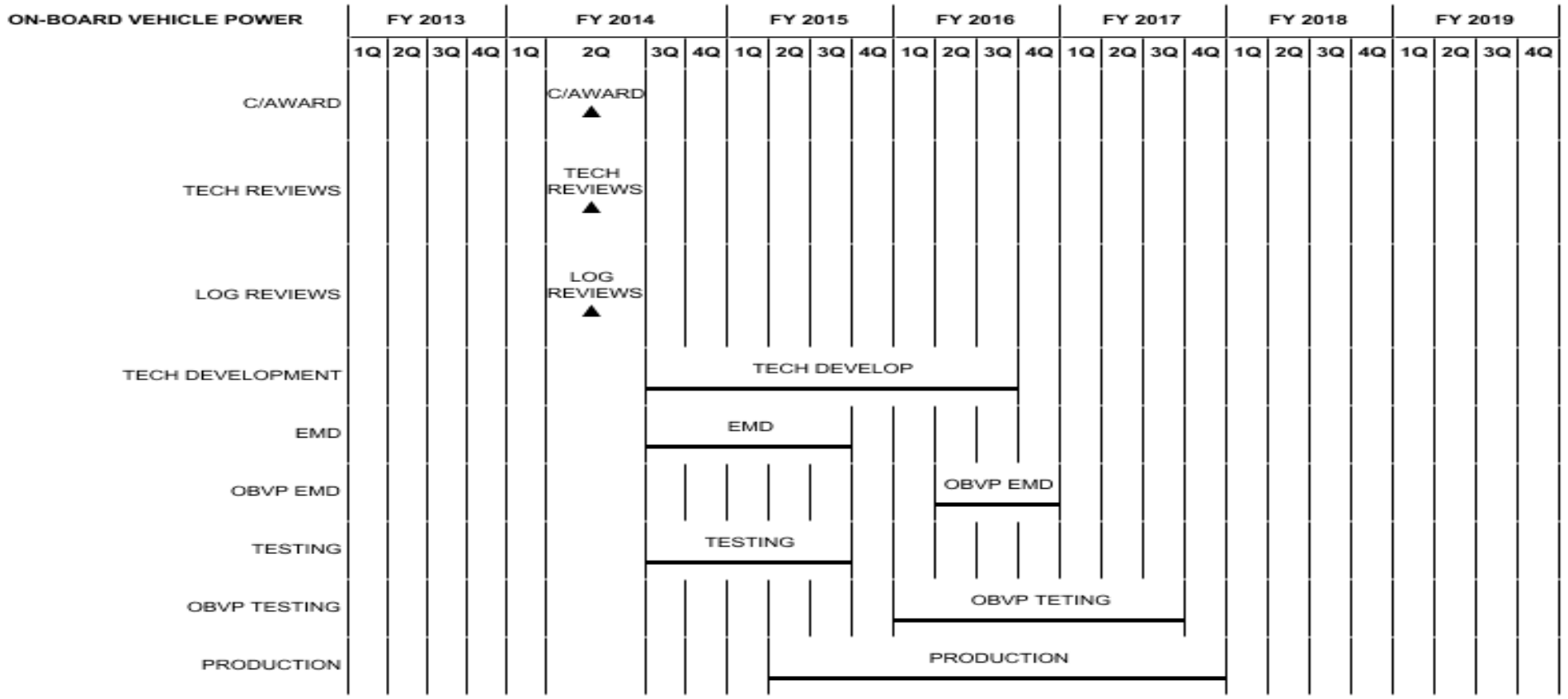


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

