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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0604759A: Major T&E Investment							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	62.699	51.576	42.102	0.000	42.102	35.423	39.400	41.221	40.922	Continuing	Continuing
983: Reagan Test Site (RTS) T&E Investments	8.243	8.669	8.805	0.000	8.805	0.000	0.000	0.000	0.000	Continuing	Continuing
984: Major Developmental Testing Instrumentation	34.332	35.473	25.935	0.000	25.935	26.336	26.808	26.699	26.473	Continuing	Continuing
986: Major Operational Test Instrumentation	20.124	7.434	7.362	0.000	7.362	9.087	12.592	14.522	14.449	Continuing	Continuing
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) Developmental Test Command (DTC) test activities: White Sands Test Center (WSTC), NM; Yuma Test Center, (YTC), AZ; Aberdeen Test Center (ATC), MD; Electronic Proving Ground (EPG), AZ; Redstone Technical Test Center (RTTC), AL; Aviation Technical Test Center (ATTC), AL; and for the Reagan Test Site (RTS) at the US 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.											

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B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	64.404	51.846	35.672	0.000	35.672
Current President's Budget	62.699	51.576	42.102	0.000	42.102
Total Adjustments	-1.705	-0.270	6.430	0.000	6.430
• Congressional General Reductions		-0.270			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.705	0.000			
• Adjustments to Budget Years	0.000	0.000	6.430	0.000	6.430
Change Summary Explanation					
Change Summary Explanation: FY11 includes increases for Project 983 - Reagan Test Site (RTS) T&E Investments.					

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>				PROJECT 983: <i>Reagan Test Site (RTS) T&E Investments</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
983: <i>Reagan Test Site (RTS) T&E Investments</i>	8.243	8.669	8.805	0.000	8.805	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification <p>This project funds the purchase of improvement and modernization (I&M) equipment for the Ronald Reagan Ballistic Missile Defense Test Site located on U.S. Army Kwajalein Atoll (USAKA) in the Marshall Islands. Reagan Test Site (RTS) is an activity of the Major Range and Test Facility Base supporting Army, Missile Defense Agency (MDA), U.S. Air Force, National Aeronautics and Space Administration (NASA), U.S. Strategic Command (STRATCOM), and other developmental test, operational test, and space operations customers. Program upgrades radars, telemetry, optics, range safety, communications, command/control and other equipment required to maintain RTS as a national strategic asset. These upgrades are critical both to maintain a state of the art instrumentation suite and to the successful collection of data supporting developmental and operational decisions for MDA test missions, Minuteman Operational Tests, and STRATCOM's Space Surveillance Network (SSN) and Space Object Identification (SOI) programs.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09-11: RTS Distributed Operations (RDO). Provide for distributed operation of the Range instrumentation from Continental U.S. Command and Control (C2) sites. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base							2.000	2.075	2.000	0.000	2.000

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support		R-1 ITEM NOMENCLATURE PE 0604759A: Major T&E Investment		PROJECT 983: Reagan Test Site (RTS) T&E Investments				
B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO								
Program #2 FY09-11: RTS Optics Modernization Program (ROMP). Modernize RTS optics sensor suite, fixing deficiencies and enabling remote operations of the equipment. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO				3.374	3.010	1.600	0.000	1.600
Program #3 FY09-10: Millimeter Wave (MMW) Ka-Band Tubes. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010				0.300	0.350	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #4 FY09: Ultra High Frequency (UHF) Traveling Wave Tube (TWT) Reliability. Improve ARPA Long Range Tracking & Instrumentation Radar UHF transmitter tube reliability and implement corrections. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO		0.040	0.000	0.000	0.000	0.000
Program #5 FY09-11: Radar Reliability Improvement Program (RRI). Address technology refresh, obsolescence and sustainment issues for critical radar system operation. FY 2009 Accomplishments: FY 2009		0.960	0.780	0.550	0.000	0.550

