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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0606002A / <i>Ronald Reagan Ballistic Missile Defense Test Site</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	60.808	62.069	71.306	-	71.306	61.451	61.899	71.819	63.986	0.000	453.338
XW9: <i>Reagan Test Site</i>	-	60.808	62.069	71.306	-	71.306	61.451	61.899	71.819	63.986	0.000	453.338

A. Mission Description and Budget Item Justification

The Ronald Reagan Ballistic Missile Defense Test Site (RTS), with its remote location and one-of-a-kind instrumentation systems, provides a valuable strategic test environment that cannot be replicated. Its function is to: 1) support test and evaluation of major Army and Department of Defense (DOD) acquisition programs of strategic importance to the national defense; and 2) provide space operations and intelligence data (Space Situational Awareness, object tracking & identification) in support of United States Strategic Command (USSTRATCOM), acting as a high value contributing sensor to the U.S. Space Surveillance Network. Due to its unique geography and instrumentation, RTS is able to provide unmatched data collection capabilities that provide critical test data for programs of national interest to include: Army Missile Defense; Defense Advanced Research Projects Agency hypersonic Boost-Glide developmental tests; Air Force and Navy Intercontinental Ballistic Missile (ICBM) developmental and operational tests; Army, Air Force, Navy, and Missile Defense Agency (MDA) operational, demonstration, and validation tests; National Aeronautics and Space Administration (NASA) scientific and unique space programs; NASA ionospheric studies; space debris tracking; and data collection in support of space experiments.

Funding in this Program Element (PE) covers management and contracting personnel support (salaries and travel) to enable the management of the test and evaluation of major Army and (DoD) missile systems for the (RTS). Funds also provide contracting support for end item procurement, life cycle acquisition planning, and solicitation, negotiation, award, execution and management for weapon systems contracts. This PE provides contractors to accomplish key operations and maintenance functions for RTS instrumentation suites and also provides mission essential bandwidth via a fiber optic cable system. Funds provide the expertise required for operating and maintaining a number of one-of-a-kind radar, optical, telemetry, command/control/communications, safety, and data reduction systems. These systems include: the four unique radars of the Kiernan Reentry Measurement Site; Super Recording Automatic Digital Optical Tracker long range video-metric tracking systems; high density data recorders for high data-rate telemetry collected by ten antennas; an underwater acoustic impact location system; and data analysis/reduction hardware/software and Continental United States (CONUS) based mission control center. The Advanced Research Project Agency Long-Range Tracking and Instrumentation Radar and the Target Resolution Discrimination Experiment radars located at RTS are the only radars in this area of operation that have deep-space tracking capability. The Millimeter Wave Radar is one of the highest resolution imaging radars in the world, providing critical intelligence data. Funding also enables weapon system assessment of operational effectiveness and suitability for the Army, Air Force, Navy and MDA, which all have programs planned that have significant test and data gathering requirements at RTS. This test data cannot be obtained except through the use of technical facilities available on and in the vicinity of RTS. Program supports Army's PATRIOT air defense system; Air Force's Minuteman III ICBM and the Space and Missile Center's associated programs; MDA's Ballistic Missile Defense System, ICBM Targets, and Layered Ballistic Missile Defense operational tests (including: PATRIOT, Terminal High-Altitude Area Defense, and Aegis Weapon System), and NASA's space experiments.

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B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	62.940	62.069	68.786	-	68.786
Current President's Budget	60.808	62.069	71.306	-	71.306
Total Adjustments	-2.132	0.000	2.520	-	2.520
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.132	-			
• Adjustments to Budget Years	-	-	2.520	-	2.520

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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
XW9: <i>Reagan Test Site</i>	-	60.808	62.069	71.306	-	71.306	61.451	61.899	71.819	63.986	0.000	453.338
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project covers operations and mission support functions at the Ronald Reagan Ballistic Missile Defense Test Site and is managed by Program Executive Office Missiles & Space.

