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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605807F / <i>Test and Evaluation Support</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	842.401	913.213	936.913	0.000	936.913	1,088.746	1,273.317	1,316.674	1,368.799	Continuing	Continuing
6606TG: <i>704th Test Group</i>	-	46.257	47.991	49.723	0.000	49.723	60.689	54.140	56.651	57.734	Continuing	Continuing
6606TS: <i>Test and Evaluation Support</i>	-	796.144	865.222	887.190	0.000	887.190	1,028.057	1,219.177	1,260.023	1,311.065	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides resources to operate the Air Force Test Center (AFTC) test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB). Test facilities/capabilities include wind tunnels, rocket and jet engine test cells, hypersonic and subsonic testing, modeling and simulation, technology, limited space environmental simulation chambers, armament test ranges, hardware-in-the-loop test facilities, climatic test facilities, avionics test facilities, aircraft testbeds, dry lake bed landing sites, instrumented test ranges, and test aircraft maintenance, as well as USAF Test Pilot School.

Test and Evaluation (T&E) Support funds institutional test infrastructure activities including: Command and supervisory staffs; supply stocks; maintenance, repair, and replacement of worn or obsolete test equipment and facilities; test infrastructure for data collection, transmission, reduction, and analysis; civilian salaries; temporary duty travel; range operations and material support contract costs for hardware and software engineering and maintenance; and minor improvement and modernization projects. It also funds institutional test aircraft depot level maintenance such as: Programmed Depot Maintenance (PDM), the calendar-based cyclic scheduling of aircraft into depots for update/inspection; modifications and any other depot level repairs required by the aircraft System Program Directors (SPD); engine overhauls; depot-provided area assistance; and assorted ground support equipment overhauls.

Within AFTC there are three test wings. The first is Arnold Engineering and Development Complex (AEDC), located at Arnold Air Force Base (AFB), TN. The AEDC institutional test infrastructure supports operations of the largest complex of ground test facilities in the world (including transonic, supersonic, and hypersonic wind tunnels; rocket motor and turbine engine test cells; space environmental test chambers, hyper ballistic ranges; and other specialized facilities). AEDC also supports geographically separated facilities which include the National Full-Scale Aerodynamic Complex (NFAC) located at NASA's AMES Research Center, California, and Tunnel 9 located at White Oak, Maryland. The 412 Test Wing (TW) is located at Edwards AFB, CA. Its institutional test infrastructure supports weapons system development and operational test and evaluation for aircraft, aircraft subsystems and aircraft weapon systems, aerospace research vehicles, unmanned miniature vehicles, cruise missiles, parachute delivery/recovery systems, cargo handling systems, communications, information operations, and Electronic Warfare (EW) systems for DoD and allied forces. The 412TW mission also includes the USAF Test Pilot School. Lastly, the 96 TW, located at Eglin AFB, FL, is a joint test and training complex comprised of 724 square miles of land area, and approximately 123,000 square miles of water area. The 96TW provides the institutional test infrastructure required to conduct developmental and operational test and evaluation of non-nuclear air armaments (including aircraft guns, ammunition, and air-to-surface and air-to-air guided munitions); Command, Control, Communications, Computers, Cyber and Intelligence/Surveillance/Reconnaissance (C5ISR) systems; target acquisition and weapon delivery systems; and special operations aircraft systems. 96TW provides a scientific test process that supports the development, production, sustainment, and enhancement of munitions systems that support tri-service digital weapons development. T&E support services contracts are awarded on the basis of full and open competition.

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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 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	841.854	913.213	892.125	0.000	892.125
Current President's Budget	842.401	913.213	936.913	0.000	936.913
Total Adjustments	0.547	0.000	44.788	0.000	44.788
• 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	0.547	0.000	44.788	0.000	44.788

Change Summary Explanation

FY25: Funding net increase of \$44.8 million due to the following actions: an increase of \$6.4 million due to an AF transfer of 44 authorizations with an Average Work Year Cost (AWYC) of \$144.5 thousand; a civpay reprice of \$16.8 million with an AWYC of \$150.7 thousand; a non-pay to civpay realignment of \$2.1 million to fund 13 authorizations with an AWYC of \$150.7 thousand in support of Hypersonics capabilities; an increase of \$9.8 million for Project VENOM operations funding; an increase of \$9.0 million to fund flying hours for F-35 DT aircraft, and an increase of \$2.2 million due to fuel reprice and non-pay non-fuel inflation.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605807F / <i>Test and Evaluation Support</i>				Project (Number/Name) 6606TG / <i>704th Test Group</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
6606TG: <i>704th Test Group</i>	-	46.257	47.991	49.723	0.000	49.723	60.689	54.140	56.651	57.734	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project infrastructure support is provided for the unique capabilities of the 704th Test Group (TG) facilities: Central Inertial and Global Positioning System (GPS) Test Facility (CIGTF/746th Test Squadron), the Holloman High Speed Test Track (HHSTT/846th Test Squadron) and the National Radar Cross Section (RCS) Test Facility (NRTF/704 TG Det 2), the 586th Flight Test Squadron including Detachment 1 (Det 1), 704 TG Operating Location (704 TG OL-AA) at Kirtland AFB, and 704 TG Operation Location (704 TG OL-AC) at Wright-Patterson AFB.

