Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	171.543	297.850	257.167	-	257.167	292.401	184.177	145.203	120.358	Continuing	Continuing
330: *Abrams Tank Improve Prog*	-	97.901	102.495	77.603	-	77.603	143.636	76.870	62.709	64.193	Continuing	Continuing
371: *Bradley Improve Prog*	-	73.642	76.192	73.775	-	73.775	113.999	83.848	57.647	30.846	Continuing	Continuing
EE2: *Stryker Improvement*	-	-	119.163	105.789	-	105.789	34.766	23.459	24.847	25.319	Continuing	Continuing

Note

The Stryker Improvement Program (Project EE2) was submitted under a new Program Element for the FY 2015 President's Budget. The previous Program Element was 0603653A/Project C03 and C51.

The FY 2016 funding request was reduced by $55.853; Abrams (Project 330; $35.769) and Bradley (Project 371; $20.084) million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

The Army has approved engineering change proposals for the Abrams, Bradley and Stryker programs to restore lost platform capability and host inbound technologies.

This Program Element (PE) corrects vehicle deficiencies identified in Army operations; continues technical system upgrades to include the integration of applicable technologies on ground systems; addresses needed evolutionary enhancements to tracked combat vehicles; and develops technology improvements which have application to or insertion opportunities across multiple Ground Combat Systems vehicles. This PE provides combat effectiveness and Operating and Support (O&S) cost reduction enhancements for the Abrams tanks, Bradley Fighting Vehicles and Stryker Family of Vehicles (FOVs) through a series of product improvements.

The strategy for Abrams and Bradley will focus on incrementally delivering capability to the warfighter to meet both near-term limitations as well as mitigating gaps and maintaining combat overmatch in the future. This effort was approved by the Army Acquisition Executive in 3Q FY 2011.

The Abrams M1A2 SEP V2 and M2/M3A3 Bradley Fighting Vehicles are at or exceed Space, Weight, and Power-Cooling (SWaP-C) limitations. In order to host and restore lost platform capability, the Abrams Tank and Bradley Fighting Vehicle programs will execute a series of Engineering Change Proposals (ECPs) to support the current embedded systems and to facilitate integration of technologies currently in development under other existing Programs of Record. The ECPs are not intended to exceed the operational capability outlined in current system requirements documents, but rather to ensure that the existing system performance is not further degraded and that Army mission equipment packages can be integrated on the Abrams and Bradley Platforms.

Stryker Improvement Program will address Lethality, Survivability, Mobility, and Communication, Command, and Control (C3) issues with the Stryker family of vehicles. Primary focus is on the Stryker ECP 1 effort which will enable the Stryker Double-V Hull (DVH) fleet to buy back the Space, Weight, and Power-Cooling (SWaP-C) that has been lost as a result of vehicle changes required to counter the evolving threats that were present in the Theater of Operations. The ECP 1 effort will allow the DVH

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0203735A *I Combat Vehicle Improvement Programs*

fleet to host the future network without further degrading vehicle performance. The upgrade will increase available electrical power while ensuring adequate mechanical power, weight margin, and cooling. Combined with a digital backbone, this will ensure that the DVH fleet can host the future network while retaining its protection and mobility. Funding in FY16-20 supports continued development engineering, prototype build and testing efforts for Stryker ECP 1.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	177.437	295.177	318.674	-	318.674
Current President's Budget	171.543	297.850	257.167	-	257.167
Total Adjustments	-5.894	2.673	-61.507	-	-61.507
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.127			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-5.894	-			
• Adjustments to Budget Years	-	2.800	-61.507	-	-61.507

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: EE2: *Stryker Improvement*		
Congressional Add: *Stryker ECP 1 Development (Engineering/Prototypes) Congressional Add*	-	21.755
Congressional Add: *Stryker ECP 1 Testing Congressional Add*	-	3.918
Congressional Add: *Contractor Support to Test Congressional Add*	-	3.327
Congressional Add Subtotals for Project: EE2	-	29.000
Congressional Add Totals for all Projects	-	29.000

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) 330 / *Abrams Tank Improve Prog*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
330: *Abrams Tank Improve Prog*	-	97.901	102.495	77.603	-	77.603	143.636	76.870	62.709	64.193	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Army has approved engineering change proposals for the Abrams program to restore lost platform capability and host inbound technologies. The strategy for Abrams will focus on incrementally delivering capability to the warfighter to meet both near-term limitations as well as mitigating gaps and maintaining combat overmatch in the future. This effort was approved by the Army Acquisition Executive in 3Q FY 2011.