The Ronald Reagan Ballistic Missile Defense Test Site (RTS), with its remote location and one-of-a-kind instrumentation systems, provides a valuable strategic test environment that cannot be replicated. Its function is to: 1) support test and evaluation of major Army and Department of Defense (DOD) acquisition programs of strategic importance to the national defense; and 2) provide space operations and intelligence data (Space Situational Awareness, object tracking & identification) in support of United States Strategic Command (USSTRATCOM), acting as a high value contributing sensor to the U.S. Space Surveillance Network. Due to its unique geography and instrumentation, RTS is able to provide unmatched data collection capabilities that provide critical test data for programs of national interest to include: Army Missile Defense; Defense Advanced Research Projects Agency hypersonic Boost-Glide developmental tests; Air Force and Navy Intercontinental Ballistic Missile (ICBM) developmental and operational tests; Army, Air Force, Navy, and Missile Defense Agency (MDA) operational, demonstration, and validation tests; National Aeronautics and Space Administration (NASA) scientific and unique space programs; NASA ionospheric studies; space debris tracking; and data collection in support of space experiments.

Funding in this Program Element (PE) covers management and contracting personnel support (salaries and travel) to enable the management of the test and evaluation of major Army and (DoD) missile systems for the (RTS). Funds also provide contracting support for end item procurement, life cycle acquisition planning, and solicitation, negotiation, award, execution and management for weapon systems contracts. This PE provides contractors to accomplish key operations and maintenance functions for RTS instrumentation suites and also provides mission essential bandwidth via a fiber optic cable system. Funds provide the expertise required for operating and maintaining a number of one-of-a-kind radar, optical, telemetry, command/control/communications, safety, and data reduction systems. These systems include the four unique radars of the Kiernan Reentry Measurement Site; Super Recording Automatic Digital Optical Tracker long range video-metric tracking systems; high density data recorders for high data-rate telemetry collected by ten antennas; an underwater acoustic impact location system; and data analysis/reduction hardware/software and Continental United States (CONUS) based mission control center. The Advanced Research Project Agency Long-Range Tracking and Instrumentation Radar and the Target Resolution Discrimination Experiment radars located at RTS are the only radars in this area of operation that have deep-space tracking capability. The Millimeter Wave Radar is one of the highest resolution imaging radars in the world, providing critical intelligence data. Funding also enables weapon system assessment of operational effectiveness and suitability for the Army, Air Force, Navy and MDA, which all have programs planned that have significant test and data gathering requirements at RTS. This test data cannot be obtained except through the use of technical facilities available on and in the vicinity of RTS. Program supports Army's PATRIOT air defense system; Air Force's Minuteman III ICBM and the Space and Missile Center's associated programs; MDA's Ballistic Missile Defense System, ICBM Targets, and Layered Ballistic Missile Defense operational tests (including: PATRIOT, Terminal High-Altitude Area Defense, and Aegis Weapon System), and NASA's space experiments.

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Title: Civilian Pay</p> <p>Description: This effort covers operations and mission support functions at the (RTS) and is managed by U. S. Army Space and Missile Defense Command.</p> <p>FY 2020 Plans: Will continue to provide government personnel support (salaries) to enable the management of the test and evaluation of major Army and DoD missile systems.</p> <p>FY 2021 Plans: Will continue to provide government personnel support (salaries) to enable the management of the test and evaluation of major Army and DoD missile systems.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Funding change reflects planned life cycle of the effort.</p>		5.114	5.535	6.017
<p>Title: Temporary Duty (TDY)/Training/Supplies - Military and Civilian</p> <p>Description: Funding will provide for travel and training for civilians and military to assist in the testing of the Army and DoD Missile system Programs.</p> <p>FY 2020 Plans: Will continue to provide government personnel support (training and travel) to enable the management of the test and evaluation of major Army and DoD missile systems.</p> <p>FY 2021 Plans: Will continue to provide government personnel support (training and travel) to enable the management of the test and evaluation of major Army and DoD missile systems.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Funding change reflects planned life cycle of the effort.</p>		0.639	0.752	1.052
<p>Title: Outside Obligations/Other Government Agencies (OGAs)</p> <p>Description: Funding provided to other Government Agencies for reimbursable-type work efforts.</p> <p>FY 2020 Plans: Will continue to provide support to test and evaluation of major Army and DoD missile systems.</p> <p>FY 2021 Plans:</p>		8.129	5.997	9.171

