Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army											Date: March 2014	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0604759A / *Major T&E Investment*							
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	-	45.057	46.647	60.317	-	60.317	39.531	61.520	68.614	68.871	-	-
983: *Reagan Test Site (RTS) T&E Investments*	-	7.872	7.758	5.915	-	5.915	5.716	7.273	7.337	7.418	-	-
984: *Major Developmental Testing Instrumentation*	-	30.969	33.235	51.877	-	51.877	28.809	43.013	49.016	51.587	-	-
986: *Major Operational Test Instrumentation*	-	6.216	5.654	2.525	-	2.525	5.006	11.234	12.261	9.866	-	-

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

Note

FY13 adjustments attributed to Congressional General Reductions (-74 thousand); SBIR/STTR transfers (-1.278 million); Sequestration reductions (-3.985 million) and Congressional Add (1.3 million).

A. Mission Description and Budget Item Justification

This program funds the development and acquisition of major developmental test instrumentation for the U.S. Army Test and Evaluation Command's (ATEC) test activities: White Sands Test Center (WSTC), NM; Yuma Test Center, (YTC), AZ; Aberdeen Test Center (ATC), MD; Electronic Proving Ground (EPG), AZ; Redstone Test Center (RTC), AL; and for the Reagan Test Site (RTS) at the U.S. Army Kwajalein Atoll (USAKA), which is managed by the Space and Missile Defense Command. The program also funds development and acquisition of Operational Test Command's (OTC) major field instrumentation. Requirements for instrumentation are identified through a long range survey of project managers, Research Development and Engineering Centers (RDECs), and Battle Laboratories developing future weapon systems and the test programs that support these systems. Army testing facilities are also surveyed to determine major testing capability shortfalls.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army					Date: March 2014
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0604759A / *Major T&E Investment*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	37.394	46.672	52.631	-	52.631
Current President's Budget	45.057	46.647	60.317	-	60.317
Total Adjustments	7.663	-0.025	7.686	-	7.686
• Congressional General Reductions	-0.074	-0.025			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	13.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.278	-			
• Adjustments to Budget Years	-	-	7.686	-	7.686
• Other Adjustments	-3.985	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0604759A / *Major T&E Investment*	Project (Number/Name) 983 / *Reagan Test Site (RTS) T&E Investments*	

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
983: *Reagan Test Site (RTS) T&E Investments*	-	7.872	7.758	5.915	-	5.915	5.716	7.273	7.337	7.418	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

