Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army											Date: March 2014	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603305A *I Army Missle Defense Systems Integration*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	22.340	23.289	12.797	-	12.797	12.203	11.590	11.802	12.350	Continuing	Continuing
TR5: *Missile Defense Battlelab*	-	22.340	23.289	12.797	-	12.797	12.203	11.590	11.802	12.350	Continuing	Continuing

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

Note

FY13 Other Adjustments 1: Funds were added to design, fabricate and test component to develop a test-bed for enhanced thermal management technologies supporting missiles/Tactical Operation Centers (TOCs)/shelters and other systems utilizing mobile thermal management in realistic operating environments.
FY14 Other Adjustments 1: Funds were added to continue fabrication and test oc omponents to develop a test-bed for enhanced thermal management technologies supporting missiles?TOCs/shelters and other systems utilizing mobile thermal management in realistic operating environments.
FY15 Adjustments to Budget Years: Efforts described above should be complete this FY.

A. Mission Description and Budget Item Justification

This Program Element funds missile defense systems integration efforts for both the US Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT) and the Program Executive Office for Missiles and Space (PEO-MS).

USASMDC/ARSTRAT: Headquarters, Department of the Army General Order 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), the Army integrator for global missile defense, and the Army Service Component Command (ASCC) of the U.S. Strategic Command (USSTRATCOM). Army Regulation (AR) 10-87 Army Commands, Army Service Component Commands, and Direct Reporting Units, dated 4 September 2007 and AR 5-22 The Army Force Modernization Proponent System dated 19 August 2009 designates USASMDC/ARSTRAT as the Army specified proponent for Global Missile Defense and Space/High Altitude capabilities. As the Army proponent for space, high altitude and GMD, USASMDC/ARSTRAT is responsible for developing warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organizations, Training, Material, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize the GMD capabilities. As the Army integrator for global missile defense, USASMDC/ARSTRAT is responsible for reviewing programs managed by the Army, other Services, Defense agencies and National agencies to ensure that they are correctly synchronized and will ultimately provide the capabilities required by USSTRATCOM to execute its global missile defense responsibilities.

Project TR5 funds United States Army Space and Missile Defense Command/ Army Strategic Command (USASMDC/ARSTRAT) efforts to develop the associated operational prototyping, experimentation, operational analysis, and modeling and simulation in support of current and future Forces.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army					Date: March 2014
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 Program Element (Number/Name) PE 0603305A / *Army Missle Defense Systems Integration*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	14.505	15.301	15.604	-	15.604
Current President's Budget	22.340	23.289	12.797	-	12.797
Total Adjustments	7.835	7.988	-2.807	-	-2.807
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	0.150	-			
• Adjustments to Budget Years	-	-	-2.807	-	-2.807
• Other Adjustments 1	7.685	7.988	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603305A / *Army Missle Defense Systems Integration*	Project (Number/Name) TR5 / *Missile Defense Battlelab*	

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
TR5: *Missile Defense Battlelab*	-	22.340	23.289	12.797	-	12.797	12.203	11.590	11.802	12.350	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

A. Mission Description and Budget Item Justification

This Program Element funds missile defense systems integration efforts for both the US Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT) and the Program Executive Office for Missiles and Space (PEO-MS).

USASMDC/ARSTRAT: Headquarters, Department of the Army General Order 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), the Army integrator for global missile defense, and the Army Service Component Command (ASCC) of the U.S. Strategic Command (USSTRATCOM). Army Regulation (AR) 10-87 Army Commands, Army Service Component Commands, and Direct Reporting Units, dated 4 September 2007 and AR 5-22 The Army Force Modernization Proponent System dated 19 August 2009 designates USASMDC/ARSTRAT as the Army specified proponent for Global Missile Defense and Space/High Altitude capabilities. As the Army proponent for space, high altitude and GMD, USASMDC/ARSTRAT is responsible for developing warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organizations, Training, Material, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize the GMD capabilities. As the Army integrator for global missile defense, USASMDC/ARSTRAT is responsible for reviewing programs managed by the Army, other Services, Defense agencies and National agencies to ensure that they are correctly synchronized and will ultimately provide the capabilities required by USSTRATCOM to execute its global missile defense responsibilities.