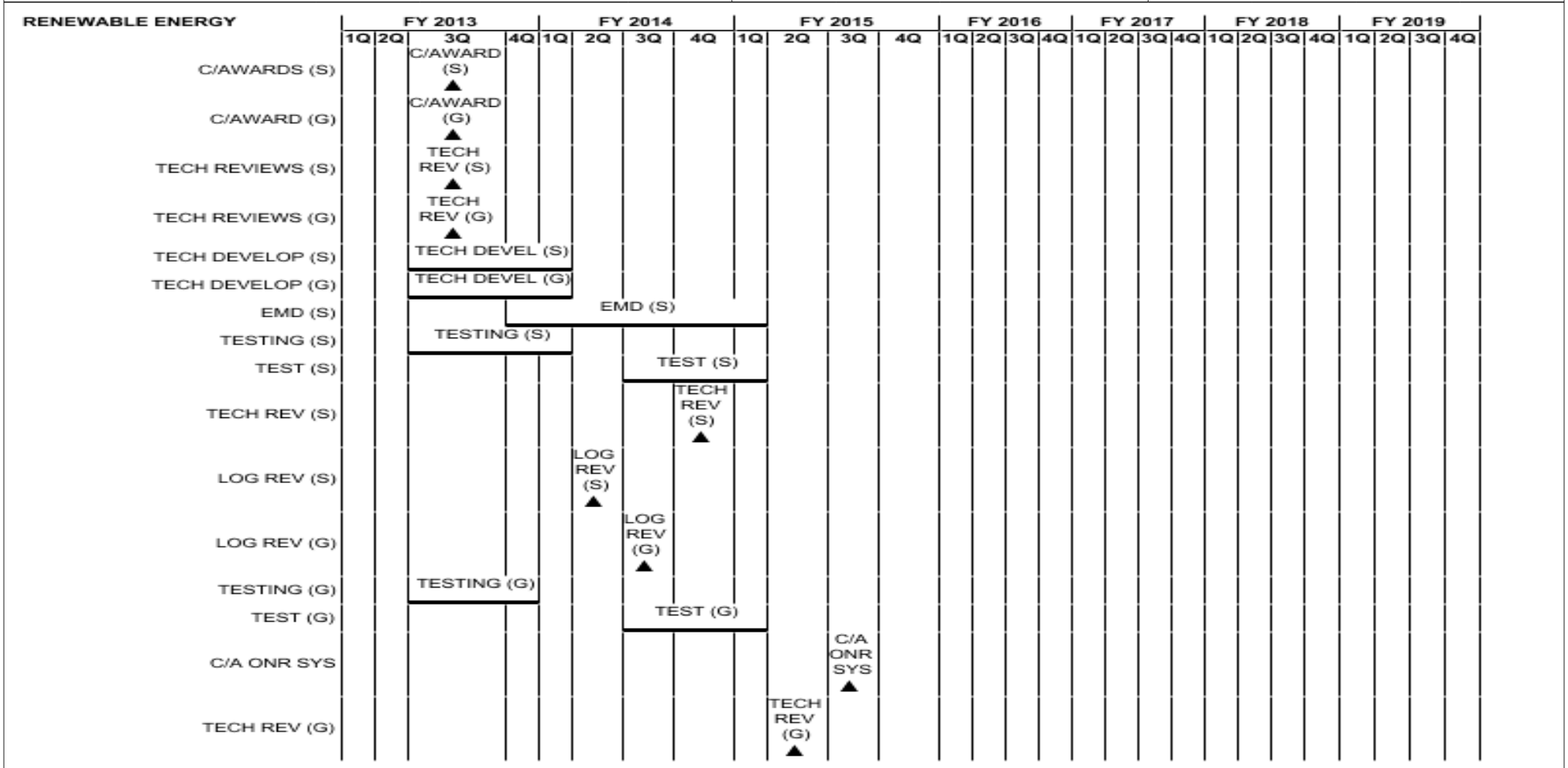