A. Mission Description and Budget Item Justification: This activity funds improvement and modernization (I&M) for the Ronald Reagan Ballistic Missile Defense Test Site (RTS). Funding upgrades and combats parts obsolescence of the radars, telemetry, optics, range safety, communications, command/control and other equipment essential to meet requirements of the Services and DoD agencies and are crucial for investment protection of the sensor suite. These upgrades are critical both to maintain a state of the art instrumentation suite and to the successful collection of data supporting test and evaluation assessments and operational decisions for the Army; Navy; Air Force; U.S. Strategic Command (STRATCOM); Missile Defense Agency (MDA); Defense Advanced Research Projects Agency (DARPA); National Aeronautics and Space Administration (NASA); and other customers. Reagan Test Site (RTS) located in the Republic of the Marshall Islands, is a remote, secure activity of the Major Range and Test Facility Base (MRTFB). Without the required I&M funding RTS will not be able to continue to meet customer objectives and sustain the required instrumentation suite.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Radar Open Systems Architecture Refresh	-	0.050	0.100
Articles:	-	-	-
Description: Funding is provided for the following effort. ***FY 2014 Plans:*** Ensures the continued operation of KREMS radar sites by refreshing the design of the subsystems and replaces stale components with modern replacements. ***FY 2015 Plans:*** Will continue operation of KREMS radar sites by refreshing the design of the subsystems and replaces stale components with modern replacements.			
Title: RTS Optics Modernization Program (ROMP)	1.250	0.200	-
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 983 / *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Funding is provided for the following effort ***FY 2013 Accomplishments:*** Continued to modernize RTS optics sensor suite, fixing deficiencies and enabling remote operations of the equipment ***FY 2014 Plans:*** Completes the deployment of the ROMP program			
Title: Radar Reliability Improvement Program (RRI). ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2013 Accomplishments:*** Continued to address technology refresh, obsolescence and sustainment issues for critical radar system and L-Band Modulator operation. ***FY 2015 Plans:*** Will continue to address critical RADAR issues related to component obsolescence and sustainment that require significant re-design to incorporate commercially available options.	0.550 -	- -	0.337 -
Title: Radar Computer and Software Refresh ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2013 Accomplishments:*** Continued to upgrade the system to a more common and widely available hardware platform with multiple vendor support and software. ***FY 2014 Plans:*** Completes the deployment and testing of the MRCR program.	0.650 -	0.100 -	- -
Title: Telemetry (TM) Modernization Study. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2013 Accomplishments:***	0.500 -	0.510 -	2.050 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 983 / *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continued to replace outdated TM equipment with modern digital systems and enable remote operation. ***FY 2014 Plans:*** Continue extended software radio approach. ***FY 2015 Plans:*** Will continue extended software radio approach.			
Title: Multiple Simultaneous Engagement (MSE) Flight Safety.	1.050	0.610	0.600
Articles:	-	-	-
Description: Funding is provided for the following effort ***FY 2013 Accomplishments:*** Continued to modernize and upgrade flight safety systems to accomodate customer requirements. ***FY 2014 Plans:*** Will design and implement Range Safety Systems (RSS) upgrade of safety control system replacement. ***FY 2015 Plans:*** Will design and implement Range Safety Systems (RSS) upgrade of safety control system replacement.			
Title: Legacy Servo Upgrade Program.	0.494	1.355	0.100
Articles:	-	-	-
Description: Funding is provided for the following effort ***FY 2013 Accomplishments:*** Continued to replace and upgrade obsolete antenna serves and interlock systems at the RTS radars. ***FY 2014 Plans:*** Continues to replace and upgrade obsolete antenna serves and interlock systems at the RTS radars. ***FY 2015 Plans:*** Will continue to replace and upgrade obsolete antenna serves and interlock systems at the RTS radars.			
Title: Mission Data Network (MDN) Modernization.	1.900	0.906	0.350
Articles:	-	-	-
Description: MDN Modernization.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 983 / *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Continued replacing outdated network equipment and will improve on-atoll bandwidth to support increasing mission critical customer requirements. ***FY 2014 Plans:*** Continues new network architecture changes to improve on-toll bandwidth to support increasing custom requirements. ***FY 2015 Plans:*** Will continue new network architecture changes to improve on-toll bandwidth to support increasing custom requirements.			
Title: RTS Automation and Decision Support. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2013 Accomplishments:*** Continued addition of automation measures and more sophisticated algorithms to improve operator efficiency. ***FY 2014 Plans:*** Continues addition of automation measures and more sophisticated algorithms to improve operator efficiency. ***FY 2015 Plans:*** Will continue addition of automation measures and more sophisticated algorithms to improve operator efficiency.	1.278 -	1.475 -	1.000 -
Title: TRADEX L-Band Modulator ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2013 Accomplishments:*** Continued replacement tube-based modulator and legacy high-voltage power supply with a commercial solid-state unit. ***FY 2014 Plans:*** Continues replacement tube-based modulator and legacy high-voltage power supply with a commercial solid-state unit. ***FY 2015 Plans:*** Will continue replacement tube-based modulator and legacy high-voltage power supply with a commercial solid-state unit.	0.200 -	2.202 -	0.703 -
Title: Net Centric Operations Upgrade ***Articles:***	- -	0.100 -	0.100 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 983 / *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Funding may be provided for the following effort ***FY 2014 Plans:*** Develops a Program Management Plan for the upgrade of Net Centric Operations. ***FY 2015 Plans:*** Will continue development of a Program Management Plan for the upgrade of Net Centric Operations			
Title: Transmitter Reliability Improvements	-	0.050	0.075
Articles:	-	-	-
Description: Funding may be provided for the following effort. ***FY 2014 Plans:*** Develops a Program Management Plan for the upgrade of Transmitter Reliability Improvements. ***FY 2015 Plans:*** Will continue to develop a Program Management Plan for the upgrade of Transmitter Reliability Improvements.			
Title: Optics Focal Plane Technology Replacement Study	-	0.200	0.200
Articles:	-	-	-
Description: Funding may be provided for the following effort ***FY 2014 Plans:*** Study into the use of a digital-pixel Focal Plane Array (DFPA) based cameras providing the potential to extend the wavelength coverage of RTS optics and provide an order of magnitude increase in integrated target signal when compared to existing COTS cameras. ***FY 2015 Plans:*** Will continue the study and prototype effort into the use of DFPA based cameras.			
Title: Legacy Radar Replacement Study	-	-	0.100
Description: Funding may be provided for the following effort ***FY 2015 Plans:*** Design and prototype a multi-static system and an approach that would be used to replace the legacy radars at the Range.			
Title: Self healing software and algorithms	-	-	0.100

