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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support					R-1 Program Element (Number/Name) PE 0605976F I Facilities Restoration and Modernization - Test and Evaluation Support							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	-	135.507	187.216	88.445	0.000	88.445	69.293	70.730	72.019	73.315	Continuing	Continuing
6606MC: Facility Restoration and Modernization - T&E	-	135.507	187.216	88.445	0.000	88.445	69.293	70.730	72.019	73.315	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.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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.

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B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	
Previous President's Budget	135.507	162.216	88.445	0.000	88.445	
Current President's Budget	135.507	187.216	88.445	0.000	88.445	
Total Adjustments	0.000	25.000	0.000	0.000	0.000	
• Congressional General Reductions	0.000	0.000				
• Congressional Directed Reductions	0.000	0.000				
• Congressional Rescissions	0.000	0.000				
• Congressional Adds	0.000	25.000				
• 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	0.000	0.000	0.000	
Change Summary Explanation FY19: The PE received \$25.0 million in congressional add funding that will be used for the McKinley Climatic Lab return to service effort and for the Joint Preflight Integration of Munition and Electronic Systems (JPRIMES)anechoic chamber fire suppression and heating, ventilation, and air conditioning (HVAC) systems.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2018	FY 2019	FY 2020
Title: Facility restoration and modernization at the 96 TW				3.047	14.897	3.623
Description: Facility restoration and modernization at the 96th TW.						
FY 2019 Plans: Continue Restoration and Modernization (R&M) efforts across the range complex including HVAC systems, repair/replace lightning protection systems, repair/replace fire protection systems and corrosion control. \$10.7 million of the \$25 million Congressional add will be used to modernize deteriorated fire suppression systems in the 96 TW JPRIMES anechoic test chamber and replace the JPRIMES HVAC system.						
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.						
FY 2019 to FY 2020 Increase/Decrease Statement: \$11.3 million decrease from FY19 to FY20 due to one time increase of \$10.7M of \$25.0M FY19 Congressional add funding.						
Title: Facility restoration and modernization at AEDC				120.289	150.292	79.193

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020
Description: Facility restoration and modernization at AEDC.				
FY 2019 Plans: Continue execution of the three remaining AEDC SLEPS to restore and modernize the PWT, VKF, & ETF infrastructure. Continued design/construction of FY 2018 SLEP efforts using Facilities Acquisitions for Restoration and Modernization (FARM) and other contracts. Continue award of contracts for additional Service Life Extension Projects (SLEPs) Task Orders (TOs) to be executed during FY 2019-2020 facilities outages. Continue modernization of the Landing Gear Test Facility (LGTF) utility room. Replace (three of five) LGTF Test Machine servo valves, accumulators, and hydraulic hoses. Data acquisition improvements to the LGTF 120 MOD dynamometer operator GUI. Replace the third hanger door on the large hanger. Continue refurbishment of National Radar Cross Section (RCS) Test Facility (NRTF) Advanced Measurement Systems (RAMS) Central Measurement System (RCMS). Continue refurbishment of NRTF Calibration Pit. Continue building renovations for Central Inertial and Global Positioning System (GPS) Test Facility (CIGTF) and Holloman High Speed Test Track (HHSTT). Rainfield repairs at HHSTT. Begin HHSTT South 5 thousand foot restoration project. \$13.7 Million of the \$25 Million FY19 Congressional add returns McKinley Climatic Lab to full service with replacement of Air Makeup Unit destroyed in fire, including structural repair. \$0.6 Million of the FY19 add modernizes the Acquisition and Control System for the National Radar Cross Section (RCS) Test Facility Advanced Measurement System. In addition, Mid-Pressure Arc Heater Increment 2 upgrades to support full-scale hypersonic testing will commence.				
FY 2020 Plans: Continue execution of the three remaining AEDC SLEPS to restore and modernize the PWT, VKF, & ETF infrastructure. Continued design/construction of FY 2019 SLEP efforts using Facilities Acquisitions for Restoration and Modernization (FARM) and other contracts. Continue award of contracts for additional Service Life Extension Projects (SLEPs) Task Orders (TOs) to be executed during FY 2019-2020 facilities outages. Continue modernization of the Landing Gear Test Facility (LGTF) utility room. Replace LGTF Test Machine servo valves, accumulators, and hydraulic hoses. Data acquisition improvements to the LGTF 120 MOD dynamometer operator GUI. Replace door on the large hanger. Continue refurbishment of National Radar Cross Section (RCS) Test Facility (NRTF) Advanced Measurement Systems (RAMS) Central Measurement System (RCMS). Continue refurbishment of NRTF Calibration Pit. Continue building renovations for Central Inertial and Global Positioning System (GPS) Test Facility (CIGTF) and Holloman High Speed Test Track (HHSTT). Rain field repairs at HHSTT. Continue HHSTT South 5 thousand foot restoration project. Additional improvements and upgrades to Electrical, Mechanical and Valve systems in A/B/C Plants.				
FY 2019 to FY 2020 Increase/Decrease Statement:				

