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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 6: RDT&E Management Support					R-1 Program Element (Number/Name) PE 0605601A I Army Test Ranges and Facilities							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	305.238	307.588	305.759	-	305.759	313.316	324.551	316.176	316.361	0.000	2,188.989
F30: Army Test Ranges & Facilities	-	305.238	307.588	305.759	-	305.759	313.316	324.551	316.176	316.361	0.000	2,188.989

Note

Beginning in Fiscal Year (FY) 2017, this Program Element (PE) funds labor for physical security civilian guards and equipment as well as the UH-60 helicopters. Beginning in FY18, this PE will fund the Network Enterprise Center (NEC), Computer Network Defense Service Provider (CNDSP), and airfield operations, which were previous funded by the Operations and Maintenance - Army (OMA) appropriation.

A. Mission Description and Budget Item Justification

This Program Element (PE) provides the institutional funding required to operate test activities, in accordance with Public Law 107-314 Section 232 in support of Department of Defense (DoD) Program Executive Officers, Program and Product Managers, and Research, Development, and Engineering Centers. Resources provided by this project operate six elements of the DoD Major Range and Test Facility Base (MRTFB): White Sands Test Center (WSTC), White Sands Missile Range, New Mexico; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; and Yuma Test Center (YTC), Yuma Proving Ground, Arizona; Cold Regions Test Center (CRTC), Fort Greely, Alaska; and Tropic Regions Test Centers (TRTC) at various locations. This PE also funds the Army's test capability at Redstone Test Center (RTC), Redstone Arsenal, Alabama.

This PE finances the overhead (institutional) test operating costs not billable to DoD test customers per Department of Defense Instruction (DODI) 3200.18 and Department of Defense Financial Management Regulation (DODFMR) 7000.14-R, which include recurring test infrastructure/capability sustainment requirements, replacement of test equipment, test operating procedures, and test revitalization/upgrade projects to maintain \$5,500 Million of testing capabilities and improvements to safety, environmental protection, efficiency of test operations, and technological advances. The test capabilities at these ranges have been uniquely established, are in place to support test and evaluation (T&E) requirements of funded weapons programs, and are required to assure technical performance, adherence to safety requirements, reliability, logistics supportability, Title 10 Live Fire Test and Evaluation, transportability, environmental effects, cyber, electromagnetic effects, and quality of materiel in development and in production.

This PE sustains the T&E capability required to support Army as well as Joint Service or Other Service systems, materiel, and technologies. Types of systems scheduled for testing include: Aircraft, Air Delivery, Unmanned Aerial Systems, Unmanned Ground Vehicles, Air and Missile Defense Systems, Engineering Equipment, Direct fire, Indirect fire, Nonlethal weapons, Ammunition, Automotive Systems, Intelligence Surveillance and Reconnaissance, Ground Soldier System, Missiles, Rockets, Mission Command Network, and Tactical Command, Control, and Communication.

Specific systems supported in Fiscal Year (FY) 2018 with continued support in FY 2019 include: Network Integration Evaluation (NIE), Joint Light Tactical Vehicle (JLTV), Stryker (ECP, 30mm, ICV), Common Missile Warning System, Rifleman Radio, Joint Assault Bridge, Warfighter Information Network Tactical (WIN-T), AN/TPQ53 Radar, Distributed Common Ground Sensor - Army (DCGS-A), Patriot Advanced Capability-3 (PAC-3), Joint Air-to-Ground Missile, Army Integrated Air and

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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605601A / <i>Army Test Ranges and Facilities</i>
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Missile Defense (AIAMD), M109A7 Family of Vehicles, XM25 Counter Defilade Target Engagement (CDTE), Black Hawk, Gray Eagle Extended Range Handheld, Manpack and Small Form Fit (HMS) Man Pack Radio, Soldier Protective System, M829E4 120MM Advanced Kinetic Energy, Precision Guidance Kit (PGK), Marine Corp Amphibious Combat Vehicle.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019 Base</u>	<u>FY 2019 OCO</u>	<u>FY 2019 Total</u>
Previous President's Budget	307.882	307.588	313.280	-	313.280
Current President's Budget	305.238	307.588	305.759	-	305.759
Total Adjustments	-2.644	0.000	-7.521	-	-7.521
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.808	-			
• Adjustments to Budget Years	0.200	-	-7.521	-	-7.521
• FFRDC Transfer	-0.036	-	-	-	-