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 983 / *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Funding may be provided for the following efforts ***FY 2015 Plans:*** Provide automatic software algorithms and hardware healing approach to the range sensor subsystems.			
Title: Range in a box - simulation over live study ***Description:*** Funding may be provided for the following effort ***FY 2015 Plans:*** Will conduct studies into the improvement of the current deployed simulation system capability and providing the necessary interface layer allowing the testing of asset software, hardware models, and simulation.	-	-	0.100
Accomplishments/Planned Programs Subtotals	7.872	7.758	5.915

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0604759A / *Major T&E Investment*	Project (Number/Name) 984 / *Major Developmental Testing Instrumentation*	

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
984: *Major Developmental Testing Instrumentation*	-	30.969	33.235	51.877	-	51.877	28.809	43.013	49.016	51.587	-	-
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 project develops and acquires major test instrumentation to perform developmental testing of weapon systems at U. S. Army Test and Evaluation Command's (ATEC) activities which include: Yuma Test Center (YTC), AZ; Aberdeen Test Center (ATC), MD; Electronic Proving Ground (EPG), AZ; White Sands Test Center (WSTC), NM; Redstone Test Center (RTC), AL.

Projects are designated as a major test program based on their visibility, assessed relative technical risk (medium-high), schedule risk, cost (greater than $1.5 Million per year or $7.5 Million for the total project) and applicability to other mission areas or services. These projects are technically demanding, state-of-the-art, unique instrumentation assets or suites to meet the technology shortfalls, and generally result from development programs managed by a professional project management team. Systems Test and Integration Laboratory (STIL) is the development of a systems integration and test lab for use in developmental testing and integration engineering, including a virtual test environment to support integration testing of aviation electronic systems as a part of modernization of army aircraft. Range Radar Replacement Program (RRRP) will replace obsolete tracking radars at Redstone Test Center (RTC), Aberdeen Test Center (ATC), White Sands Missile Range (WSMR) and Yuma Proving Ground (YPG) with modern instrumentation radars. Common Range Integrated Instrumentation Systesm (CRIIS) Objective Program provides precision location instrumentation which will significantly increase the T&E ranges' capability to meet the test instrumentation needs of the tri-service range users. Electromagnetic Environmental Effects (E3) Electromagnetic Radiation Effects (EMRE) Systems Modernization will upgrade equipment at the WSMR EMRE site where E3 testing is performed to evaluate survivability and vulnerability of military systems. Project will upgrade and replace signal transmitters, refurbish an anechoic test chamber, replace data acquisition equipment and install a new turntable to support test items. Nuclear Effects Test Capability Modernization upgrades nuclear facilities at White Sands Missile Range (WSMR). These upgrades include the Relativistic Electron Beam Accelerator (REBA), Fast Burn Reactor, Gamma Range Facility, Linear Electron Accelerator (LINAC), Electromagnetic Pulse and the Solar Furnace. Warrior Injury Assessment Manikin (WIAMan) Anthropomorphic Test Device (ATD) plans to develop and produce Warrior-representative ATDs that incorporate associated biomedically-validated injury assessment tools to better characterize dynamic events and injury risks measured in Live Fire Test & Evaluation (LFT&E) and vehicle development efforts.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Range Radar Replacement Program.	25.029	22.086	30.979
Articles:	-	-	-
Description: EMD phase contract activities for the Range Radar Replacement Program.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 984 / *Major Developmental Testing Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continued Engineering Manufacturing Development (EMD) for the Range Radar Replacement Program for the Fly-out and Close-in Radars systems in preparation for replacement of equipment at Aberdeen Test Center (ATC), Redstone Test Center (RTC), White Sands Test Center (WSTC) and Yuma Test Center (YTC). ***FY 2014 Plans:*** Continues Engineering Manufacturing Development (EMD) for the Range Radar Replacement Program for the Fly-out and Close-in Radars systems in preparation for replacement of equipment at Aberdeen Test Center (ATC), Redstone Test Center (RTC), White Sands Test Center (WSTC) and Yuma Test Center (YTC). ***FY 2015 Plans:*** Will continue Engineering Manufacturing Development (EMD) for the Range Radar Replacement Program for the Fly-out and Close-in Radars systems in preparation for replacement of equipment at Aberdeen Test Center (ATC), Redstone Test Center (RTC), White Sands Test Center (WSTC) and Yuma Test Center (YTC).			