The Abrams vehicle is at or exceeds Space, Weight, and Power-Cooling (SWaP-C) limitations. In order to host and restore lost platform capability, the Abrams Tank will execute a series of Engineering Change Proposals (ECPs) to support the current embedded systems and to facilitate integration of technologies currently in development under other existing Programs of Record. The ECPs are not intended to exceed the operational capability outlined in current system requirements documents, but rather to ensure that the existing system performance is not further degraded and that Army mission equipment packages can be integrated on the Abrams Platforms. ECP 1B (formerly ECP 2) preparation/preliminary efforts begin in FY15 with developmental contract award expected in late FY16.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Abrams Engineering Change Proposal (ECP) 1A	87.844	87.692	33.038
Description: The improvements implemented through the Abrams ECP 1A Program will restore lost power generation and distribution, mitigate impending obsolescence, and incorporate inbound technologies currently under development in other existing Programs of Record. Incorporation of force protection improvements will counter evolving threats.			
FY 2014 Accomplishments: The Critical Design Review (CDR) occurred 3Q FY14. The system baseline was finalized to include the technology integration of Handheld Manpack Small (HMS) radios and Joint Battle Command-Platform (JBC-P) to enable network compatibility, Power Generation/Distribution (battery monitoring system, increased amperage generator, slip ring), auxiliary power unit, ammunition data link, armor protection upgrade, Counter Remote Control Improvised Explosive Device (RCIED) Electronics Warfare System (CREW) Duke V3, and Line replaceable modules. Began the nine (9) prototype vehicle builds.			
FY 2015 Plans: FY2015 efforts will consist of completing prototype builds, component qualification testing, contractor vehicle testing, and initial prototype handoff for government testing. Production contract preparation will begin.			
FY 2016 Plans: A System Verification Review and Production Readiness Review will be held in FY 2016. The ECP 1A Technical Data Package (TDP) will be approved in 2Q FY2016 to support a production contract award in late FY2016. United States Government (USG)			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Production Prove-out Test (PPT) will continue throughout FY2016. Engineering will complete root cause and corrective action work as test incident reports arise. Logistics Support Analysis (LSA), technical manual development/updates, Level of Repair Analysis (LORA), and Source of Repair Analysis (SORA) will continue. Preparation for Next Evolution Armor installation into prototypes for live fire testing will also begin.			
Title: ECP 1A Training Device Updates ***Description:*** Development and design of training device upgrades to reflect the ECP 1A upgrades to the vehicle. ***FY 2016 Plans:*** Development engineering for the Common Driver Trainer (CDT) upgrades to reflect the ECP 1A vehicle configuration.	-	-	0.300
Title: Abrams Engineering Change Proposal (ECP) 1B (formerly ECP 2) - Lethality ECP ***Description:*** The Abrams ECP 1B (formerly ECP 2) program consists mainly of lethality improvements. The primary focus is the integration of Improved Forward Looking Infrared (IFLIR) and the integration of Ammunition Data Link (ADL) for the Advanced Multi-purpose (AMP) round. Additional improvements to the target acquisition sensors consist of inclusion of color cameras and laser capabilities. Other potential improvements consist of an improved environmental control system, laser warning receiver, and vehicle smoke generation. Trade studies/analysis will be performed to evaluate other potential improvements. ***FY 2015 Plans:*** Begin contract development efforts on ECP 1B (Lethality improvements) to support late FY2016 contract award with continued synchronization with Product Managers (PMs) Bradley Fighting Vehicles, Ground Sensors, and Large Caliber Ammunition Systems. Trade studies/analysis will be performed to evaluate Improved Forward Looking Infrared (IFLIR) integration and the integration of Ammunition Data Link (ADL) for the Advanced Multi-purpose (AMP) round, as well as other potential improvements. ***FY 2016 Plans:*** Contract development efforts will continue on ECP 1B (lethality improvements). Contract award is expected in late FY2016. Continue synchronization with Product Managers (PMs) Bradley Fighting Vehicles, Ground Sensors, and Large Caliber Ammunition Systems. Trade studies/analysis will be performed to evaluate Improved Forward Looking Infrared (IFLIR) integration and the integration of Ammunition Data Link (ADL) for the Advanced Multi-purpose (AMP) round, and other potential improvements, i.e. environmental controls, smoke generation and other potential force protection elements. Requirements decomposition and traceability efforts will start in FY2016.	-	0.250	23.590
Title: Program Management Office (PMO) Support ***Description:*** Program Management Office Support includes Systems Engineering and Government and Contractor salaries, travel and other support costs required to effectively manage the program.	8.906	7.463	6.137

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: Continued Government Systems Engineering and Program Management Office Support in FY14. This included labor, travel, training, supplies and equipment to effectively manage the program. ***FY 2015 Plans:*** Continue Government Systems Engineering and Program Management Office Support in FY15. This will include labor, travel, training, supplies and equipment to effectively manage the program. ***FY 2016 Plans:*** Continue Government Systems Engineering and Program Management Office Support in FY16. This will include labor, travel, training, supplies and equipment to effectively manage the program.			
Title: Test & Evaluation ***Description:*** Test and Evaluation to support the ECP 1A program will occur in two phases: Production Prove-out Testing (PPT), FY2015 - FY2018, and Production Qualification Test (PQT), FY2018 - FY2020. Contractor testing will be conducted in a structured environment determined by the Original Equipment Manufacturer (OEM). Government testing will be conducted by the U.S. Army Test and Evaluaton Center (ATEC). ***FY 2014 Accomplishments:*** Test & Evaluation efforts to support component level test events and planning and development of test documentation (Test Evaluation Program Plan (TEPP) and Test Evaluation Master Plan (TEMP). ***FY 2015 Plans:*** Continue Test & Evaluation efforts to support component level test events and planning and development of test documentation. Original Equipment Manufacturer (OEM) testing to include software, mobility, communications, and slope and grade testing will be conducted. Firing functionality of the main gun and secondary weapon systems will occur at Aberdeen Proving Grounds, MD and Yuma Proving Grounds, AZ. ***FY 2016 Plans:*** Continue Test and Evaluation to support vehicle level test events and planning and development of test documentation. In 1Q FY16, gun firing and production prove-out testing as well as Automotive/Reliability, Availability and Maintainability (RAM) testing will begin. Electromagnetic Interference/Electromagnetic Compatibility (EMI/EMC) Testing will begin in 3QFY16. These test and evaluation events will occur at various test sites (Aberdeen Proving Ground, Yuma Proving Ground, and White Sands Missile Range).	1.151	7.090	14.538
Accomplishments/Planned Programs Subtotals	97.901	102.495	77.603

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Abrams Upgrade Program: *Abrams Upgrade Program (GA0750) WTCV*	90.000	120.000	-	-	-	-	-	-	-	-	210.000
• M1 Abrams Tank Mod (GA0700): *M1 Abrams Tank Mod (GA0700) WTCV*	178.100	237.023	367.939	-	367.939	489.437	606.014	451.773	496.647	16,622.398	19,449.331

Remarks

D. Acquisition Strategy

Abrams Engineering Change Proposal (ECP) 1A: Research & Development Contract - Sole Source, Cost Plus Incentive Fee (CPIF); ECP 1B - Research & Development Contract - Sole Source, Cost Plus Incentive Fee (CPIF)

