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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605976F / <i>Facilities Restoration and Modernization - Test and Evaluation Support</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	-	187.216	88.445	70.985	0.000	70.985	70.622	71.888	73.173	74.520	Continuing	Continuing
6606MC: <i>Facility Restoration and Modernization - T&E</i>	-	187.216	88.445	70.985	0.000	70.985	70.622	71.888	73.173	74.520	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Restoration includes repair and replacement work to restore damaged facilities due to accident or failure attributable to inadequate sustainment, excessive age, or other causes. Modernization includes alteration of facilities to implement a new, higher standard (including regulatory changes), to accommodate new functions, or to replace building components that typically last more than 50 years (such as foundations and structural components). Other tasks associated with facilities operations (such as custodial services, grass cutting, and the provision of central utilities) are not included. These restoration/modernization funds support the following Air Force test organizations and their associated test and evaluation facilities, including: remote locations, the 96th Test Wing (TW) at Eglin AFB, FL, Arnold Engineering and Development Complex (AEDC) at Arnold AFB, TN, including AEDC's 704th Test Group (TG) at Holloman AFB, NM, 704 TG Landing Gear Test Facility (LGTF) at Wright-Patterson AFB, OH, AEDC's Hypersonic Wind Tunnel 9 at White Oak, MD, AEDC's National Full-Scale Aerodynamics Complex (NFAC) at Moffett Field, CA, AEDC's McKinley Climatic Lab (MCL) at Eglin AFB, FL, and the 412th TW at Edwards AFB, CA.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	187.216	88.445	69.293	0.000	69.293
Current President's Budget	187.216	88.445	70.985	0.000	70.985
Total Adjustments	0.000	0.000	1.692	0.000	1.692
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	1.692	0.000	1.692

Change Summary Explanation

FY21: \$1.8 million increase provides funding for natural disaster recovery efforts associated with Hurricane Michael.

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Title: Facility restoration and modernization at the 96 TW</p> <p>Description: Facility restoration and modernization at the 96th TW.</p> <p>FY 2020 Plans: Continue Restoration and Modernization (R&M) efforts across the range complex including Heating, Ventilation and Air Conditioning (HVAC) systems, repair/replace lightning protection systems, repair/replace fire protection systems and corrosion control.</p> <p>FY 2021 Plans: Continue Restoration and Modernization (R&M) efforts across the range complex including Heating, Ventilation and Air Conditioning (HVAC) systems, repair/replace lightning protection systems, repair/replace fire protection systems and corrosion control. Additional \$1.8 million provided to assist with natural disaster recovery efforts associated with Hurricane Michael.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: \$1.2 million increase is for improvements to range facilities and capabilities. Projects include: repairs to Range Road 201, Facility 12010 and Bridge Facility 12234, and widening Bridge Facility 12201 and Range Road 234. Additional \$1.8M associated with Hurricane Michael recovery efforts.</p>		14.897	3.623	6.673
<p>Title: Facility restoration and modernization at AEDC</p> <p>Description: Facility restoration and modernization at AEDC.</p> <p>FY 2020 Plans: AEDC Service Life Extension Projects (SLEPs) to restore and modernize the Propulsion Wind Tunnel (PWT), Von Karman Facility (VKF), and Engine Test Facility (ETF) infrastructure begin to wind-down as they near completion. Continue design/construction of FY20 SLEP efforts using Facilities Acquisitions for Restoration and Modernization (FARM) and other contracts. Continue award of contracts for additional SLEPs Task Orders (TOs) to be executed during FY20-FY21 facilities outages. Continue to perform second and third level maintenance to restore ground test facilities to operational status. Complete VKF High Pressure Air Dryer replacement. Repair and modernize the 25 KGPM pump at the Primary Pumping Station. Complete modernization of B-Plant Test Environment Control System. Begin restoration of J-5 Exhaust System. Fund the Holloman High Speed Test Track Rail Refurbishment Design Plan and the National Radar Cross Section (RCS) Test Facility (NRTF) transfer switch for the RCS Advanced Measurement System (RAMS) generator.</p> <p>FY 2021 Plans: Complete execution of the three remaining AEDC SLEPs to restore and modernize the PWT, VKF, & ETF infrastructure. Continue construction/installation of FY21 SLEP efforts using Facilities Acquisitions for Restoration and Modernization (FARM) and</p>		150.292	79.193	58.736

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
other contracts. Continue to perform second and third level maintenance to restore ground test facilities to operational status. Complete restoration of the J-5 Exhaust system. Continue refurbish of VKF valves to ensure continued operation of Tunnels ABC. AEDC will fund the Landing Gear Test Facility (LGTf) Control System Modernization for the 84" and 120" dynamotor and the Tire Force Machine (TFM); the NRTF Fire Protection Reservoir Liner; and Replace the HVAC for the Central Inertial GPS Test Facility (CIGTF) machine shop and industrial complex. FY 2020 to FY 2021 Increase/Decrease Statement: \$20 million decrease is a result of three major SLEP projects associated with the FY17 \$350 million AF FYDP investment nearing completion.			
Title: Facility restoration and modernization at 412 TW Description: Facility restoration and modernization at the 412 TW. FY 2020 Plans: FY 2020 plans include upgrade and restoration of T&E facilities, including but not limited to, Hydraulic Unit Upgrade B1030; Power Supply for System Under Test Power B1030; Bathroom Renovations B1030 (North and South Tower); replace Radio Frequency (RF) Shielded Manddoors B1030; Seismic Upgrade Mission Control Center (MCC) 1440; Repair/Install Anti-terrorism/ Force Protection for MCC 1440; and Phase 2 Chamber Deluge System Replacement/Upgrade (includes RAM 24"). FY 2021 Plans: The FY21 plans include continuation of the upgrade and restoration of T&E facilities, such as but not limited to, Hydraulic Unit Upgrade B1030; Power Supply for System Under Test Power B1030; modernize electrical system components that have reached end of service life B1020; remediate B1830 fire safety deficiencies; and Seismic Upgrade. FY 2020 to FY 2021 Increase/Decrease Statement: Not applicable.	22.027	5.629	5.576
Accomplishments/Planned Programs Subtotals	187.216	88.445	70.985

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 06 PE 0604256F: <i>Threat Simulator Development</i>	33.666	59.693	57.725	-	57.725	44.777	36.511	31.655	32.237	Continuing	Continuing
• RDTE 06 PE 0604759F: <i>Major T&E Investment</i>	213.273	106.663	208.680	-	208.680	207.845	152.044	159.017	155.705	Continuing	Continuing

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<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 06 PE 0605807F: <i>Test and Evaluation Support</i>	692.784	717.895	764.606	-	764.606	767.210	766.092	780.181	789.744	Continuing	Continuing
• RDTE 06 PE 0605978F: <i>Facility Sustainment - T&E Support</i>	28.888	29.424	29.880	-	29.880	30.509	31.056	31.612	32.193	Continuing	Continuing

Remarks

E. Acquisition Strategy

N/A.