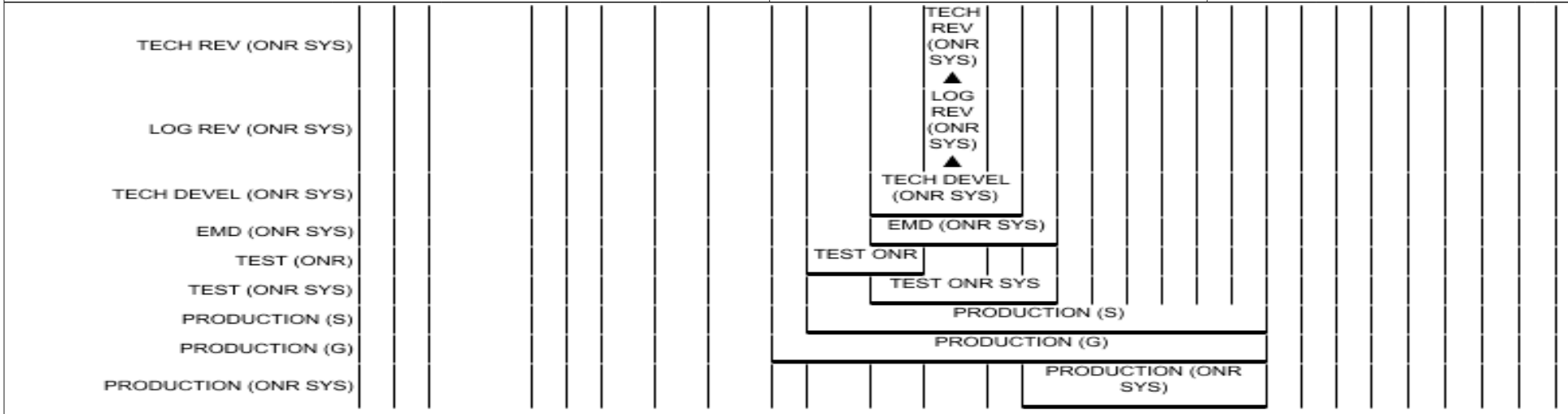
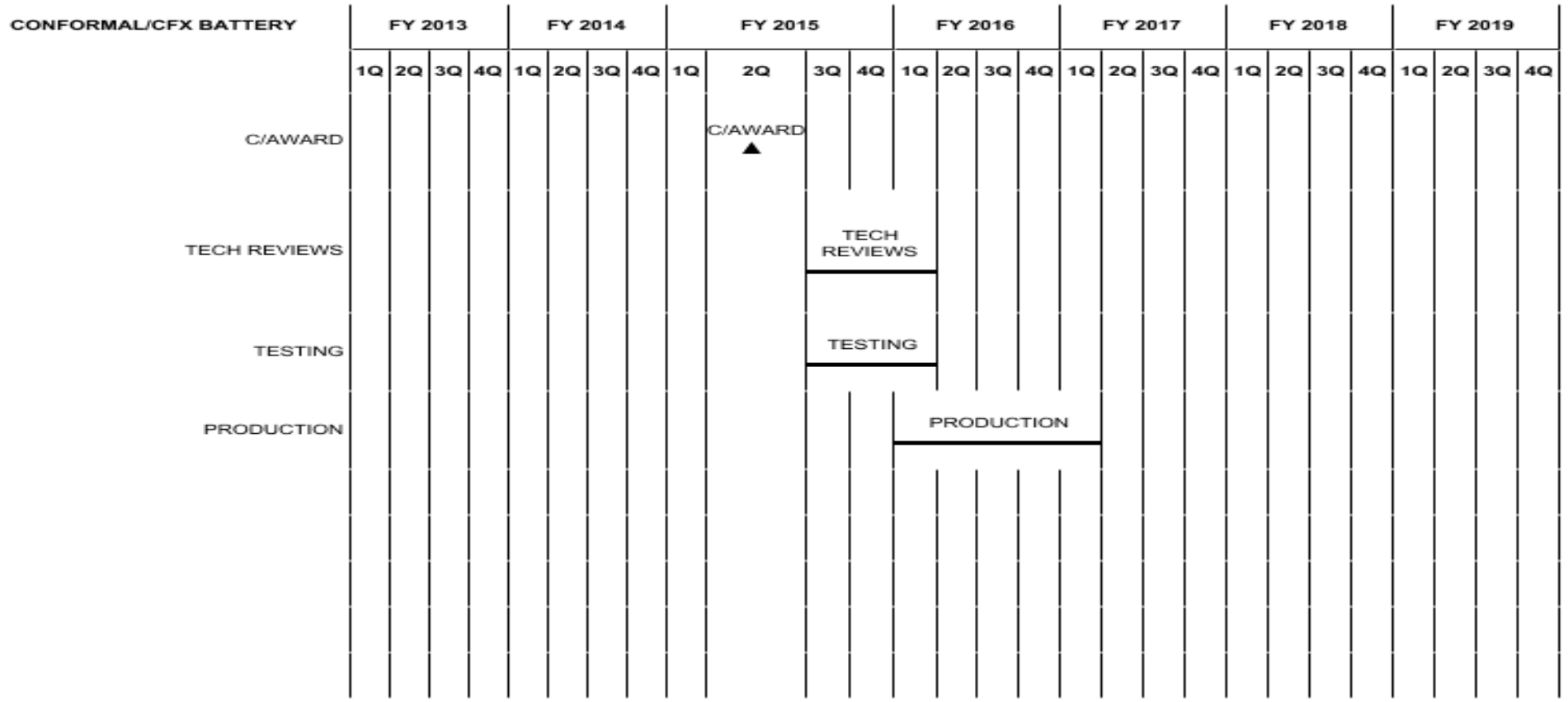