Project TR5 funds United States Army Space and Missile Defense Command/ Army Strategic Command (USASMDC/ARSTRAT) efforts to develop the associated operational prototyping, experimentation, operational analysis, and modeling and simulation in support of current and future Forces.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Prototypes	16.496	17.094	7.628
Articles:	-	-	-
Description: Funding is provided for the following efforts			
FY 2013 Accomplishments: Took the lessons learned from the FY12 efforts to continue to evaluate new technologies in realistic operating environments. This was accomplished by participating in and providing support to Unified Quest wargames and experiments to analyze and integrate technology to identify the feasibility integration into Army space, missile defense, and high altitude systems. The Space and Missile Defense Command participated and supported biennial rewrites of Army Capstone, Operational and Functional			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603305A / *Army Missle Defense Systems Integration*	**Project (Number/Name)** TR5 / *Missile Defense Battlelab*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Concepts. Continued to provide operational manager support to STRATCOM, NORTHCOM and SOCOM Joint Technical Capability Demonstrations to ensure Army space, missile defense, and high altitude equities were represented in advanced technology developments by demonstrating military utility when applied to military equipment and techniques. Examples include: supporting multi-service experiments and capability development of the national-directed Phased Adaptive Approach (PAA) for Ballistic Missile Defense (BMD) as it is applied to each of the regional COCOMs; and experimenting with operationally responsive space and high altitude capabilities to ensure the broader Army enterprises can leverage the advantages of these platforms for communications, Intelligence Surveillance and Reconnaissance (ISR), position navigation, missile warning and command and control. Continued to develop mitigation strategies for Army forces to operate effectively in contested space, missile defense and cyber environments. Developed effective Integrated Missile Defense (IMD) concepts for Army support to the Phased Adaptive Approach (PAA) being implemented within each regional COCOM. Based on a successful evaluation of Air/Event Information Sharing Services into NORTHCOM J6 decision support systems supported the transition of the application to a Joint Capabilities Technical Demonstration (JCTD). Supported TRADOC proponents with their responsibilities relative to doctrine, organization, training, material, leader development and education, personnel, and facilities plus related matters to continue leveraging space, missile defense, and high altitude proponent input to Joint Capabilities Integration and Development System, Science and Technology, Concept Development, Capability Development for Rapid Transition, and Capability Gap Analysis Army. Designed, fabricated and tested component to develop a test-bed for enhanced thermal management technologies supporting missiles/Tactical Operation Centers (TOCs)/shelters and other systems utilizing mobile thermal management in realistic operating environments Based on successful component selection and evaluation, significant improvements in projected efficiencies have been demonstrated with these enhanced thermal management technologies. ***FY 2014 Plans:*** Take the lessons learned from the FY13 efforts to continue to evaluate new technologies in realistic operating environments. This is accomplished by participating in and providing support to Unified Quest wargames and experiments to analyze and integrate technology to identify the feasibility integration into Army space, missile defense, and high altitude systems. The Space and Missile Defense Command will participate and support biennial rewrites of Army Capstone, Operational and Functional Concepts. Continue to provide operational manager support to STRATCOM, NORTHCOM and SOCOM Joint Technical Capability Demonstrations to ensure Army space, missile defense, and high altitude equities are represented in advanced technology developments by demonstrating military utility when applied to military equipment and techniques. Examples include: supporting multi service experiments and capability development of the national-directed Phased Adaptive Approach (PAA) for Ballistic Missile Defense (BMD) as it is applied to each of the regional COCOMs; and experimenting with operationally responsive space, space control, and high altitude capabilities to ensure the broader Army enterprises can leverage the advantages of these platforms for communications, Intelligence