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
Will continue to provide support to test and evaluation of major Army and DoD missile systems. FY 2020 to FY 2021 Increase/Decrease Statement: Increase due for information assurance and cyber security issues.				
Title: Fiber Optic Cable (Kwajalein Cable System (KCS))/Inner Ring Submarine Description: Fiber Optic Cable is Provides lease cost for Fiber Optic Cable between Kwajalein and Guam. FY 2020 Plans: Will continue to provide funding for lease of the KCS fiber optic cable between Kwajalein Island and Guam, and for backup satellite. Will fund annual fiber maintenance agreement. FY 2021 Plans: Will continue to provide funding for lease of the KCS fiber optic cable between Kwajalein Island and Guam, and for backup satellite. Will fund annual fiber maintenance agreement. FY 2020 to FY 2021 Increase/Decrease Statement: Funding change reflects planned life cycle of the effort.		11.443	10.619	9.102
Title: RTS Contractor Prime Pay (KRS) Description: Provide funding for Prime contractor to perform technical Operation and Maintenance support to support test and space missions. FY 2020 Plans: Will continue to provide technical O&M support (test planning, instrumentation operations and maintenance, systems engineering, flight safety, and launch ordnance) to assure the capability of the Range to support test and space missions. Continues the buy-down of critical maintenance backlog. FY 2021 Plans: Will continue to provide technical O&M support (test planning, instrumentation operations and maintenance, systems engineering, flight safety, and launch ordnance) to assure the capability of the Range to support test and space missions. FY 2020 to FY 2021 Increase/Decrease Statement: Increased to address critical maintenance backlog and provides for USAV Worthy dry dock maintenance.		22.525	27.016	31.553
Title: Contractor Material Description: Provide for materials to maintain range capabilities and support test operations.		3.963	3.785	6.837

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>FY 2020 Plans: Will continue to provide critical non-labor materials to maintain critical range capabilities and prevent obsolescence in support of test operations. Continues the buy-down of critical maintenance backlog.</p> <p>FY 2021 Plans: Will continue to provide critical non-labor materials to maintain critical range capabilities and prevent obsolescence in support of test operations. Continues the buy-down of critical maintenance backlog.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Increased to address critical maintenance backlog issues.</p>				
<p>Title: Federally Funded Research and Development Centers (FFRDC) Contractor Pay</p> <p>Description: Provide for technical expertise to RTS leadership for the overall performance of Range Operations.</p> <p>FY 2020 Plans: Will continue to provide technical advice to RTS leadership in support of Range operations, strategic planning, and technical execution of critical technology.</p> <p>FY 2021 Plans: Will continue to provide technical advice to RTS leadership in support of Range operations, strategic planning, and technical execution of critical technology.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Funding change reflects planned life cycle of the effort.</p>		5.432	3.154	4.056
<p>Title: Contractor Pay Meteorological</p> <p>Description: Provide capability for weather sensing capability which allows for test planning and execution of the program.</p> <p>FY 2020 Plans: Will continue to provide support for sustained weather sensing capabilities, including weather reporting via radar data. This capability provides critical data to test planning and execution.</p> <p>FY 2021 Plans: Will continue to provide support for sustained weather sensing capabilities, including weather reporting via radar data. This capability provides critical data to test planning and execution.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement:</p>		2.150	1.946	2.299

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
Funding change reflects planned life cycle of the effort.				
<p>Title: Ground Transportation</p> <p>Description: Provide transportation of material and passenger between Kwajalein and continental U.S. (CONUS).</p> <p>FY 2020 Plans: Continuing to provide mission specific material and passenger transportation via air (Air Mobility Command) and sea (Surface Deployment and Distribution Command) between Kwajalein Atoll and CONUS.</p> <p>FY 2021 Plans: Continuing to provide mission specific material and passenger transportation via air (Air Mobility Command) and sea (Surface Deployment and Distribution Command) between Kwajalein Atoll and CONUS.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Funding change reflects planned life cycle of the effort.</p>		0.861	0.268	0.651
<p>Title: Mission Specific Environmental</p> <p>Description: Ensures Range Readiness and all regulatory environmental requirements are compliant with range and test requirements.</p> <p>FY 2020 Plans: Will continue to provide the capability to assess and maintain the Range Readiness and compliance with environmental requirements.</p> <p>FY 2021 Plans: Will continue to provide the capability to assess and maintain the Range Readiness and compliance with environmental requirements.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Funding change reflects planned life cycle of the effort.</p>		0.552	0.423	0.568
<p>Title: FY 2020 SBIR/STTR Transfer</p> <p>Description: Funding transferred in accordance with Title 15 USC ?638</p> <p>FY 2020 Plans: Funding transferred in accordance with Title 15 USC ?638</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement:</p>		-	2.574	-

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
Funding transferred in accordance with Title 15 USC ?638			
Accomplishments/Planned Programs Subtotals	60.808	62.069	71.306

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A