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

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 0206624M / *Marine Corps Cmbt Services Supt*				Project (Number/Name) 2929 / *Testing Measuring Diag Equip & 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**
2929: *Testing Measuring Diag Equip & SE*	4.789	1.577	2.571	0.248	-	0.248	0.518	0.546	0.582	0.624	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

The Marine Corps Automatic Test Equipment Systems (MCATES) program provides development of sustainment technology for automatic test equipment used in organizational/intermediate maintenance facilities.

The Marine Corps Family of Automatic Test Systems (ATS), formerly called Third Echelon Test Sets (TETS), provides automatic test program capability for use by technicians both in garrison and the forward edge of the battlefield; specifically in the areas of interactive electronic technical manuals, condition/predictive based maintenance, and embedded sensors and prognostics.

Automatic Identification Technology (AIT) devices encompass a variety of read and write data storage technologies that are used to improve accuracy, timeliness, and handling. These technologies provide near-real time Total Asset Visibility data used to influence critical decisions by Operational Commanders. AIT enhances our force in readiness by coordinating, synchronizing and automatically transferring data by means of barcodes, magnetic stripes, integrated circuit cards, optical memory cards, active Radio Frequency Identification (aRFID), and passive RFID (pRFID) tags, as well as the software required to create and manage the devices, read the information stored on them, and integrate that information with other logistics data. The information on each device can range from a single part number to a self-contained database. These devices can be interrogated using a variety of means, including fixed infrastructures and portable systems. The information obtained from those interrogations is provided electronically to various Automated Information Systems (AIS).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Marine Corps Automated Test Equipment (MCATE)	1.577	-	-
Articles:	-	-	-
Description: Allows for the development of advanced technology concepts for automatic test and the integration of these subsystems and components into system prototypes for field experiments and/or tests in a simulated environment. The focus is on demonstrating the military utility for these technologies and applying them to our Automatic Test Systems (ATS) acquisition programs. Additionally, to prevent obsolescence in our current automatic test systems by identifying new technologies that can be implemented immediately.			
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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2929 / *Testing Measuring Diag Equip & SE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Completed research of new testing techniques to prevent obsolescence of legacy systems. Developed integration techniques to address new testing solutions into fielded automatic test systems. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Automatic Identification Technology (AIT) ***Articles:*** ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Supports procurement of demo equipment from the DoD contract to perform integration and accreditation testing with the USMC Automatic Identification Technology (AIT) infrastructures. This funding will also allow for limited enhancements to the consolidated AIT infrastructure to expand the AIT devices included. ***FY 2015 Plans:*** N/A	- -	0.500 -	- -
Title: Automatic Test Systems (ATS) ***Articles:*** ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Continue research of new testing techniques to prevent obsolescence of legacy systems. Develop integration techniques to address new testing solutions into fielded automatic test systems. ***FY 2015 Plans:*** Continue to develop advanced technology concepts for automatic test and integrate the subsystems and components into fielded automatic test solutions to support weapon systems.	- -	2.071 -	0.248 -
Accomplishments/Planned Programs Subtotals	1.577	2.571	0.248

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2929 / *Testing Measuring Diag Equip & 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/4181-01: *TETS*	7.008	0.752	-	-	-	-	-	-	-	-	126.932
• PMC/4181-02: *Automatic Test Systems*	-	12.992	13.806	-	13.806	13.377	13.592	6.233	6.622	Continuing	Continuing
• PMC/4181-03: *MCATES*	5.712	-	-	-	-	-	-	-	-	-	15.004
• PMC/4617: *Automatic Identification Technology*	0.155	0.163	0.250	-	0.250	-	0.247	0.255	0.261	Continuing	Continuing

Remarks

D. Acquisition Strategy

Automatic Test Systems (ATS) and Marine Corps Automatic Test Equipment Systems (MCATES) acquisition is being done through Marine Corps Systems Command (MCSC) contracts and in-house at Marine Corps Logistics Command (MCLC), Albany, GA, and Naval Air Systems Command (NAVAIR), Patuxent River, MD.

Automatic Identification Technology (AIT) funding supports procurement of demonstration equipment from the DoD contract to perform integration and accreditation testing with the USMC AIT infrastructures. This funding will also allow for limited enhancements to the consolidated AIT infrastructure to expand the AIT devices.