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) 330 / *Abrams Tank Improve Prog*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Abrams Engineering Change Proposal (ECP) 1A	SS/CPIF	General Dynamics Land Systems : Sterling Heights, MI	152.324	87.844	Mar 2014	87.692	Mar 2015	33.038	Mar 2016	-		33.038	-	360.898	-
ECP 1A Training Device Upgrades	MIPR	PEO, STRI : Orlando, FL	0.000	-		-		0.300	Mar 2016	-		0.300	-	0.300	-
Abrams ECP 1B - Lethality ECP	SS/CPIF	General Dynamics Land Systems : Sterling Heights, MI	0.000	-		0.250	Jan 2015	23.590	Jun 2016	-		23.590	-	23.840	-
		Subtotal	152.324	87.844		87.942		56.928		-		56.928	-	385.038	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Office (PMO)Support	MIPR	PMO Support Offices : Various	42.660	8.906	Dec 2013	7.463	Jan 2015	6.137	Jan 2016	-		6.137	Continuing	Continuing	Continuing
		Subtotal	42.660	8.906		7.463		6.137		-		6.137	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Testing	MIPR	Aberdeen Proving Ground; Yuma Proving Ground; White Sands Missile Range, : Various	11.173	1.151	Jan 2014	3.208	Jan 2015	11.650	Jan 2016	-		11.650	Continuing	Continuing	Continuing
Contractor Testing	Various	Various : Various	0.000	-		3.882	Mar 2015	2.888	Mar 2016	-		2.888	-	6.770	-
		Subtotal	11.173	1.151		7.090		14.538		-		14.538	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) 330 / *Abrams Tank Improve Prog*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	206.157	97.901		102.495		77.603		-		77.603	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*