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Systems Test and Integration Laboratory (STIL). ***Articles:*** ***Description:*** Continue EMD phase contract activities for the Systems Test and Integration Laboratory (STIL). ***FY 2013 Accomplishments:*** Continued EMD for the Systems Test and Integration Laboratory (STIL) for use in developmental testing and integration engineering, including a virtual test environment to support integration testing of aviation electronic systems as a part of modernization of Army aircraft. ***FY 2014 Plans:*** Continues EMD for the Systems Test and Integration Laboratory (STIL) for use in developmental testing and integration engineering, including a virtual test environment to support integration testing of aviation electronic systems as a part of modernization of Army aircraft. ***FY 2015 Plans:*** Will complete EMD for the Systems Test and Integration Laboratory (STIL) for use in developmental testing and integration engineering, including a virtual test environment to support integration testing of aviation electronic systems as a part of modernization of Army aircraft. Planned FOC 4 Qtr.	5.940 -	5.135 -	5.063 -
Title: Engineering and Manufacturing Development (EMD) phase contract activity of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. ***Articles:***	- -	0.769 -	4.514 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 984 / *Major Developmental Testing Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Starts the EMD phase contract activities of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. ***FY 2014 Plans:*** Starts EMD phase of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. This will be a replacement system for the Advanced Range Data System (ARDS). This system will meet the critical need for measuring the precision location of units under test within the Time-Space domain. It will provide a significant increase to the Test & Evaluation ranges' capability to meet the test instrumentation needs of the tri-service range users. The improvements will be the data link, TSPI accuracy, miniaturization, standard interfaces, and sytem incryption. ***FY 2015 Plans:*** Will continue EMD of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. This will be a replacement system for the Advanced Range Data System (ARDS). This system will meet the critical need for measuring the precision location of units under test within the Time-Space domain. It will provide a significant increase to the Test & Evaluation ranges' capability to meet the test instrumentation needs of the tri-service range users. The improvements will be the data link, TSPI accuracy, miniaturization, standard interfaces, and system encryption.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the E3 Systems Modernization (EMRE) project. ***Articles:*** ***Description:*** EMD phase contract activities for the E3 Systems Modernization (EMRE) project. ***FY 2014 Plans:*** EMD for the E3 Systems Modernization (EMRE) T2 and T3 transmitter systems. Project will upgrade and replace signal transmitters, refurbish an anechoic test chamber, replace data acquisition equipment and install a new turntable to support test items. ***FY 2015 Plans:*** Will continue the EMD for the E3 Systems Modernization (EMRE) T2 and T3 transmitter systems. Project will continue to upgrade and replace signal transmitters, refurbish an anechoic test chamber, replace data acquisition equipment and install a new turntable to support test items.	- -	3.613 -	5.317 -
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Nuclear Effects Test Capability Modernization. ***Articles:***	- -	0.850 -	6.004 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 984 / *Major Developmental Testing Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: EMD phase contract activity for the Nuclear Effects Test Capability Modernization. ***FY 2014 Plans:*** Starts the Engineering and Manufacturing Development (EMD) phase contract activity for the Nuclear Effects Test Capability Modernization. This program will upgrade nuclear facilities at White Sands Missile Range (WSMR). ***FY 2015 Plans:*** Will continue the Engineering and Manufacturing Development (EMD) phase contract activity for the Nuclear Effects Test Capability Modernization. This program will upgrade nuclear facilities at White Sands Missile Range (WSMR).			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Warrior Injury Assessment Manikin (WIAMan) Anthropomorphic Test Device (ATD). ***Articles:*** ***Description:*** Begin the EMD phase contract activity for the WIAMan Anthropomorphic Test Device (ATD). ***FY 2014 Plans:*** EMD phase contract activity for the WIAMan Anthropomorphic Test Device (ATD). This program will develop and produce Warrior-representative ATDs that incorporate associated biomedically-validated injury assessment tools to better characterize dynamic events and injury risks measured in Live Fire Test & Evaluation (LFT&E) and vehicle development efforts.	- -	0.782 -	- -
Accomplishments/Planned Programs Subtotals	30.969	33.235	51.877