E. Performance Metrics

N/A
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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2929 / *Testing Measuring Diag Equip & SE*

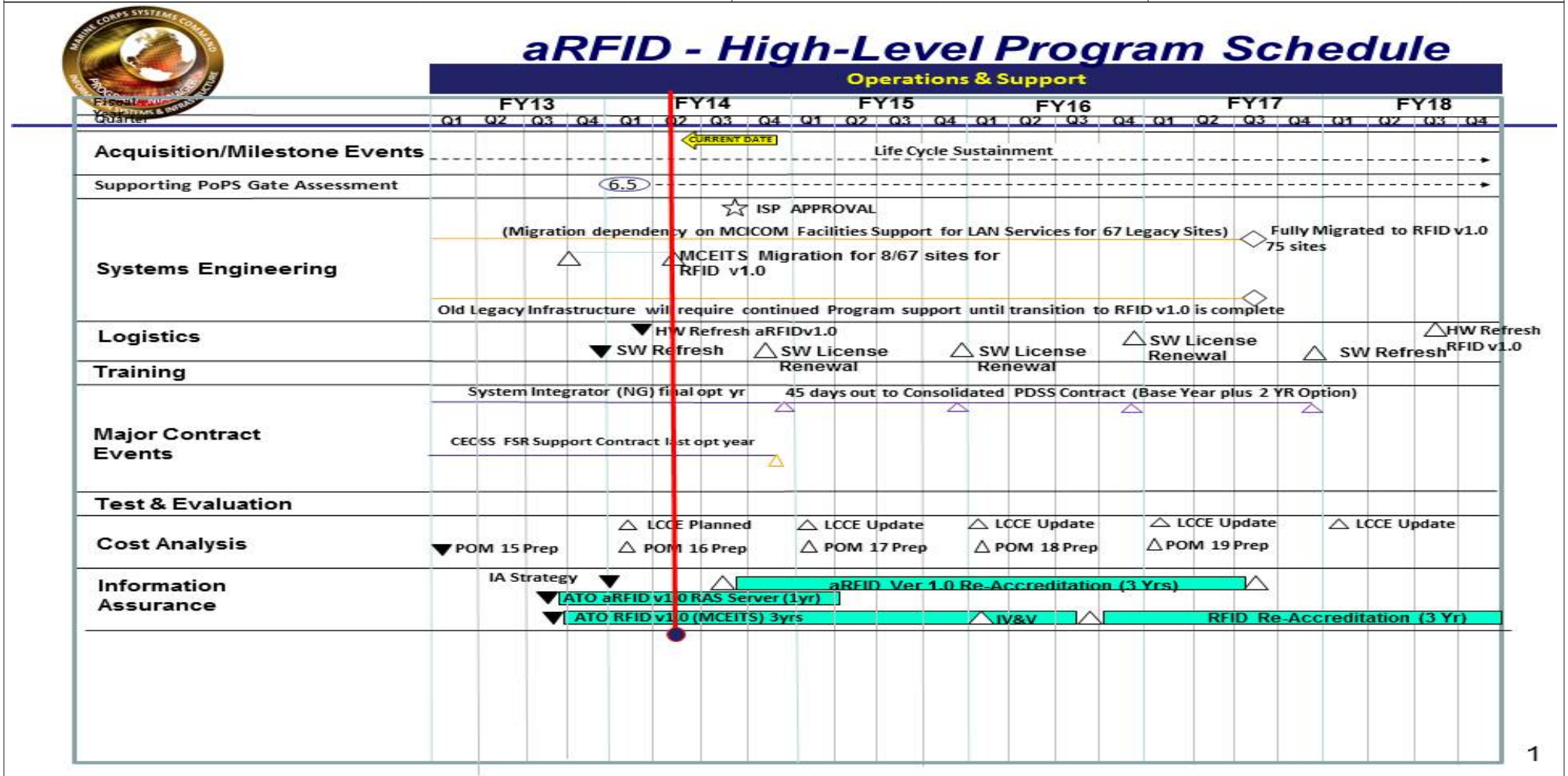


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Services Supt*	Project (Number/Name) 9C90 / *MTVR Mod*	

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
9C90: *MTVR Mod*	39.077	1.786	3.227	1.187	-	1.187	4.097	2.899	4.499	1.139	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