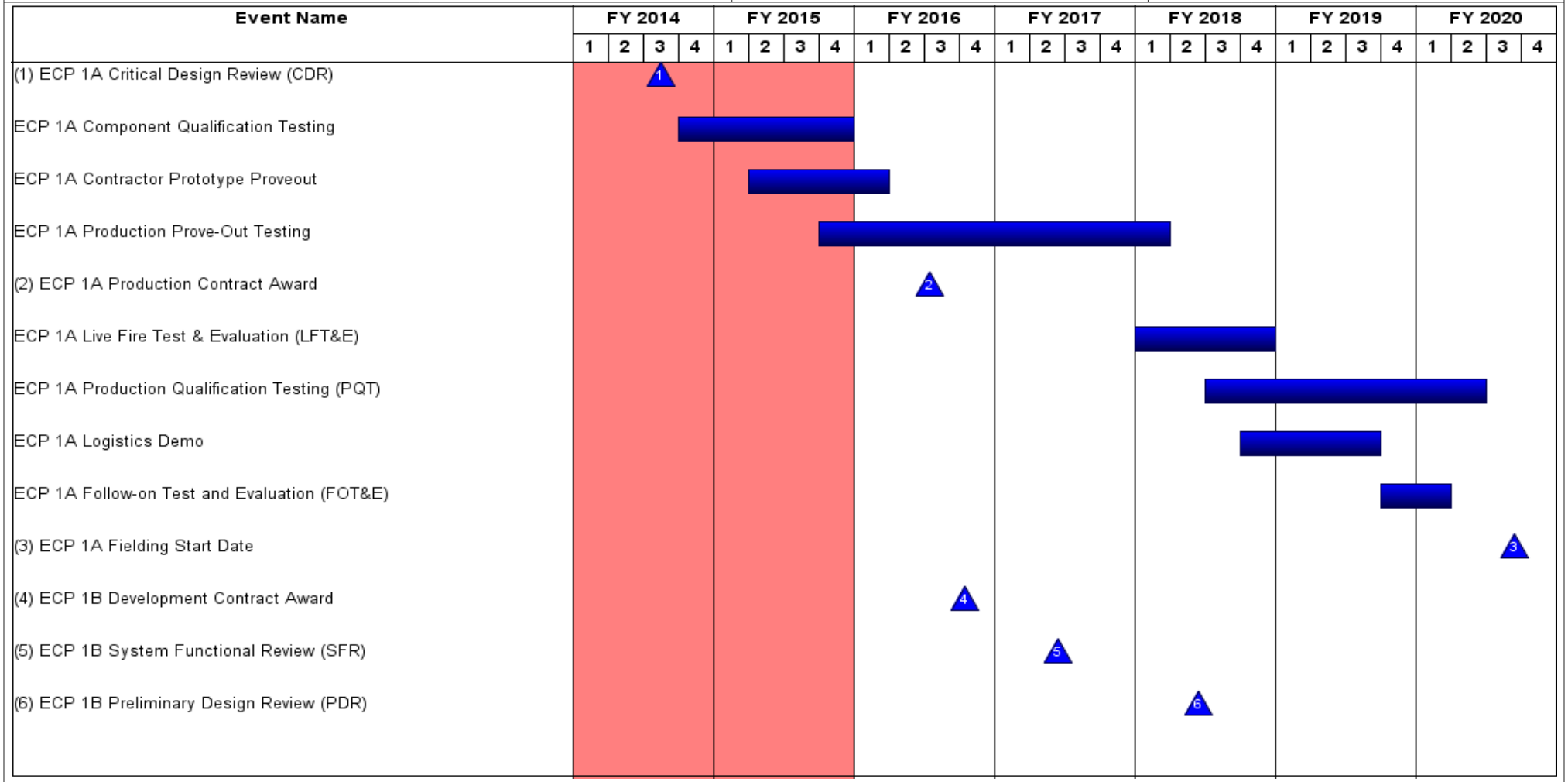

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*

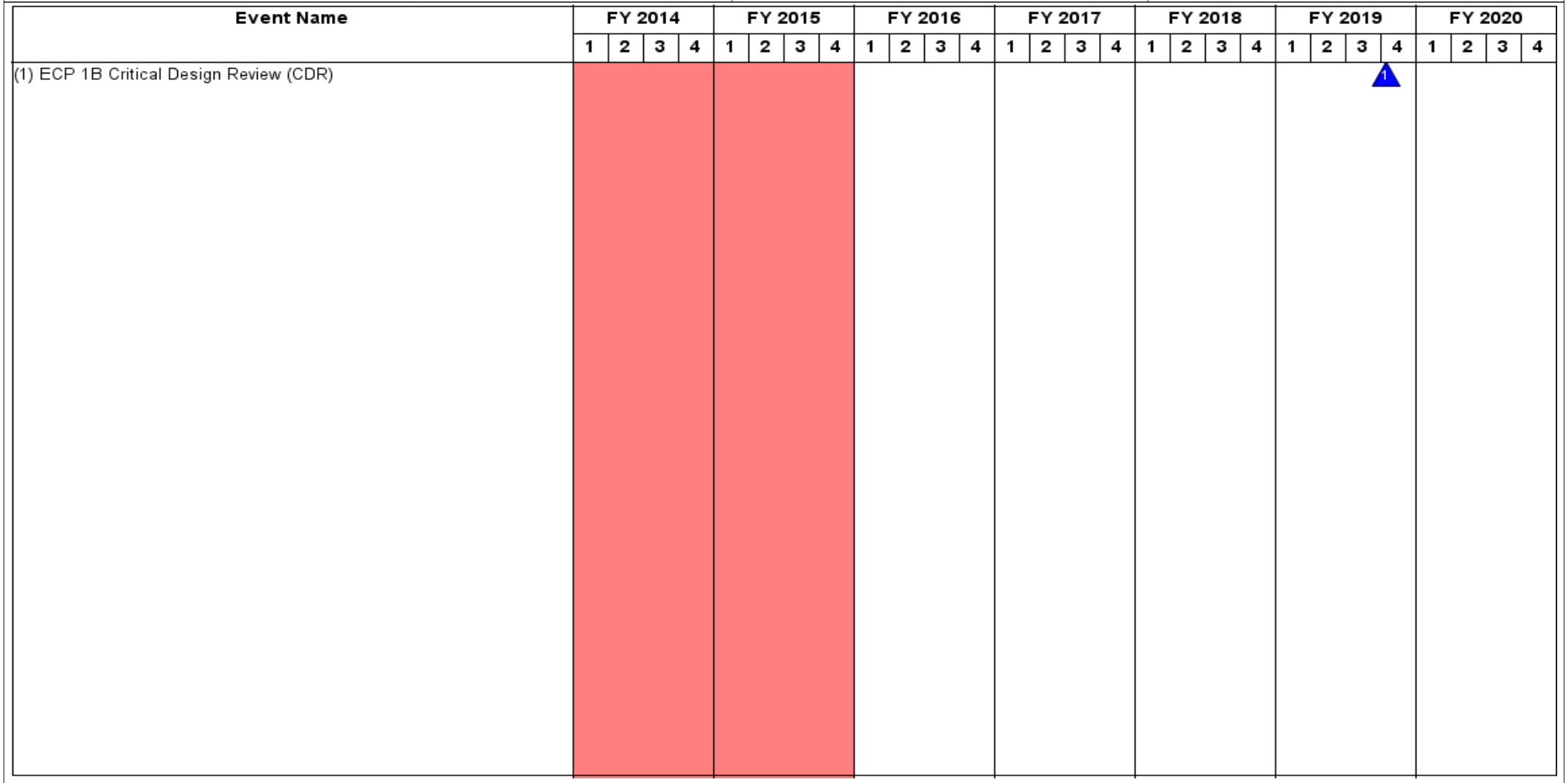

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ECP 1A Critical Design Review (CDR)	3	2014	3	2014
ECP 1A Component Qualification Testing	4	2014	4	2015
ECP 1A Contractor Prototype Proveout	2	2015	1	2016
ECP 1A Production Prove-Out Testing	4	2015	1	2018
ECP 1A Production Contract Award	3	2016	3	2016
ECP 1A Live Fire Test & Evaluation (LFT&E)	1	2018	4	2018
ECP 1A Production Qualification Testing (PQT)	3	2018	2	2020
ECP 1A Logistics Demo	4	2018	3	2019
ECP 1A Follow-on Test and Evaluation (FOT&E)	4	2019	1	2020
ECP 1A Fielding Start Date	3	2020	3	2020
ECP 1B Development Contract Award	4	2016	4	2016
ECP 1B System Functional Review (SFR)	2	2017	2	2017
ECP 1B Preliminary Design Review (PDR)	2	2018	2	2018
ECP 1B Critical Design Review (CDR)	4	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) 371 / *Bradley Improve Prog*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
371: *Bradley Improve Prog*	-	73.642	76.192	73.775	-	73.775	113.999	83.848	57.647	30.846	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not Applicable for this item.

A. Mission Description and Budget Item Justification

The M2/M3A3 Bradley Fighting Vehicle is at or exceeds Space, Weight, and Power-Cooling (SWAP-C) limitations. To restore lost platform capability and to host other Army Existing Programs of Record, the Bradley Fighting Vehicle program shall execute a series of Engineering Change Proposals (ECPs). ECP 1 improves vehicle's track and suspension while ECP 2 improves the power train and electrical system to enable the A3 fleet to host inbound technologies from Army Program of Records, including Handheld Manpack Small (HMS) Radios and Joint Battle Command – Platfom (JBC-P). The ECPs are not intended to exceed the operational capability outlined in current system requirement documents, but rather to ensure that the existing system performance is not further degraded and that Army mission equipment packages can be integrated on the Bradley platform. ECP 2 development effort will lead to a production start in FY 2017. The Bradley M2A4 Vehicle is the combination of the Base Vehicle, ECP 1 and ECP 2. A separate integration effort began in FY 2014 for an underbelly armor kit for improved survivability against blast threats. Additionally, Improved Forward Looking Infrared (IFLIR) integration effort will begin in FY 2016 that will replace the current FLIR for increased lethality through improved target acquisition capability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Bradley Engineering Change Proposal (ECP) Program	56.007	57.022	29.507
Description: The Bradley Fighting Vehicle System (BFVS) improvements implemented through the Engineering Change Proposal (ECP) Program will focus on restoring lost platform capability to support Army inbound technologies and to facilitate integration of technologies currently in development under other existing Programs of Record.			
FY 2014 Accomplishments: Completed the Critical Design Review, continued qualification testing to move forward with vehicle integration and contractor testing.			
FY 2015 Plans: Build ECP 2 prototypes and begin contractor component & qualification testing, Combat Simulation Integration Lab (CSIL), Vehicle Test Integration Lab (VTIL) test efforts and vehicle level system integration testing. Begin Production Qualification Test (PQT) planning, new equipment training and obtaining equipment for government test.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 371 / *Bradley Improve Prog*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Contractor developmental testing continues throughout FY 2016 in various locations. Government developmental testing begins in 2Q FY 2016 at Yuma Proving Ground (YPG) and Aberdeen Proving Ground (APG) test sites. Software Qualification Testing (SQT) takes place in 2Q FY 2016. Suitability evaluations will incorporate analysis of Manpower and Personnel Integration (MANPRINT) domains and Logistics Development as part of Integrated Product Support (IPS) elements will be driven by the Live Fire (LF) Analysis that occurs throughout FY 2016. Engineering will complete root cause and corrective action work as test incident reports arise.			
Title: Bradley Improvements ***Description:*** Continues Underbelly Armor Technologies and initiates Improved Forward Looking Infrared (IFLIR). The Bradley Family of Vehicles will integrate underbelly armor for improved survivability against blast threats and weight reduction efforts and integrates IFLIR for improved lethality. ***FY 2014 Accomplishments:*** Concept refinement and decision to support design development towards Underbelly optimized solution for EMD award based upon coordinated modeling and simulation from approved Training and Doctrine Command (TRADOC) requirements. ***FY 2015 Plans:*** Contract development efforts will continue on ECP 2B (lethality improvements). Initiate underbelly Trade Study that investigates kitted and System-Level solution trade space for a near-term interim underbelly effort and long-term system-level modification for increased force protection against underbelly threats. ***FY 2016 Plans:*** Contract development efforts will continue on ECP 2B (lethality improvements). Contract award is expected in late FY 2016. Continue synchronization with Product Managers (PDMs) MBTS, and Ground Sensors. Trade studies/analysis will be performed to evaluate IFLIR integration and other potential improvements, i.e. laser pointing, color camera, laser range finder, vehicle generated smoke, Vehicular Integration for Command, Control, Communication, Computers, Intelligence, Surveillance and, Reconnaissance/Electronic Warfare (C4ISR/EW) Interoperability (VICTORY) architecture compliance, Environmental Control System, etc. Requirements decomposition and traceability efforts will be started in FY 2016. Underbelly Armor kit development continues in FY 2016 with analysis and development of underbelly kits for increased blast threat survivability while analyzing possible weight savings strategies. Underbelly armor kit development major activities include official Project Initiation/kick-off, Requirements Analysis, Preliminary Design Work, and Modeling and simulation with major events to include system requirements & functional review.	2.046	1.363	9.294
Title: Program Management Office (PMO) Support	11.322	11.766	12.001