CIGTF provides independent test and evaluation of inertial, Global Positioning System, and integrated systems used for aircraft navigation and missile guidance systems, including vulnerability to electronic interference.

HHSTT capabilities include full-scale testing in flight representative environments, realistic live-fire simulations, test item and target fragment recovery, precision trajectory analysis and high speed photography.

NRTF provides radar cross section (RCS) monostatic and bistatic amplitude and phase measurements, antenna pattern measurements, glint and near field measurements for low observable targets.

The 586th Flight Test Squadron executes flight test and test support for advanced avionics and weapons development of joint, international and commercial test programs. Det 1 provides the liaison function for coordinating and scheduling all US Air Force test and training operations at White Sands Missile Range (WSMR). OL-AA provides test support for the Air Force Research Lab (AFRL) Directed Energy Division.

The 704 TG OL-AC includes the Landing Gear Test Facility (LGTF) with capabilities such as variable and fixed inertia dynamometers, compression/tension load applicators, 4 drop towers, a burst pit and a dynamic load simulator. The 704 TG OL-AC also includes the Air Vehicle Survivability Office that provides support for Air Force aircraft acquisition programs. The 704th TG support services contracts are awarded on the basis of full and open competition.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Civ Pay	25.380	30.893	31.674
Description: Provide civilian pay at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.			
FY 2024 Plans:			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Continue civilian pay at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems. FY 2025 Plans: Continue civilian pay at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems. FY 2024 to FY 2025 Increase/Decrease Statement: N/A				
Title: Non Pay Description: Provide infrastructure at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems. FY 2024 Plans: Resources provide operational support for AFTC test activates. Efforts include Aircraft Ops, Flying Hour Program (FHP), contracted services, test equipment and supplies, general operations and maintenance, and utilities (list not all inclusive). FY 2025 Plans: Resources provide operational support for AFTC test activates. Efforts include Aircraft Ops, Flying Hour Program (FHP), contracted services, test equipment and supplies, general operations and maintenance, and utilities (list not all inclusive). FY 2024 to FY 2025 Increase/Decrease Statement: N/A		20.877	17.098	18.049
Accomplishments/Planned Programs Subtotals		46.257	47.991	49.723
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				

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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
6606TS: <i>Test and Evaluation Support</i>	-	796.144	865.222	887.190	0.000	887.190	1,028.057	1,219.177	1,260.023	1,311.065	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program activity provides resources to operate the Air Force Test Center (AFTC) test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB). Test facilities/capabilities operated through this program include wind tunnels, rocket and jet engine test cells, hypersonic and subsonic testing, modeling and simulation, technology, limited space environmental simulation chambers, armament test ranges, hardware-in-the-loop test facilities, climatic test facilities, avionics test facilities, aircraft testbeds, dry lakebed landing sites, instrumented test ranges, and test aircraft maintenance, as well as USAF Test Pilot School.

Test and Evaluation (T&E) Support funds institutional test infrastructure activities including: Command and supervisory staffs; supply stocks; maintenance, repair, and replacement of worn or obsolete test equipment and facilities; test infrastructure for data collection, transmission, reduction, and analysis; civilian salaries; temporary duty travel; range operations and material support contract costs for hardware and software engineering and maintenance; and minor improvement and modernization projects. It also funds institutional test aircraft depot level maintenance such as: Programmed Depot Maintenance (PDM), the calendar-based cyclic scheduling of aircraft into depots for update/inspection; modifications and any other depot level repairs required by the aircraft System Program Directors (SPD); engine overhauls; depot-provided area assistance; and assorted ground support equipment overhauls.