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Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605601A / Army Test Ranges and Facilities				Project (Number/Name) F30 / Army Test Ranges & Facilities			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
F30: Army Test Ranges & Facilities	-	305.238	307.588	305.759	-	305.759	313.316	324.551	316.176	316.361	0.000	2,188.989
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project provides the institutional funding required to operate test activities, in accordance with Public Law 107-314, Section 232 required by Department of Defense (DoD) Program Executive Officers, Program and Product Managers, and Research, Development, and Engineering Centers. Resources provided by this project operate six elements of the DoD Major Range and Test Facility Base (MRTFB): White Sands Test Center (WSTC), White Sands Missile Range, New Mexico; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; and Yuma Test Center (YTC), Yuma Proving Ground, Arizona; Cold Regions Test Center (CRTC), Fort Greely, Alaska; and Tropic Regions Test Centers (TRTC) at various locations. This PE also funds the Army's test capability at Redstone Test Center (RTC), Redstone Arsenal, Alabama.

This Project finances the overhead (institutional) test operating costs not billable to DoD test customers per Department of Defense Instruction (DODI) 3200.18 and Department of Defense Financial Management Regulation (DODFMR) 7000.14-R, which include recurring test infrastructure/capability sustainment requirements, replacement of test equipment, test operating procedures, and test revitalization/upgrade projects to maintain \$5500 million of testing capabilities and improvements to safety, environmental protection, efficiency of test operations, and technological advances. The test capabilities at these ranges have been uniquely established, are in place to support test and evaluation (T&E) requirements of funded weapons programs, and are required to assure technical performance, adherence to safety requirements, reliability, logistics supportability, Title 10 Live Fire Test and Evaluation, transportability, environmental effects, electromagnetic effects, and quality of materiel in development and in production.

This Project sustains the T&E capability required to support Army as well as Joint Service or Other Service systems, materiel, and technologies. Types of systems scheduled for testing include: Aircraft, Air Delivery, Unmanned Aerial Systems, Unmanned Ground Vehicles, Air and Missile Defense Systems, Engineering Equipment, Direct fire, Indirect fire, Nonlethal weapons, Ammunition, Automotive Systems, Intelligence Surveillance and Reconnaissance, Ground Soldier System, Missiles, Rockets, Mission Command Network, and Tactical Command, Control, and Communication.

Specific systems supported in FY18 with continued support in FY19 include: Network Integration Evaluation (NIE), Joint Light Tactical Vehicle (JLTV), Stryker (ECP, 30mm, ICV), Common Missile Warning System, Rifleman Radio, Joint Assault Bridge, Warfighter Information Network Tactical (WIN-T), AN/TPQ53 Radar, Distributed Common Ground Sensor - Army (DCGS-A), Patriot Advanced Capability-3 (PAC-3), Joint Air-to-Ground Missile, Army Integrated Air and Missile Defense (AIAMD), M109A7 Family of Vehicles, XM25 Counter Defilade Target Engagement (CDTE), Black Hawk, Gray Eagle Extended Range, Handheld, Manpack and Small Form Fit (HMS) Man Pack Radio, Soldier Protective System, M829E4 120MM Advanced Kinetic Energy, Precision Guidance Kit (PGK), Marine Corp Amphibious Combat Vehicle.