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 371 / *Bradley Improve Prog*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Program Management Office Support includes Systems Engineering, Government and Contractor salaries, travel and other support costs required to effectively manage the program. ***FY 2014 Accomplishments:*** Government System Engineering and Program Management Support Costs. These funds covered the costs of Government/ Contractor salaries, travel and the facilities required to effectively manage the program. ***FY 2015 Plans:*** Government System Engineering and Program Management Support Costs. These funds cover the costs of Government/ Contractor salaries, travel and the facilities required to effectively manage the program. ***FY 2016 Plans:*** Continue Government Systems Engineering and Program Management Office Support in FY 2016. This will include labor, travel, training, supplies and equipment to effectively manage the program.			
Title: Test & Evaluation ***Description:*** Test & Evaluation efforts support system sub-system test events and planning and development of test documentation. ***FY 2014 Accomplishments:*** Test & Evaluation efforts supported system sub-system test events and planning and development of test documentation. Began component qualification testing. ***FY 2015 Plans:*** Test & Evaluation efforts support system sub-system test events and planning and development of test documentation. Continue component qualification testing. Begin contractor vehicle testing and Government evaluation of contractor testing. Begin contractor component & qualification testing, Combat Simulation Integration Lab (CSIL), Vehicle Test Integration Lab (VTIL) test efforts and vehicle level system integration testing. Begin Production Qualification Test (PQT) planning, new equipment training and obtaining equipment for government test. ***FY 2016 Plans:*** Test and Evaluation to support vehicle level test events and planning and development of test documentation. Contractor developmental testing continues throughout FY 2016 in various contractor locations. Government developmental testing begins in 3Q FY 2016. Automotive/Reliability, Availability and Maintainability (RAM) testing will begin as well as automotive performance testing to ensure ECP 2 components do not degrade the current Bradley performance. These test and evaluation events will	4.267	6.041	22.973

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 371 / *Bradley Improve Prog*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
occur at various test sites (Aberdeen Proving Ground, Yuma Proving Ground, and White Sands Missile Range). Software Qualification Testing (SQT) takes place in 2Q FY 2016.			
Accomplishments/Planned Programs Subtotals	73.642	76.192	73.775

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• GZ2400: *Bradley Program (MOD)*	158.000	136.006	225.042	-	225.042	303.672	519.588	573.807	578.628	5,231.449	7,726.192

Remarks

D. Acquisition Strategy

Product Manager Bradley will execute an Engineering Change Proposal (ECP) reestablishing Space, Weight, Power and Cooling (SWAP-C) to facilitate integration of technologies being developed under existing Programs of Record (POR). The proposed ECP will restore lost capability, not to exceed operational envelopes outlined in current approved requirement documents. ECP 1 production contract awarded in FY 2014, scheduled to begin fielding in FY 2015. ECP 2 is scheduled to field in FY 2019 to address powerpack and electrical power upgrades, which will enable the vehicle to host Army directed inbound technologies with no further performance degradation to the vehicle. This ECP development will be executed on a sole source cost plus incentive fee contract to the current platform Original Equipment Manufacturer. Initiate studies and analysis in order to integrate Improved Forward Looking Infrared (IFLIR) sights. The IFLIR (ECP 2B) system will be developed by Project Manager, Terrestrial Sensors (PM TS) and be provided to Product Manager Bradley as a Horizontal Technology Insertion effort. Initiate development contract for Underbelly armor kit development in FY 2016.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) 371 / *Bradley Improve Prog*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Bradley Modernization Program	SS/CPIF	PMO : Warren	79.009	-		-		-		-		-	-	79.009	-
Non Recurring Engineering	SS/CPFF	L3COM : Muskegon, MI	5.630	8.000	Apr 2014	1.030	Apr 2015	0.515	Apr 2016	-		0.515	Continuing	Continuing	Continuing
Non Recurring Engineering	SS/CPIF	BAE : Sterling Heights, MI	63.342	48.007	Jun 2014	55.992	Apr 2015	28.992	Jan 2016	-		28.992	Continuing	Continuing	Continuing
Bradley Improvement Integration - ECP2B	SS/TBD	BAE : Sterling Heights, MI	0.000	-		1.363	Jun 2015	6.662	Jun 2016	-		6.662	Continuing	Continuing	Continuing
Bradley Improvement Integration - Underbelly Armor	SS/TBD	BAE : Sterling Heights, MI	0.000	2.046	Jun 2014	-		2.632	Aug 2016	-		2.632	Continuing	Continuing	Continuing
		Subtotal	147.981	58.053		58.385		38.801		-		38.801	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO/PEO Support	MIPR	PMO/PEO : Bradley ECP Program	10.549	3.952	Dec 2013	6.340	Dec 2014	6.466	Dec 2015	-		6.466	Continuing	Continuing	Continuing
Government Engineering Support	MIPR	Various : Bradley ECP Program	19.889	7.370	Dec 2013	5.426	Dec 2014	5.535	Dec 2015	-		5.535	Continuing	Continuing	Continuing
		Subtotal	30.438	11.322		11.766		12.001		-		12.001	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Testing	MIPR	Various : Test Sites	2.760	1.812	May 2014	2.691	May 2015	19.487	May 2016	-		19.487	Continuing	Continuing	Continuing
Contractor Testing	SS/CPIF	BAE : Various	0.000	2.455	May 2014	3.350	Apr 2015	3.486	Jan 2016	-		3.486	Continuing	Continuing	Continuing
		Subtotal	2.760	4.267		6.041		22.973		-		22.973	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) 371 / *Bradley Improve Prog*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	181.179	73.642		76.192		73.775		-		73.775	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 371 / *Bradley Improve Prog*