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #6 FY10-11: Radar Computer and Software Refresh. Replace obsolete main radar computer for all RTS radars and refresh software to run on new hardware. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO		0.000	0.650	1.705	0.000	1.705
Program #7 FY09-11: Radar Open System Architecture (ROSA) Refresh. Implement technology refresh in the RTS radars, replacing obsolete components.		0.860	0.500	0.350	0.000	0.350

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #8 FY09-11: MMW Limited Bandwidth (BW) Expansion Program. Upgrade MMW bandwidth to 4 Gigahertz (GHz). FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	0.549	0.360	0.400	0.000	0.400
Program #9	0.120	0.457	1.200	0.000	1.200

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY09-11: Telemetry (TM) Modernization Study. Replace outdated TM equipment with modern digital systems and enable remote operation. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO						
Program #10 FY10-11: Multiple Simultaneous Engagement (MSE) Flight Safety. Modernize and upgrade flight safety systems to accommodate customer requirements. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base		0.000	0.325	0.500	0.000	0.500

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO								
Program #11 FY11: Legacy Servo Upgrade Program. Replace and upgrade obsolete antenna servos and interlock systems at the RTS radars. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO				0.000	0.000	0.500	0.000	0.500
Program #12 FY09: Mission Data Network (MDN) Modernization. Modernize and upgrade the high-speed intra-range data transfer system for mission critical operations. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010				0.040	0.000	0.000	0.000	0.000

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<u>B. Accomplishments/Planned Program (\$ in Millions)</u>						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #13 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.162	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		8.243	8.669	8.805	0.000	8.805
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A						
<u>D. Acquisition Strategy</u> N/A						

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E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
984: <i>Major Developmental Testing Instrumentation</i>	34.332	35.473	25.935	0.000	25.935	26.336	26.808	26.699	26.473	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification <p>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) Developmental Test Command (DTC) 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 Technical Test Center (RTTC), AL; and Aviation Technical Test Center (ATTC), AL. Projects are designated as a major test program based on their visibility, assessed relative technical risk (medium-high), schedule risk, cost (generally greater than \$1 Million per yr or \$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. The Advanced Multi-Spectral Sensor and Subsystem Test Capabilities (AMSSTC) develops the capability to test modern weapon systems and subsystems in the laboratory, in an open or closed loop scenario. Joint Warfighter Test and Training Capability (JWTTTC) is the development of an instrumented test area capable of creating Military Operations in Urban Terrain (MOUT) and maneuver training area for platoon size operations. Digital Network Migration (DNM) is the development of mobile assets for support of remote testing areas and linking instrumentation assets to Test Support Network and Cox Range Control Center (CRCC). Fiber Optic Network II (FON II) is the installation of digital fiber optic cable and transmission electronics to modernize secure and expand the backbone telecommunication and data transmission network in support of Aberdeen Test Center. 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. Quantitative Visualization (QV) for Test and Evaluation is the development of QV integration models to enable rapid conversion of test data into visual representations. Mobile Multi-sensor Time-Space Position Information (TSPI) System (MMTS) is the development of a tracking system for weapons with low/flat trajectories and low radar cross sections. Common Range Integrated Instrumentation System (CRIIS) previously named the Enhanced Range Application Program (EnRAP) Integration project will meet critical requirements to provide global positioning system (GPS) based Time, Space, Position Information (TSPI) instrumentation to support the testing of a variety of platforms including advanced aircraft, ships, helicopters, Unmanned Aerial Vehicles (UAVs), Ground Vehicles and dismounted soldiers. Advanced Ballistic Data Acquisition develops capabilities that will permit Yuma Test Center (YTC) and Aberdeen Test Center (ATC) to test and generate safety releases for new systems being introduced by the on-going Army Transformation as part of the Precision Effort and testing of Interim and Legacy weapons. Advanced Distributed Modular Acquisition System (ADMAS) Product Improvement Program develops very small and low power pocket sized ADMAS systems which will extend the Versatile Information Systems Integrated Online system's (VISION) capabilities to support dismounted and small robotic platforms. Range Radar Replacement Program will upgrade or replace obsolete tracking and surveillance radars at EPG, White Sands Missile Range and Yuma Proving Ground with modern digital equipment. Common Range Integrated Instrumentation System (CRIIS) Objective Program provides precision location instrumentation which will significantly increase the T&E</p>											

