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**Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> / BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605807F / <i>Test and Evaluation Support</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	811.032	841.854	913.213	0.000	913.213	892.125	1,005.821	1,063.898	1,116.911	Continuing	Continuing
6606TG: <i>704th Test Group</i>	-	52.868	46.257	47.991	0.000	47.991	48.756	59.814	53.272	55.826	Continuing	Continuing
6606TS: <i>Test and Evaluation Support</i>	-	758.164	795.597	865.222	0.000	865.222	843.369	946.007	1,010.626	1,061.085	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, Tunnel 9 located at White Oak, Maryland, and the McKinley Climatic Lab located on Eglin AFB, Florida. 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 and Intelligence/Surveillance/Reconnaissance (C4ISR) 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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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2024 Air Force	<b>Date:</b> March 2023
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<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605807F / <i>Test and Evaluation Support</i>
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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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	811.032	826.854	863.012	0.000	863.012
Current President's Budget	811.032	841.854	913.213	0.000	913.213
Total Adjustments	0.000	15.000	50.201	0.000	50.201
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	15.000			
• 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	50.201	0.000	50.201

**Change Summary Explanation**

FY 2023: Congressional add of \$15 million for flying hour and contract labor funding to address Hypersonics testing at Edwards, Eglin, and Arnold Air Force Bases

FY 2024: Net increase of \$50.2 million due to CivPay reprice, civ pay raise to 4% assumption level, fuel pricing, non-fuel inflation, and additional manpower for Project Venom.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Air Force										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 3600 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605807F / <i>Test and Evaluation Support</i>				<b>Project (Number/Name)</b> 6606TG / <i>704th Test Group</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
6606TG: <i>704th Test Group</i>	-	52.868	46.257	47.991	0.000	47.991	48.756	59.814	53.272	55.826	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)**

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> Civ Pay	31.207	25.380	30.893
<b>Description:</b> Provide civilian pay at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.			
<b>FY 2023 Plans:</b>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p>Continue civilian pay at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.</p> <p><b>FY 2024 Plans:</b> Continue civilian pay at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$5.513 million due to a one year CivPay reprice at 155.32 average work year cost (AWC) for 194 manpower authorizations and CivPay Raise Assumption of 4%. This reprice corrects a mismatch between authorizations and CivPay funding that has existed in previous years.</p>				
<p><b>Title:</b> Non Pay</p> <p><b>Description:</b> Provide infrastructure at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.</p> <p><b>FY 2023 Plans:</b> Resources provide operational support for AFTC test activates. Efforts include Civilian pay, Aircraft Ops, Flying Hour Program (FHP), contracted services, test equipment and supplies, general operations and maintenance, and utilities (list not all inclusive).</p> <p><b>FY 2024 Plans:</b> Resources provide operational support for AFTC test activates. Efforts include Civilian pay, Aircraft Ops, Flying Hour Program (FHP), contracted services, test equipment and supplies, general operations and maintenance, and utilities (list not all inclusive).</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> FY23 to FY24 decrease of 3.779 million due to a 3.6 million previous cycle decrease to Dynamic Radar Cross Section (RCS) Range contractor support/sustainment funding and reduced funding request of 0.500 million to account for the availability of prior year execution balances.</p>		21.661	20.877	17.098
<b>Accomplishments/Planned Programs Subtotals</b>		52.868	46.257	47.991
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Air Force										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 3600 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605807F / <i>Test and Evaluation Support</i>				<b>Project (Number/Name)</b> 6606TS / <i>Test and Evaluation Support</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
6606TS: <i>Test and Evaluation Support</i>	-	758.164	795.597	865.222	0.000	865.222	843.369	946.007	1,010.626	1,061.085	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)**

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> Civ Pay	352.905	346.712	414.451

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p><b>Description:</b> 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><b>FY 2023 Plans:</b> 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><b>FY 2024 Plans:</b> 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><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of 67.739 million includes the following actions. Increase of 12.644 million for CivPay Raise assumption at 4% and a one year CivPay reprice (+46.743 million) at 143.70 average work year cost (AWC) for 2,738 manpower authorizations and includes 10 million increase for Special Salary Rate (SSR) for Edwards Air Force Base aircraft maintenance authorizations. This reprice corrects a mismatch between authorizations and CivPay funding that has existed in previous years. An increase of 8.352 million at 141.56 AWC for 118 manpower authorizations at Eglin Air Force Base in support F-16 Project Venom; FY24 adds half year CivPay funding.</p>			
<p><b>Title:</b> Non Pay</p> <p><b>Description:</b> 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><b>FY 2023 Plans:</b> Resources provide operational support for AFTC test activates. Efforts include Civilian pay, Aircraft Ops, Flying Hour Program (FHP), Program Depot Maintenance (PDM), contracted services, test equipment and supplies, general operations and maintenance, utilities, and Test Pilot School (list not all inclusive).</p> <p><b>FY 2024 Plans:</b> 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>	405.259	448.885	450.771

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2022	FY 2023	FY 2024
<p>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><b><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i></b>  FY23 to FY24 net increase of 1.886 million is due to FY23 Congressional add of \$15 million for flying hour and contract labor funding to address Hypersonics testing at Edwards, Eglin, and Arnold Air Force Bases and 4.9 million for fuel pricing and non-fuel inflation.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	758.164	795.597	865.222

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A