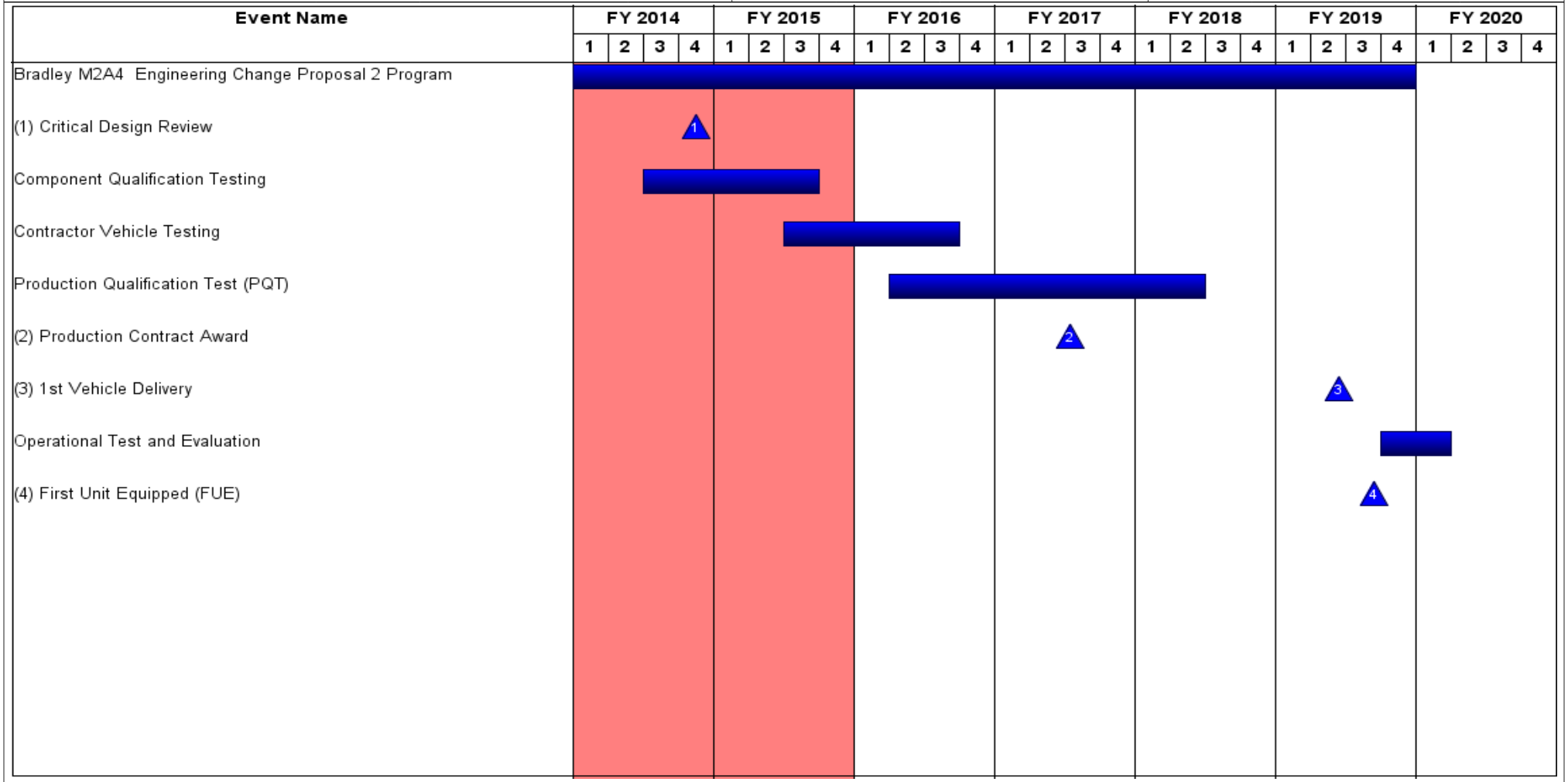

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 371 / *Bradley Improve Prog*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Bradley M2A4 Engineering Change Proposal 2 Program	1	2012	4	2019
Critical Design Review	4	2014	4	2014
Component Qualification Testing	3	2014	3	2015
Contractor Vehicle Testing	3	2015	3	2016
Production Qualification Test (PQT)	2	2016	2	2018
Production Contract Award	3	2017	3	2017
1st Vehicle Delivery	2	2019	2	2019
Operational Test and Evaluation	4	2019	1	2020
First Unit Equipped (FUE)	3	2019	3	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) EE2 / *Stryker Improvement*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EE2: *Stryker Improvement*	-	-	119.163	105.789	-	105.789	34.766	23.459	24.847	25.319	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Beginning in FY15, PE Number 0203735A/Project EE2 funds the Stryker Engineering Change Proposal (ECP) 1 program, which was previously funded by PE Number 0603653A/Project C03/C51.