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C. Accomplishments/Planned Programs (\$ in Millions)								FY 2018	FY 2019	FY 2020	
<p>\$71.2 million decrease from FY19 to FY20 due to \$57 million decrease as efforts associated with FY17PB SLEP I modernization near completion and \$14.3 million of FY19 Congressional add funding associated with the McKinley Climatic Lab return to service effort and the RCS Advanced Measurement System modernization effort ends.</p> <p>Title: Facility restoration and modernization at 412 TW</p> <p>Description: Facility restoration and modernization at the 412 TW.</p> <p>FY 2019 Plans: The FY19 plans include: repair Anechoic Chamber 40 Ton Hoist B1030; repair Generator 1020; Office Conversion, Precision Impact Range (PIRA) B9509; replace/upgrade Phase 1 Chamber Deluge System (includes Radar Absorbing Material (RAM) 24"); Chamber Door - Extension of Top Guide Rail; Repair/Replace Water Line B5780 TO B5790; Power Supply for Turntable and Horseshoe Power B1030; Convert Security Roll Up Door to Automatic B144; repair Shielded Door, South East Corner Radio Frequency Chamber, Benefield Anechoic Facility (BAF) 1030; refurbish All B1440 Mission Control Room (MCR) Doors; replace RF Shielded Main Doors 1030 (5 each); Room 204B Video Teleconference (VTC) Door Replacement B1030; Festoon 2 Installation B1030; Shielded 270 Volt Direct Current (VDC) Installation in Data Acquisition Center (DAC) B1030; G-19 Test Equipment Accountability Upgrade Mezzanine B1030; Hydraulic Unit Upgrade B1030.</p> <p>FY 2020 Plans: The FY20 plans include hydraulic Unit Upgrade B1030; Power Supply for System Under Test Power B1030; Bathroom Renovations B1030 (North and South Tower); replace Radio Frequency (RF) Shielded Mandoors B1030; Seismic Upgrade Mission Control Center (MCC) 1440; Repair/Install Anti-terrorism/Force Protection for MCC 1440; Phase 2 Chamber Deluge System Replacement/Upgrade (includes RAM 24").</p> <p>FY 2019 to FY 2020 Increase/Decrease Statement: \$16.4 million decrease as FY17PB SLEP I modernization effort for the BAF nears completion. Two projects in particular associated with the FY17PB modernization are the Phase 1 Chamber Deluge System Replacement/Upgrade and the Overhead Hoist project.</p>								12.171	22.027	5.629	
Accomplishments/Planned Programs Subtotals								135.507	187.216	88.445	
D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• RDTE 06 PE 0604256F: Threat Simulator Development	34.777	34.206	59.963	-	59.963	63.925	44.844	36.577	31.717	Continuing	Continuing

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D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• RDTE 06 PE 0604759F: Major T&E Investment	111.138	216.844	181.663	-	181.663	164.005	142.090	81.386	81.843	Continuing	Continuing
• RDTE 06 PE 0605807F: Test and Evaluation Support	735.688	692.784	717.895	-	717.895	721.615	761.252	765.736	779.877	Continuing	Continuing
• RDTE 06 PE 0605978F: Facility Sustainment - T&E Support	28.720	28.888	29.424	-	29.424	29.935	30.555	31.112	31.673	Continuing	Continuing
Remarks											
E. Acquisition Strategy											
N/A.											
F. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											