Surveillance and Reconnaissance (ISR), position navigation, missile warning and command and control. Continue to develop mitigation strategies for Army forces to operate effectively in contested space, missile defense and cyber environments. Developing effective Integrated Missile Defense concepts for Army support to the Phased			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603305A / *Army Missle Defense Systems Integration*	**Project (Number/Name)** TR5 / *Missile Defense Battlelab*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Adaptive Approach (PAA) being implemented within each regional COCOM. Based on the successful evaluation of Air/Event Information Sharing Services into NORTHCOM J6 decision support systems, we will support the transition of the application to a Joint Capabilities Technical Demonstration (JCTD). Will support TRADOC proponents with their responsibilities relative to doctrine, organization, training, material, leader development and education, personnel, and facilities plus related matters to continue leveraging space, missile defense, and high altitude proponent input to Joint Capabilities Integration and Development System, Science and Technology, Concept Development, Capability Development for Rapid Transition, and Capability Gap Analysis Army We will sustain our core prototyping platforms, as outlined above. BC3 will be upgraded to more realistically address information flows related to Close Air Support. Continue fabrication and test of components to develop a test-bed for enhanced thermal management technologies supporting missiles/TOCS/shelters and other systems utilizing mobile thermal management in realistic operating environments. Selected components will be integrated with battlefield applications to support demonstrations of projected efficiencies with identified enhanced thermal management technologies.			
FY 2015 Plans: Take the lessons learned from the FY14 efforts to continue to evaluate new technologies in realistic operating environments. This is accomplished by participating in and providing support to Unified Quest wargames and experiments to analyze and integrate technology to identify the feasibility integration into Army space, missile defense, and high altitude systems. The Space and Missile Defense Command will participate and support biennial rewrites of Army Capstone, Operational and Functional Concepts. Continue to provide operational manager support to STRATCOM, NORTHCOM and SOCOM Joint Technical Capability Demonstrations to ensure Army space, missile defense, and high altitude equities are represented in advanced technology developments by demonstrating military utility when applied to military equipment and techniques. Examples include: supporting multi service experiments and capability development of the national-directed Phased Adaptive Approach (PAA) for Ballistic Missile Defense (BMD) as it is applied to each of the regional COCOMs; and experimenting with operationally responsive space, space control, and high altitude capabilities to ensure the broader Army enterprises can leverage the advantages of these platforms for communications, Intelligence Surveillance and Reconnaissance (ISR), position navigation, missile warning and command and control. Continue to develop mitigation strategies for Army forces to operate effectively in contested space, missile defense and cyber environments. Developing effective Integrated Missile Defense concepts for Army support to the Phased Adaptive Approach (PAA) being implemented within each regional COCOM. Will support TRADOC proponents with their responsibilities relative to doctrine, organization, training, material, leader development and education, personnel, and facilities plus related matters to continue leveraging space, missile defense, and high altitude proponent input to Joint Capabilities Integration and Development System, Science and Technology, Concept Development, Capability Development for Rapid Transition, and Capability Gap Analysis Army We will sustain our core prototyping platforms, as outlined above. Battlespace Command and Control Center (BC3) will be upgraded to more realistically address information flows related to Close Air Support.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603305A / *Army Missle Defense Systems Integration*	**Project (Number/Name)** TR5 / *Missile Defense Battlelab*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Support MDA to Army BMDS element transition and transfer efforts including BMDS sensor deployments. Develop/defend Army requirements development / documentation to MDA spiral/block development.			
Title: Analysis, and Models and Simulations (M&S)	5.844	6.195	5.169
Articles:	-	-	-