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army												Date: March 2014
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0604759A / *Major T&E Investment*				Project (Number/Name) 986 / *Major Operational Test Instrumentation*			
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**
986: *Major Operational Test Instrumentation*	-	6.216	5.654	2.525	-	2.525	5.006	11.234	12.261	9.866	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

Test and Training Initiative (T&TI) transitioned into Real Time Casualty Assessment (RTCA).

A. Mission Description and Budget Item Justification

Major Operational, Instrumentation and Modeling and Simulation (M&S) in support of Army Test and Evaluation Command (ATEC).

Analysis and development for Real-Time Casualty Assessment and instrumentation suite (RTCA) that delivers a high fidelity, realistic, real-time capability to measure hardware and personnel performance in modern combat environments. RTCA enables testing under tactical conditions for small and large-scale operations while integrating network operations and effects in support of Army Equipment Modernization Plan. RTCA also allows the U.S. Army to test all Current-to-Future, weapon systems in a realistic operational environment. RTCA Research, Development, Test and Evaluation (RDTE) develops performance enhancements and technology upgrades to the operational test command, control, and communications (C3) center, communications network, weapons system interfaces, vehicle and dismounted-troop kits and peripherals, Global Positioning Systems (GPS), encryption components, and integrates high-fidelity digital battlefield data collection and analysis tools. These tools will collect, store and analyze data from the digital battlefield. Improvements will enable the RTCA system to measure and record accrued damage, levels of exposure, effects of countermeasures, evasive action, and instrument threat vehicles. This capability is required by the operational test community to integrate digital battlefield data collection and analysis tools into the Network Integration Evaluation (NIE) and other operational tests.