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ranges' capability to meet the test instrumentation needs of the tri-service range users. Kineto Tracking Mounts (KTM) Recapitalization will refurbish the KTM fleet, rebuilding vans and trailers, replacing servo drive systems, and providing new auxiliary power system, camera and lens upgrades.					
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09-10: Digital Network Migration (DNM): Develop mobile assets for support of testing in remote areas and linking of instrumentation assets to the Test Support Network and Cox Range Control Center (CRCC). FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	6.110	3.696	0.000	0.000	0.000
Program #2 FY09-10: Quantitative Visualization (QV) for Test and Evaluation: Develop QV integration models to enable rapid conversion of test data into visual representations. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010	0.839	0.484	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #3 FY09-FY11: Fiber Optic Network II (FON II) - Aberdeen Test Center (ATC): Install digital fiber optic cable and transmission electronics to modernize, secure and expand the backbone telecommunication and data transmission network in support of Aberdeen Test Center. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	2.978	5.253	5.590	0.000	5.590
Program #4 FY09-FY11: Systems Test and Integration Laboratory (STIL): Develops 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.	5.360	1.508	4.000	0.000	4.000

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #5 FY09-FY11: Joint Warfighter Test and Training Capability (JW TTC): Develop instrumented test area capable of creating mobile operations and maneuver training area for platoon size operations. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	3.589	5.616	3.137	0.000	3.137
Program #6	4.495	3.529	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY09-10: Mobile Multi-sensor Time Space Position Information (TSPI) System (MMTS)(formerly Hypervelocity Advanced TSPI System): Development of a tracking system for weapons with low/flat trajectories and low radar cross sections. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO						
Program #7 FY09: Advanced Multi-Spectral Sensor and Subsystem Test Capabilities (AMSSTC): Complete design, development and integration of advanced multi-spectral simulation, test and acceptance resource for both performance and production testing of Common Missile and other potential multi-mode guided missiles. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010		2.964	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #8 FY09-FY11: Common Range Integrated Instrumentation System (CRIIS) previously known as EnRAP: The system is a life cycle replacement and technology improvement for the current Advanced Range Data System (ARDS) which is rapidly approaching the end of its life cycle. The capability will include the components to be mounted on the test platform and the components required for any necessary ground infrastructure. The system will support T&E associated with the cooperative collection of TSPI from dismounted soldiers, ground vehicles, low dynamic aircraft, and high dynamic aircraft. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO		4.923	5.907	2.172	0.000	2.172
Program #9		2.357	3.614	3.733	0.000	3.733

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY09-FY11: ADMAS Product Improvement Program: Develops very small and low power pocket sized ADMAS systems. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO					
Program #10 FY09-FY11: Advanced Ballistic Data Acquisition: Develops capabilities to test and generate safety releases for new systems. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base	0.428	1.248	1.481	0.000	1.481

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO								
Program #11 FY09-FY11: Range Radar Replacement Program will upgrade or replace obsolete tracking and surveillance radars at EPG, WSMR and YPG with modern digital equipment. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO				0.289	3.295	4.438	0.000	4.438
Program #12 FY10-FY11: KTM Recapitalization: This project will refurbish the KTM fleet, rebuilding vans and trailers, replacing servo drive systems, and providing new auxiliary power system, camera and lens upgrades. Four new KTM systems will also be added to meet workload demands. FY 2009 Accomplishments: FY 2009				0.000	0.356	1.384	0.000	1.384

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #13 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs	0.000	0.967	0.000	0.000	0.000
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	34.332	35.473	25.935	0.000	25.935