Description: Funding is provided for the following efforts

FY 2013 Accomplishments:
Took the lessons learned from the FY12 efforts to continue to evaluate new technologies in realistic operating environments. This was accomplished by supporting ongoing efforts that provided the most realistic operating environment available to perform technology gap and cost reduction analysis of space, missile defense, and high altitude systems. Realistic operating environments were available to determine the ability of the specific technologies to fill capability gaps in terms of utility to the warfighter. Support of technology demonstrations, Analysis and Demonstration Tools/Test Beds for evolving space superiority and operationally responsive space concepts addressed emerging needs and continued to be expanded to ensure that advanced technology development adequately enhanced address space, missile defense and high altitude systems. The Future Warfare Center (FWC) continued to provide program management for maintenance, sustainment, and development for Extended Air Defense Simulation (EADSIM), to provide the required fidelity for a synthetic operating environment and the capability to perform system and cost benefit analysis.

FY 2014 Plans:
Take the lessons learned from the FY13 efforts to continue to evaluate new technologies in realistic operating environments. This will be accomplished by supporting ongoing efforts that provide the most realistic operating environment available to perform technology gap and cost reduction analysis of space, missile defense, and high altitude systems. Realistic operating environments will be available to determine the ability of the specific technologies to fill capability gaps in terms of utility to the warfighter. Support of technology demonstrations, Analysis and Demonstration Tools/Test Beds for evolving space superiority and operationally responsive space concepts will address emerging needs and continue to be expanded to ensure that advanced technology development can adequately enhance space, missile defense and high altitude systems. The FWC will continue to provide program management for maintenance, sustainment, and development for Extended Air Defense Simulation (EADSIM), to provide the required fidelity for a synthetic operating environment to provide the capability to perform system and cost benefit analysis, operational planning, and exercise/experimentation support.

FY 2015 Plans:
: Take the lessons learned from the FY14 efforts to continue to evaluate new technologies in realistic operating environments. This will be accomplished by supporting ongoing efforts that provide the most realistic operating environment available to perform technology gap and cost reduction analysis of space, missile defense, and high altitude systems. Realistic operating

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603305A / *Army Missle Defense Systems Integration*	**Project (Number/Name)** TR5 / *Missile Defense Battlelab*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
environments will be available to determine the ability of the specific technologies to fill capability gaps in terms of utility to the warfighter. Support of technology demonstrations, Analysis and Demonstration Tools/Test Beds for evolving space superiority and operationally responsive space concepts will address emerging needs and continue to be expanded to ensure that advanced technology development can adequately enhance space, missile defense and high altitude systems. The FWC will continue to provide program management for maintenance, sustainment, and development for EADSIM delivering the required high fidelity synthetic operating environment to provide the capability to perform system and cost benefit analysis, operational planning, and exercise/ experimentation support			
Accomplishments/Planned Programs Subtotals	22.340	23.289	12.797

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable for this item.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603305A / *Army Missle Defense Systems Integration*	Project (Number/Name) TR5 / *Missile Defense Battlelab*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Experiments & technology enhancements of prototypes/tools and analysis.	Various	Various Colorado Springs CO and Huntsville AL : Alabama, Colorado Springs	52.902	14.675		13.314		3.772		-		3.772	Continuing	Continuing	Continuing
Govt Support and Support Contracts	Various	Various Colorado Springs CO and Huntsville AL : Alabama, Colorado Springs	85.112	7.665		9.975		9.025		-		9.025	Continuing	Continuing	Continuing
Small Business Innovation Research/Small Business Technology Transfer Program	Various	Various : Various	0.155	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	138.169	22.340		23.289		12.797		-		12.797	-	-	-

	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	138.169	22.340		23.289		12.797		-		12.797	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603305A / *Army Missle Defense Systems Integration*	**Project (Number/Name)** TR5 / *Missile Defense Battlelab*