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Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605601A / Army Test Ranges and Facilities	Project (Number/Name) F30 / Army Test Ranges & Facilities		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
Title: Mission Support Description: Funds support test equipment upgrades and maintenance; test facility maintenance; routine calibration; handling and disposal of hazardous materials, transportation, postage, administrative supplies; tools; software; spare parts; test support vehicle maintenance; mission unique installation costs; temporary duty/training of civilian and contractor personnel; printing and reproduction; communications; land leases; and range road maintenance. Funding supports indirect costs for MRTFB Activities (ATC, EPG, WSTC, YTC (including CRTC & TRTC)) in accordance with DODI 3200.18 and DODFMR 7000.14-R. FY 2018 Plans: Funds will continue to support test equipment upgrades and maintenance; test facility maintenance; routine calibration; handling and disposal of hazardous materials, transportation, postage, administrative supplies; tools; software; spare parts; test support vehicle maintenance; mission unique installation costs; temporary duty/training of civilian and contractor personnel; printing and reproduction; communications; land leases; and range road maintenance. Funding supports indirect costs for MRTFB Activities (ATC, EPG, WSTC, YTC (including CRTC & TRTC)) in accordance with DODI 3200.18 and DODFMR 7000.14-R. FY 2019 Plans: Funds will continue to support test equipment upgrades and maintenance; test facility maintenance; routine calibration; handling and disposal of hazardous materials, transportation, postage, administrative supplies; tools; software; spare parts; test support vehicle maintenance; mission unique installation costs; temporary duty/training of civilian and contractor personnel; printing and reproduction; communications; land leases; and range road maintenance. Funding supports indirect costs for MRTFB Activities (ATC, EPG, WSTC, YTC (including CRTC & TRTC)) in accordance with DODI 3200.18 and DODFMR 7000.14-R. FY 2018 to FY 2019 Increase/Decrease Statement: Minor change due to routine program adjustments.		93.678	80.601	78.649
Title: T&E Civilian Pay Description: This funding supports the overhead costs of the civilian labor for Program Budget Guidance (PBG) authorizations. The balance is customer funded. The test customer pays all direct costs that are directly attributable to the use of a test facility or resource for testing of a particular program. Funding is essential to maintain core T&E skills as part of the Government civilian workforce. FY 2018 Plans:		139.101	139.659	136.153

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
Funds will continue to support the overhead costs of the civilian labor for PBG authorizations. The balance will be customer funded. The test customer will pay all direct costs directly attributable to the use of a test facility or resource for testing of a particular program. Funding will be essential to maintain core T&E skills as part of the Government civilian workforce. FY 2019 Plans: Funds will continue to support the overhead costs of the civilian labor for PBG authorizations. The balance will be customer funded. The test customer will pay all direct costs directly attributable to the use of a test facility or resource for testing of a particular program. Funding will be essential to maintain core T&E skills as part of the Government civilian workforce. FY 2018 to FY 2019 Increase/Decrease Statement: Increase due to inflation for civilian pay; the majority of the workforce is in the Acquisition Demonstration Program.				
Title: Contractor Support Description: This funding supports contractor labor costs not billable to the customer. Contract labor is essential to augment core civilian T&E personnel. Functions performed include range operations, automotive test support, radar maintenance, warehousing support, project management, maintenance of support fleet aircraft, recurring/general maintenance to test facilities and data acquisition support. FY 2018 Plans: Funds will continue to support contractor labor costs not billable to the customer. Contract labor will be essential to augment core civilian T&E personnel. Functions performed will include range operations, automotive test support, radar maintenance, warehousing support, project management, maintenance of support fleet aircraft, recurring/general maintenance to test facilities and data acquisition support. FY 2019 Plans: Funds will continue to support contractor labor costs not billable to the customer. Contract labor will be essential to augment core civilian T&E personnel. Functions performed will include range operations, automotive test support, radar maintenance, warehousing support, project management, maintenance of support fleet aircraft, recurring/general maintenance to test facilities and data acquisition support. FY 2018 to FY 2019 Increase/Decrease Statement: Increase due to inflation for contractor labor salary.		49.340	50.115	53.651
Title: Revitalization/Upgrade		5.233	5.000	5.000