A. Mission Description and Budget Item Justification

Funding will address Lethality, Survivability, Mobility, and Communication, Command, and Control (C3) issues with the Stryker family of vehicles. Primary focus is on the Stryker ECP 1 effort which will enable the Stryker Double-V Hull (DVH) fleet to buy back the Space, Weight, and Power-Cooling (SWaP-C) that has been lost as a result of vehicle changes required to counter the evolving threats that were present in the Theater of Operations. The ECP 1 effort will allow the DVH fleet to host the future network without further degrading vehicle performance. The upgrade will increase available electrical power while ensuring adequate mechanical power, weight margin, and cooling. Combined with a digital backbone, this will ensure that the DVH fleet can host the future network while retaining its protection and mobility. Funding in FY2015-2020 supports continued development engineering, prototype build and testing efforts for Stryker ECP 1.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Stryker ECP 1 Development (Engineering/Prototypes) ***Description:*** Funding is provided for the following effort ***FY 2015 Plans:*** Continuing development engineering for the Stryker ECP 1 upgrades and procuring prototypes for the engine, alternator, suspension and in-vehicle network on the DVH variants. ***FY 2016 Plans:*** Contractor effort to complete ECP1 design for the 7 Stryker Double-V Hull (DVH) variants, to include the Mortar Carrier Vehicle (MCVV), Anti-Tank Guided Missile Vehicle (ATVV), Fire Support Vehicle (FSVV), Engineering Support Vehicle (ESVV), Commanders Vehicle (CVV), Infantry Carrier Double-V (ICVV) and Medical Evaluation Vehicle (MEVV). Completion of ECP 1 prototype builds continuation of logistics products (e.g., Repair Parts and Special Tools List, Provisioning Source Data and Training Products) and development.	-	82.401	63.045
Title: Training Device Updates ***Description:*** Funding is provided for the following effort ***FY 2015 Plans:***	-	3.588	4.784

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** EE2 / *Stryker Improvement*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continuing the development and design of training device upgrades to reflect the ECP 1 upgrades to the vehicles. ***FY 2016 Plans:*** Continuing the development and design of training device upgrades to reflect the Stryker ECP 1 upgrades to the vehicles.			
Title: Stryker ECP 1 Testing ***Description:*** Funding is provided for the following effort ***FY 2016 Plans:*** Continue test execution and logistic demonstration activities for the Stryker ECP 1 upgrade technologies, including tests for safety and human factors, automotive, Communications, Command, and Control (C3), Tropic and Cold Regions and Live Fire testing. These tests include full-up system level live fire, reliability and maintainability, environmental performance, automotive performance, electronics and information assurance testing. These events will be conducted at various test sites throughout the US including Aberdeen Proving Ground (APG), Yuma Proving Ground (YPG), Cold Regions Test Center (CRTC), Tropic Regions Test Center (TRTC), Electronic Proving Ground (EPG) and White Sands Missile Range (WSMR).	-	-	26.729
Title: Contractor Support to Test ***Description:*** Funding is provided for the following effort ***FY 2016 Plans:*** Continue support of the Stryker ECP 1 platforms during test, which includes vehicle maintenance/repair, support for developmental test and Live Fire testing.	-	-	7.816
Title: Government Engineering and Project Management ***Description:*** Funding is provided for the following effort ***FY 2015 Plans:*** Continuing Government Systems Engineering and Program Management support which includes labor, travel, training, supplies and equipment. ***FY 2016 Plans:*** Continuing Government Systems Engineering and Program Management support which includes labor, travel, training, supplies and equipment.	-	4.174	3.415
Accomplishments/Planned Programs Subtotals	-	90.163	105.789

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** EE2 / *Stryker Improvement*

	FY 2014	FY 2015
Congressional Add: Stryker ECP 1 Development (Engineering/Prototypes) Congressional Add ***FY 2015 Plans:*** Non-Recurring Engineering (NRE) to integrate ECP into 4th DVH ECP Brigade, continues development engineering of the Stryker ECP 1 upgrades and procuring prototypes for the engine, alternator, suspension, and in-vehicle network on the DVH variants.	-	21.755
Congressional Add: Stryker ECP 1 Testing Congressional Add ***FY 2015 Plans:*** Supports the development test planning and execution for the ECP 1 upgrade technologies, including tests for safety and human factors, automotive, Communications, Command and Control (C3) and Tropic testing.	-	3.918
Congressional Add: Contractor Support to Test Congressional Add ***FY 2015 Plans:*** Contractor support of test planning and execution, to include test preparation, vehicle maintenance/repair and technical support during developmental tests.	-	3.327
Congressional Adds Subtotals	-	29.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Stryker Vehicle: *Stryker Vehicle (G85100)*	419.100	435.110	181.245	-	181.245	72.260	-	-	-	198.820	1,306.535
• Stryker Modification: *Stryker Modification (GM0100)*	20.522	39.683	74.085	-	74.085	42.150	76.399	506.376	535.815	1,836.773	3,131.803
• Stryker Upgrade: *Stryker Upgrade (G85200)*	-	-	305.743	-	305.743	418.163	434.585	112.388	77.780	-	1,348.659
• Stryker Modernization: *Stryker Modernization (643653A/C51)*	54.259	-	-	-	-	-	-	-	-	-	54.259

Remarks

AAE approval for a 3rd DVH SBCT Bridgade of 337 Exchange Vehicles was given on July 26, 2013 (funded in G85100). ASARC production decision planned for 4th quarter FY2016 will provide approval to begin 4th Brigade DVH ECP 1 production, which will be funded in Stryker Upgrade (G85200). Stryker MOD (GM0100) is for Stryker Fleet modifications to include ECP 1 retrofits to the Stryker fleet starting in FY19. Prior to FY15, PE 0603653A/Project C51 funded the Stryker Engineering Change Proposal (ECP) 1 program.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** EE2 / *Stryker Improvement*

D. Acquisition Strategy

The Stryker ECP 1 effort will buy back the vehicle space, weight, and power margin lost due to the addition of numerous kits in response to eleven years of war (20-combat rotations & 37+ million total miles), in order to allow integration of the future network (as directed by VCSA in August 2011) without further degrading the performance of the platform. In May 2012, Stryker ECP 1 program (Phase I) was approved, permitting preliminary design and integration efforts on both the Flat Bottom (FB) and Double-V Hull (DVH) variants. In March 2013, Phase II approved upgrading the mechanical power, electrical power generation, chassis upgrades and the in-vehicle network for the DVH vehicles. Based on additional testing conducted in the summer of 2013, the decision was made to focus ECP efforts on the DVH and defer efforts on flat bottom Strykers. ECP 1 Phase II contract, awarded November 25, 2013, continues development engineering, prototype build test and evaluation. The Production decision (Phase III) will determine the production requirements of the technologies selected in Phase II. Beginning in FY15, PE Number 0203735A Project EE2 funds the Stryker ECP 1 program, which was previously funded by PE Number 0603653A/Project C03 (FY13) and Project C51 (through FY14).