Operational Test Command (OTC) Advanced Simulation & Instrumentation Systems (OASIS) Enterprise Integration System (EIS) supports operational test simulation and test support capabilities and will transition to Advanced Test and Evaluation Enterprise Architecture (ATEA). Operational testing of enterprise/systems of systems (SoS) capabilities requires an integrated test technology tools enterprise: 1) Test Planning & Control systems/networks, 2) Live-virtual-constructive (LVC) simulations, 3) Data Collection, Reduction, Analysis (DCRA), and visualization tools and 4) tactical systems and networks. OASIS-EIS transition to Advanced Test and Evaluation Enterprise Architecture (ATEA) will support test tool integration in three major areas: 1) OT test technology integration with other acquisition efforts (RTCA, networks, data collection), 2) Joint Network Emulation (JNE) program management, and 3) Shared development and enhancement of key simulation (primarily gaming, virtual, and constructive), and LVC integration capabilities. Initial focus for shared simulation/LVC enablers addressed network, indirect fire and ISR simulations, and LVC architecture planning, engineering and integration tools. Current efforts include evolution to ATEA to improve interoperability, better address sustainment operations, and increase standardization across the operational test enterprise.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 986 / *Major Operational Test Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Real-Time Casualty Assessment and Instrumentation Suite (RTCA)	1.170	2.616	2.525
Articles:	-	-	-
Description: Develop technology initiatives in support of common Army test and training capability gaps. ***FY 2013 Accomplishments:*** Supported Trade-Off Studies, Analysis of Trade-Off Studies, Analysis of Alternatives, Cost Benefit Analyses, Test Technology Demonstrations or Technology Readiness Events to ensure the requirements and performance specifications for emerging/future instrumentation and tactical engagement simulation systems meet the needs of the operational test and evaluation community. The initiative also helped develop and sustain an Army Test and Training Instrumentation Test Bed, as well as increasing the rigor of testing, to ensure that proposed solutions fulfill those requirements and thus reduce risk. ***FY 2014 Plans:*** Continues to support Trade-Off Studies, Analysis of Trade-Off Studies, Analysis of Alternatives, Cost Benefit Analyses, Test Technology Demonstrations or Technology Readiness Events to ensure the requirements and performance specifications for emerging/future instrumentation and tactical engagement simulation systems meet the needs of the operational test and evaluation community. The initiative will also help develop and sustain an Army Test and Training Instrumentation Test Bed, as well as increase the rigor of testing, to ensure that proposed solutions fulfill those requirements and thus reduce risk. ***FY 2015 Plans:*** Will fund the development of hardware, software, interfaces, and new capabilities to ensure Real Time Casualty Assessment (RTCA) requirements for upcoming operational tests are satisfied. Develops efforts that will initially be directed toward RTCA. Funds will also be allocated for RTCA communications infrastructure upgrades. Development efforts include: integration with new tactical systems under test, integration with Live, Virtual, and Constructive simulation environments, RTCA capabilities for active protection systems and countermeasures, RTCA capabilities for communications/sensor kills and degradations, development, integration, and testing of mission command effects and degradations, communications upgrade, new player units, new communications sub-systems, new encryption and RTCA capabilities for electronic warfare and countermeasures.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Operational Test Command (OTC) Advanced Simulation and Instrumentation System (OASIS) Enterprise Integration Solution.	0.786	3.038	-
Articles:	-	-	-
Description: EMD phase contract activities for the Operational Test Command (OTC) Advanced Simulation and Instrumentation System (OASIS) Enterprise Integration System (EIS) to include initial research and planning to achieve an Advanced Test and evaluation Enterprise Architecture (ATEA) to deliver a more comprehensive and sustainable operational test environment within current fiscal constraints.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 986 / *Major Operational Test Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Developed Operational Test Command (OTC) Advanced Simulation and Instrumentation Suite (OASIS) Enterprise Integration System (EIS). Funding supported integration of Federation members by OASIS EIS into a LVC environment to support OTC's operational testing support requirements for Joint Network Emulation (JNE), Network Integration Event (NIE) (13.1, 13.2), Distributed Common Ground System-Army (DCGS-A), Warfighter Information Network-Tactical (WIN-T), Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS). ***FY 2014 Plans:*** Continues EMD into Army Test and Evaluation Command (ATEC) Test and evaluation Enterprise Architecture (ATEA). Funding supports integration of Federation members by ATEA into the larger ATEC community and supports an enterprise into a LVC environment to support testing requirements for Operational Testing and Network Integration Events (NIEs) in support of Army Equipment Modernization Plan high priority weapon systems such as the Distributed Common Ground System-Army (DCGS-A), Warfighter Information Network (WIN-T) – Tactical and RTCA.			
Title: Major Instrumentation and Modeling and Simulation (M&S) in Support of Network Integration Test	4.260	-	-
Articles:	-	-	-
Description: Develop Major Instrumentation and Modeling and Simulation (M&S) efforts in support of Network Integration Test. In addition, develop and field a Real-Time, Hardware-in-the-Loop, M&S Federation, which can be accredited and portray Blue and Threat Computer Network Device (CND) and Controller Area Network (CAN) ***FY 2013 Accomplishments:*** Completed Major Instrumentation and M&S efforts in support of Network Integration Test related to limited fiber upgrades for WSMR, Net Advanced Distributed Modular Acquisition System (ADMAS) production, and updates to Army Test and Evaluation Command (ATEC)-wide data storage, distribution tools and analysis software.			
Accomplishments/Planned Programs Subtotals	6.216	5.654	2.525

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 986 / *Major Operational Test Instrumentation*

E. Performance Metrics

N/A