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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<p>C. Other Program Funding Summary (\$ in Millions) N/A</p> <p>D. Acquisition Strategy N/A</p> <p>E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>				PROJECT 986: <i>Major Operational Test Instrumentation</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
986: <i>Major Operational Test Instrumentation</i>	20.124	7.434	7.362	0.000	7.362	9.087	12.592	14.522	14.449	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification <p>This project supports the development of major field instrumentation for Operational Testing (OT), Force Development Testing and Experimentation (FDTE), Army Warfighting Experiments (AWE) for the U.S. Army Test and Evaluation Command (ATEC), and Army Transformation. Each initiative set forth in this program element is directly tied to tactical systems that support the following Army Modernization Plan operational capability areas: Dominate Maneuver, Full Dimensional Protection, Precision Engagement, and Focused Logistics. The cornerstone of this effort is the Operational Test-Tactical Engagement System (OT-TES) vice Objective Real-Time Casualty Assessment and Instrumentation Suite (Objective RTCA) that provides users a high fidelity, realistic, real-time capability to measure the performance of hardware and personnel under tactical conditions for small and large-scale operations. Operational Test-Tactical Engagement System (OT-TES) allows the U.S. Army to test all Current-to-Future, Future Force, and Brigade Combat Team (BCT) Modernization activities capabilities in a force-on-force operational environment. OT-TES Research, Development, Test and Evaluation (RDTE) develops performance enhancements and technology upgrades to the Command, Control and Communications (C3) Center, Communications Network, weapons system interfaces, dismounted-troop vest and peripherals, Global Positioning System (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. These improvements will enable OT-TES to measure and record accrued damage, levels of exposure, effects of countermeasures, evasive action, and instrument threat vehicles, while significantly reducing system intrusiveness and increase the safety of current instrumentation for both vehicle and dismounted instrumentation. Instrumentation does not presently exist to monitor, record, stress, and analyze the effects of the digital battlefield in realistic operational scenarios. This capability is required by the operational test community to integrate digital battlefield data collection and analysis tools into the Mobile Automated Instrumentation Suite (MAIS) as enhancements to the fielded MAIS system. These tools will collect, store and analyze data from this new dimension of digital battlefield warfare. The ability to fully stress the entire battlefield with numerous simulated entities presents opportunities for significant cost savings and greater realism than would otherwise be achievable. This effort responds to the current Operations Tempo (OPTEMPO) and Personnel Tempo (PERSTEMPO) demands to force the U.S. Army to conduct more realistic, more accurate, and comprehensive evaluations at reduced costs by virtually replicating a greater number of troop resources in force-on-force testing and training exercises. Personnel and resource cuts have already been taken in the test community predicated upon data reduction/analysis streamlining provided by this capability. Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration Solution (EIS) is the operational test environment for the Future Force. OASIS EIS provides the integrated environment required for testing of network centric systems in a realistic operational environment.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0604759A: Major T&E Investment	PROJECT 986: Major Operational Test Instrumentation			
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09-FY11: OT-TES: Funds the development of hardware, software, interfaces, and new capabilities to ensure the Real-Time Casualty Assessment (RTCA) requirements for upcoming operational tests are supported. Develops efforts that will initially be directed toward OT-TES; 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, Completed Development, Integration, and Testing of the Communications Upgrade - New Player Units, New Communications Sub-System, New Encryption and RTCA Capabilities for Electronic Warfare and Countermeasures. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	18.918	6.400	6.400	0.000	6.400
Program #2 FY09-FY11: Develop Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration Solution (EIS). FY 2009 Accomplishments: FY 2009	1.206	0.826	0.962	0.000	0.962

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0604759A: Major T&E Investment	PROJECT 986: Major Operational Test Instrumentation			
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #3	0.000	0.208	0.000	0.000	0.000
FY10: Small Business Innovative Research/Small Business 10Technology Transfer Programs					
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	20.124	7.434	7.362	0.000	7.362

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A		
<u>D. Acquisition Strategy</u> N/A		
<u>E. Performance Metrics</u> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.		

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