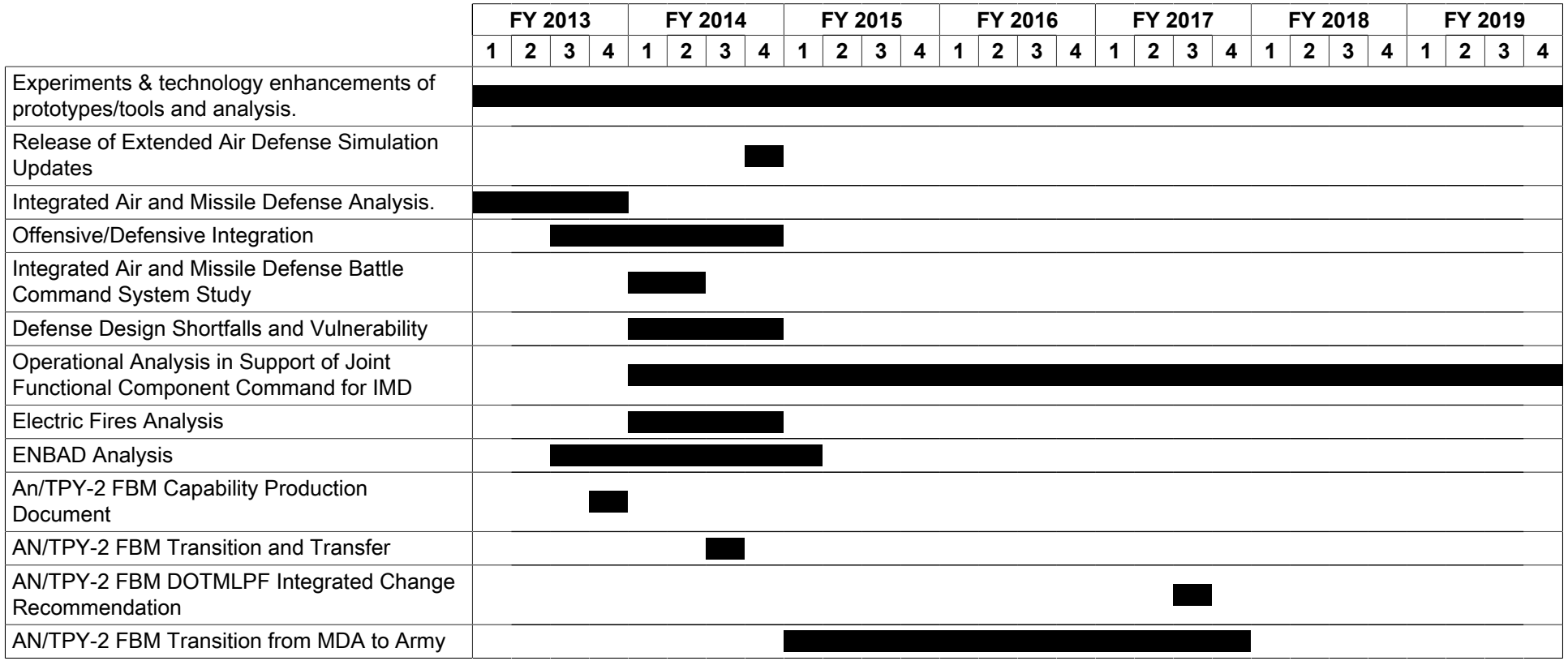

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603305A / *Army Missle Defense Systems Integration*	**Project (Number/Name)** TR5 / *Missile Defense Battlelab*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Experiments & technology enhancements of prototypes/tools and analysis.	1	2012	4	2019
Release of Extended Air Defense Simulation Updates	4	2014	4	2014
Integrated Air and Missile Defense Analysis.	1	2013	4	2013
Offensive/Defensive Integration	3	2013	4	2014
Integrated Air and Missile Defense Battle Command System Study	1	2014	2	2014
Defense Design Shortfalls and Vulnerability	1	2014	4	2014
Operational Analysis in Support of Joint Functional Component Command for IMD	1	2014	4	2019
Electric Fires Analysis	1	2014	4	2014
ENBAD Analysis	3	2013	1	2015
An/TPY-2 FBM Capability Production Document	4	2013	4	2013
AN/TPY-2 FBM Transition and Transfer	3	2014	3	2014
AN/TPY-2 FBM DOTMLPF Integrated Change Recommendation	3	2017	3	2017
AN/TPY-2 FBM Transition from MDA to Army	1	2015	4	2017