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) EE2 / *Stryker Improvement*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Office (PMO)	RO	TACOM, MI : Various	0.000	-		4.174	Oct 2014	3.415	Nov 2015	-		3.415	Continuing	Continuing	-
		Subtotal	0.000	-		4.174		3.415		-		3.415	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stryker ECP 1 Development	SS/CPIF	GDLS, MI : Various	0.000	-		104.156	Oct 2014	63.045	Oct 2015	-		63.045	Continuing	Continuing	-
Training Device Updates	MIPR	PEO STRI, FL : Various	0.000	-		3.588	Mar 2015	4.784	Mar 2016	-		4.784	Continuing	Continuing	-
		Subtotal	0.000	-		107.744		67.829		-		67.829	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stryker ECP 1 Testing	Various	Various Test Centers, Multiple : Various	0.000	-		3.918	Dec 2014	26.729	Dec 2015	-		26.729	Continuing	Continuing	-
Contractor Support to Test	SS/CPFF	GDLS, MI : Various	0.000	-		3.327	Oct 2014	7.816	Oct 2015	-		7.816	Continuing	Continuing	-
		Subtotal	0.000	-		7.245		34.545		-		34.545	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		119.163		105.789		-		105.789	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** EE2 / *Stryker Improvement*

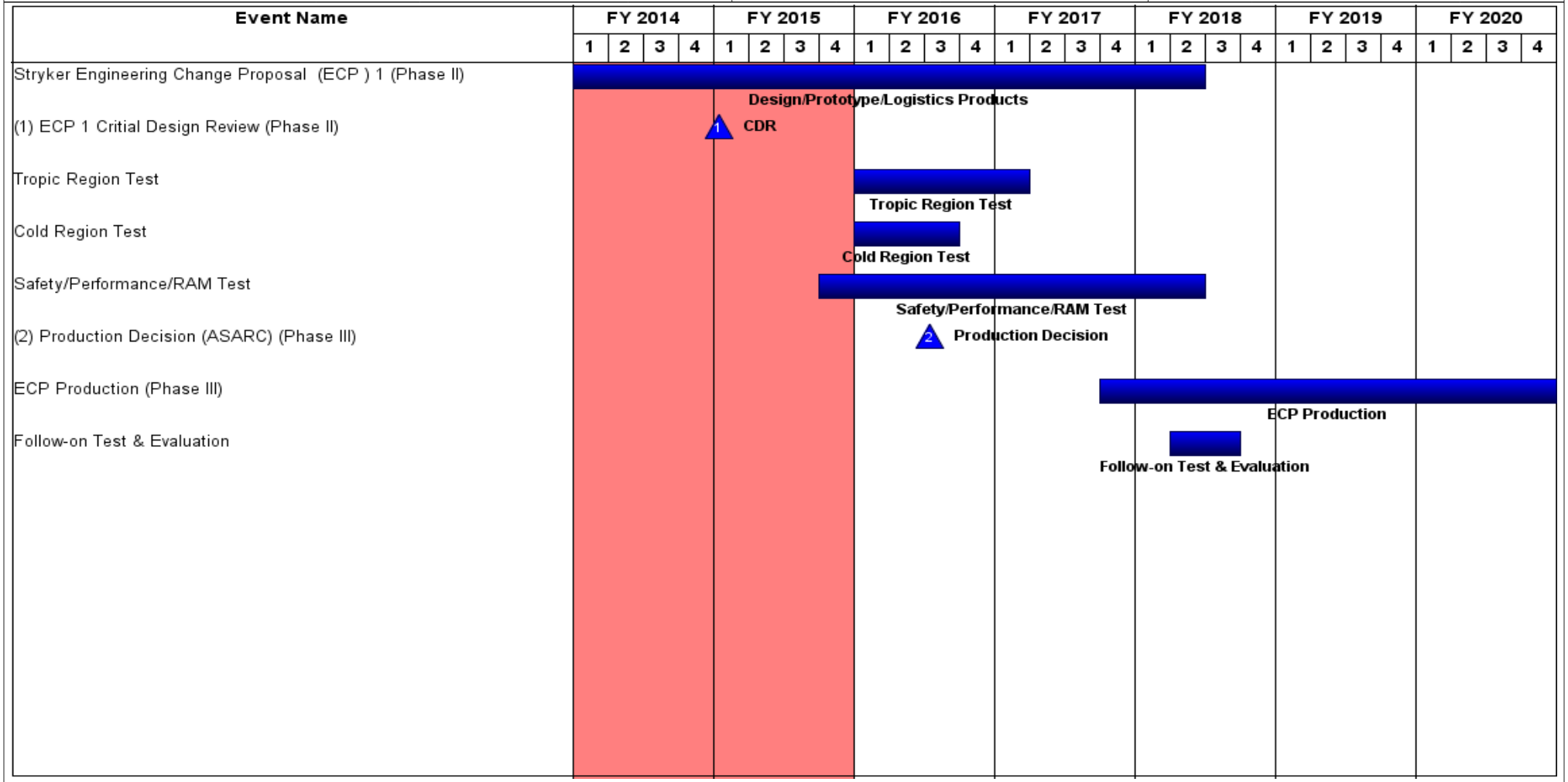

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** EE2 / *Stryker Improvement*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Stryker Engineering Change Proposal (ECP) 1 (Phase II)	1	2014	2	2018
ECP 1 Critial Design Review (Phase II)	1	2015	1	2015
Tropic Region Test	1	2016	1	2017
Cold Region Test	1	2016	3	2016
Safety/Performance/RAM Test	4	2015	2	2018
Production Decision (ASARC) (Phase III)	3	2016	3	2016
ECP Production (Phase III)	4	2017	4	2020
Follow-on Test & Evaluation	2	2018	3	2018