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018
<p>Description: Funds support the revitalization/upgrade of test infrastructure and capabilities. MRTFB elements are required to use institutional funding to sustain, upgrade or create capabilities that support multiple customers. Funding will be focused on improving test and evaluation capabilities for the highest priority Army programs.</p> <p>FY 2018 Plans: Funds will continue to support the revitalization/upgrade of test infrastructure and capabilities. MRTFB elements will be required to use institutional funding to sustain or upgrade capabilities that support multiple customers. Funding will be focused on improving test and evaluation capabilities for the highest priority Army programs. Anticipated for FY2018 are three projects; YTC High Speed Video Building; WSTC Munitions Management Facility Refurbishment; ATC Small Arms Environmental Conditioning Building.</p> <p>FY 2019 Plans: Funds will continue to support the revitalization/upgrade of test infrastructure and capabilities. MRTFB elements will be required to use institutional funding to sustain or upgrade capabilities that support multiple customers. Funding will be focused on improving test and evaluation capabilities for the highest priority Army programs.</p>			
<p>Title: Physical Security Guards and Equipment</p> <p>Description: This funding supports physical security guards mandated by regulation to guard Army Test and Evaluation Command's (ATEC's) Fast Burst Nuclear Reactor (FBR) at White Sands Missile Range (WSMR) in accordance with (IAW) Army Regulation (AR) 190-54 and Chemical Biological (CB) facilities located at Dugway Proving Ground (DPG) IAW AR 190-50 and AR 190-17. These surety facilities maintain nuclear, biological, and chemical (NBC) materials and agents in order to test the effects and effectiveness of defensive or protective equipment and measures. The physical security equipment consists of concrete barriers, security fencing around test sites, cameras, gate controllers, access and intrusion detection systems, alarms, and maintenance contracts for equipment. This equipment is necessary to secure arms rooms, ammunition storage facilities, The Fast Burst Nuclear Reactor and chemical biological surety sites. Physical security equipment is critical to maintain current security requirements as outlined in AR 190-17, AR 190-59, AR 190-51, and AR 190-13.</p> <p>FY 2018 Plans: Funds will support the physical security guards and equipment for the Fast Burst Nuclear Reactor at WSMR and Chemical Biological facilities at DPG.</p> <p>FY 2019 Plans:</p>		12.279	12.438
			12.607

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
Funds will support the physical security guards and equipment for the Fast Burst Nuclear Reactor at WSMR and Chemical Biological facilities at DPG.				
FY 2018 to FY 2019 Increase/Decrease Statement: Minor change due to routine program adjustments.				
Title: UH-60 Aircraft Description: This funding supports the Aviation Restructure Initiative endorsed by the SECDEF. Funding supports aircraft maintenance, aircrew labor, mandatory training, and aircraft flying hours. In accordance with DODI 3200.18 and DODFMR 7000.14-R, these costs are not billable to the test customers. UH-60 helicopters are used to provide essential logistical, sensor platform and aerial photo/video documentation support for developmental testing. FY 2018 Plans: Funds will support UH-60 helicopter maintenance, aircrew labor, mandatory training and aircraft flying hours. FY 2019 Plans: Funds will support UH-60 helicopter maintenance, aircrew labor, mandatory training and aircraft flying hours. FY 2018 to FY 2019 Increase/Decrease Statement: Minor change due to routine program adjustments.		5.607	7.004	7.144
Title: Network Enterprise Center Description: This funding supports the Network Enterprise Center (NEC) operations for WSTC and YTC. Funding supports manpower and contracts, support equipment and associated costs specifically identified and measurable to plan, manage, coordinate, and execute Communication, Network, and Information Technology Services Management. FY 2018 Plans: Funds will support all labor, support equipment, and training required for the Network Enterprise Center. FY 2019 Plans: Funds will support all labor, support equipment, and training required for the Network Enterprise Center. FY 2018 to FY 2019 Increase/Decrease Statement: Minor change due to routine program adjustments.		-	11.152	10.936
Title: Computer Network Defense Service Provider Description: This requirement supports compliance with Department of Defense Directive (DoDD) 8530.1, which directed that all component information systems and computer networks must enter into a service agreement with a CNDSP. United States		-	1.619	1.619

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B. Accomplishments/Planned Programs (\$ in Millions) Army Cyber Command (ARCYBER) Operations Order (OPORD) 2014-224 directed all commands/Direct Reporting Units (DRU) to take immediate measures to ensure Army assets connected to Defense Research and Engineering Network (DREN) and Secure Defense Research and Engineering Network (SDREN) enclaves are aligned with the United States (US) Army Research Laboratory as their CNDSP to ensure cyber defense oversight and information security continuous monitoring going forward. FY 2018 Plans: Funds will support cyber defense oversight and continuous monitoring of information security. FY 2019 Plans: Funds will support cyber defense oversight and continuous monitoring of information security.		FY 2017	FY 2018	FY 2019
Accomplishments/Planned Programs Subtotals		305.238	307.588	305.759
C. Other Program Funding Summary (\$ in Millions) N/A Remarks D. Acquisition Strategy N/A E. Performance Metrics N/A				