The MTVR Modification program line funds numerous modifications and initiatives that are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, tool malfunctions, product quality deficiencies, and other issues that affect vehicle reliability, availability, maintainability and readiness. A proactive and focused approach ensures proper vehicle sustainment and life-cycle management, and it allows the program office the flexibility to develop and implement improvements as needed to respond to the evolving needs of the Marine Corps.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Medium Tactical Vehicle Replacement (MTVR): Fuel Economy/Energy Efficiency	-	1.925	0.600
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Initiating PMO participation in the Office of Naval Research (ONR) Future Naval Capability (FNC) initiative for fuel economy improvements for the MTVR vehicles, which supports the Commandant of the Marine Corps (CMC) priorities for reducing costs, logistics footprint and an improved environment.			
FY 2015 Plans: Will continue to support testing of the Office of Naval Research (ONR) Future Naval Capability (FNC) initiative for fuel economy components on different variants of the MTVR vehicles in preparation of its transition to the program office.			
Title: Medium Tactical Vehicle Replacement (MTVR): Engineering Change Proposals (ECP)	0.749	0.675	0.262
Articles:	-	-	-
FY 2013 Accomplishments: Completed Engineering Change Proposal (ECP) development and live fire and prototype testing for transportability of the MTVR fleet of vehicles, Transparant Armor, and Lift and Tie Down Provisions. Continual changes in the threat environment requires on-going vehicle modifications which must be developed and tested.			
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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 9C90 / *MTVR Mod*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue Engineering Change Proposal (ECP) development and live fire and prototype testing for the MTVR program. Continual changes in threat environment requires on-going vehicle modifications, which must be developed and tested. ***FY 2015 Plans:*** Will continue Engineering Change Proposal (ECP) development and prototype testing for the MTVR program. Continual changes in threat environment requires on-going vehicle modifications, which must be developed and tested.			
Title: Medium Tactical Vehicle Replacement (MTVR): Safety ***Articles:*** ***FY 2013 Accomplishments:*** Completed development, testing and modifications for Emergency Egress Windows, Blast seats and floor mats, and brake based stability testing. These were in response to safety concerns to protect the warfighter and the MTVR from possible catastrophic events as a result of continual changes in threat environment. ***FY 2014 Plans:*** Continue safety modifications, upgrade development, and testing required in response to continual changes in the threat environment to protect the warfighter and MTVR from possible catastrophic events in order to meet the current and future operations of MAGTF Expeditionary Maneuver Warfare for the MTVR program. ***FY 2015 Plans:*** Will continue safety modifications, upgrade development, and testing required in response to continual changes in the threat environment to protect the warfighter and MTVR from possible catastrophic events in order to meet the current and future operations of MAGTF Expeditionary Maneuver Warfare for the MTVR program.	0.500 -	0.327 -	0.275 -
Title: Medium Tactical Vehicle Replacement (MTVR): Integration ***Articles:*** ***FY 2013 Accomplishments:*** Completed development and testing of brackets and cables to accomodate the integration of add-on components and equipment (such as Blue Force Tracker (BFT), radio jammers, Intercoms, Drivers Vision Enhancer (DVE), etc) for all variants (cargo, wrecker, and tractor) of unarmored MTVR vehicles. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.212 -	- -	- -
Title: Medium Tactical Vehicle Replacement (MTVR): Modeling & Simulation (M&S)	0.325	0.300	0.050

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 9C90 / *MTVR Mod*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: Continued support to address operational effectiveness and improved efficiencies of the MTVR vehicles with the use of the Analytic Dynamics and Structures (ADAMS) software model.			
FY 2014 Plans: Continue support to address operational effectiveness and improved efficiencies of the MTVR vehicles with the use of the ADAMS software model.			
FY 2015 Plans: Will continue support for this effort at a minimal level to refine the existing ADAMS software model to ensure accuracy of model validations and test data in support of the MTVR vehicles.			
Accomplishments/Planned Programs Subtotals	1.786	3.227	1.187

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/5050: *MTVR Motor Transport Mods*	41.956	1.542	0.469	-	0.469	5.494	6.066	6.722	8.428	Continuing	Continuing
• PMC/5088: *MTVR*	8.375	-	-	-	-	-	-	-	-	-	3,184.620

Remarks

D. Acquisition Strategy

The strategy for the MTVR Modification initiative is to aid in the prevention of parts obsolescence, address safety concerns, and respond to emergent threats. A proactive and focused approach ensures proper vehicle sustainment and life-cycle management, and it allows the program office the flexibility to develop and implement improvements as required to respond to evolving needs.

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 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 9C90 / *MTVR Mod*

MTVR Program Schedule