The AFTCs three test wings are supported by this project: (1) Arnold Engineering and Development Complex (AEDC), located at Arnold Air Force Base (AFB), TN, whose institutional test infrastructure supports operations of the largest complex of ground test facilities in the world (includes transonic, supersonic, and hypersonic wind tunnels; rocket motor and turbine engine test cells; space environmental test chambers, hyperballistic ranges; and other specialized facilities). Included are operations at the National Full-Scale Aerodynamic Complex (NFAC) located at NASA's AMES Research Center, California as well as operations at Tunnel 9 located at White Oak, Maryland.(2) 412 Test Wing (TW), located at Edwards AFB, CA, whose institutional test infrastructure supports weapons system development and operational test and evaluation for aircraft, aircraft subsystems and aircraft weapon systems, aerospace research vehicles, unmanned miniature vehicles, cruise missiles, parachute delivery/recovery systems, cargo handling systems, communications, information operations, and Electronic Warfare (EW) systems for DoD and allied forces. The 412TW mission includes the USAF Test Pilot School. (3) 96 TW, located at Eglin AFB, FL, is a joint test and training complex of 724 square miles of land area, and approximately 123,000 square miles of water area. 96TW provides the institutional test infrastructure required to conduct developmental and operational test and evaluation of non-nuclear air armaments (including aircraft guns, ammunition, and air-to-surface and air-to-air guided munitions); Command, Control, Communications, Computers and Intelligence/Surveillance/Reconnaissance (C4ISR) systems; target acquisition and weapon delivery systems; the McKinley Climatic Lab, multi-service climatic simulation capability, located at Eglin AFB, FL; and special operations aircraft systems. 96TW provides a scientific test process that supports the development, production, sustainment, and enhancement of munitions systems that support tri-service digital weapons development. T&E support services contracts are awarded on the basis of full and open competition.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Civ Pay	346.712	414.451	441.105

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Provide civ pay to support testing at Arnold Engineering and Development Complex (AEDC), the 412TW and USAF Test Pilot School at Edwards AFB, and the 96TW at Eglin AFB.</p> <p>FY 2024 Plans: Total consists of civilian pay to support testing at Arnold Engineering and Development Complex (AEDC), the 412TW and USAF Test Pilot School at Edwards AFB, and the 96TW at Eglin AFB.</p> <p>FY 2025 Plans: Total consists of civilian pay to support testing at Arnold Engineering and Development Complex (AEDC), the 412TW and USAF Test Pilot School at Edwards AFB, and the 96TW at Eglin AFB.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: A funding increase of \$25.0 million due to the following actions: Increase of \$6.4 million due to transfer of 44 authorizations from ACC with an AWYC of \$144.5 thousand; civpay reprice of \$16.8 million with an AWYC of \$150.7 thousand; and non-pay to civpay realignment of \$2.1 million to fund 13 authorizations with an AWYC of \$150.7 thousand in support of Hypersonics capabilities.</p>			
<p>Title: Non Pay</p> <p>Description: Provide infrastructure to support testing at Arnold Engineering and Development Complex (AEDC), the 412TW and USAF Test Pilot School at Edwards AFB, and the 96TW at Eglin AFB.</p> <p>FY 2024 Plans: Resources provide operational support for AFTC test activities. Efforts include Civilian pay, Aircraft Ops, Flying Hour Program (FHP), Programmed Depot Maintenance (PDM), contracted services, test equipment and supplies, general operations and maintenance, utilities, and Test Pilot School (list not all inclusive). Additional operations funding will be utilized to add manpower required to meet the increased demand for ground test and evaluation in numerous facilities at AEDC. Transonic, supersonic, and hypersonic wind tunnels require additional manning to meet Major Defense Acquisition Program and technology maturation project milestones. New facilities that will add scramjet test capability and high temperature material testing will be coming online and require manpower to operate and sustain those new facilities.</p> <p>FY 2025 Plans: Resources provide operational support for AFTC test activities. Efforts include Civilian pay, Aircraft Ops, Flying Hour Program (FHP), Programmed Depot Maintenance (PDM), contracted services, test equipment and supplies, general operations and maintenance, utilities, and Test Pilot School (list not all inclusive). Additional operations funding will be utilized to add manpower required to meet the increased demand for ground test and evaluation in numerous facilities at AEDC. Transonic, supersonic, and hypersonic wind tunnels require additional manning to meet Major Defense Acquisition Program and technology maturation</p>	449.432	450.771	446.085

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
project milestones. New facilities that will add scramjet test capability and high temperature material testing will be coming online and require manpower to operate and sustain those new facilities.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding net decrease of \$4.7 million due to partial return of Project VENOM operations funding of \$7.1 million coupled with an increase of \$2.3 million due to fuel reprice and non-pay non-fuel inflation adjustment.			
Accomplishments/Planned Programs Subtotals	796.144	865.222	887.190

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

N/A

Remarks

D. Acquisition Strategy

N/A