

UNCLASSIFIED

PE NUMBER: 0605807F
 PE TITLE: Test and Evaluation Support

Exhibit R-2, RDT&E Budget Item Justification	DATE May 2009
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BUDGET ACTIVITY 06 RDT&E Management Support	PE NUMBER AND TITLE 0605807F Test and Evaluation Support
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Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	753.220	785.576	736.488	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
06TG 46 Test Group	29.457	31.018	28.857	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
06TS Test and Evaluation Support	723.763	754.558	707.631	0.000	0.000	0.000	0.000	0.000	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

Test facilities, capabilities and resources operated through this program include wind tunnels, rocket and jet engine test cells, hypersonic and subsonic testing, 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, civilian payroll, and contractor services. It also provides resources for maintaining and modifying as required Air Force Materiel Command (AFMC) assigned test and test support coded aircraft. No acquisition contracts are funded from this program; test support contracts for services and supplies and equipment are predominantly awarded on the basis of full and open competition.

This program element is in Budget Activity 6, RDT&E Management Support, because it funds institutional infrastructure resources (civilians, aircraft, facilities and ranges) to operate the Air Force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB).

(U) B. Program Change Summary (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Previous President's Budget	720.952	787.737	794.443
(U) Current PBR/President's Budget	753.220	785.576	736.488
(U) Total Adjustments	32.268	-2.161	
(U) Congressional Program Reductions			
Congressional Rescissions		-2.161	
Congressional Increases	17.618		
Reprogrammings	14.650		
SBIR/STTR Transfer			

(U) Significant Program Changes:

FY08 Congressional Increase: Supplemental funding (\$.300M Civ Pay and \$17.318M fuel).
 FY08 OMNIBUS Reprogramming: RC-1 Chiller repair at AEDC (\$14.650M).

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY 06 RDT&E Management Support					PE NUMBER AND TITLE 0605807F Test and Evaluation Support			PROJECT NUMBER AND TITLE 06TG 46 Test Group		
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
06TG 46 Test Group	29.457	31.018	28.857	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

Project infrastructure support is provided for the unique capabilities of the 46th Test Group (TG) facilities: Central Inertial Guidance 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/781st Test Squadron), the 586th Flight Test Squadron and Detachment 1 (Det 1). 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 environments, realistic live-fire simulations, test item and target fragment recovery, and 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. 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 586th Flight Test Squadron executes flight test and test support for advanced avionics and weapons development of joint, international and commercial test programs. The 46th TG support services contracts are awarded on the basis of full and open competition.

Budget Activity Justification:

This Program Element is in Budget Activity 6, RDT&E Management Support, because it funds institutional infrastructure resources (civilians, aircraft, facilities and ranges) to operate the Air Force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB).

(U) B. Accomplishments/Planned Program (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Provide infrastructure to support testing of DoD, other Government Agencies, FMS and commercial weapon systems. Continue institutional test infrastructure support to enable testing for unclassified programs such as Miniaturized Airborne Global Positioning System (GPS) upgrades, Defense Advanced GPS Receiver, Federal Aviation Authority (FAA) tests, GPS jamming and electronic countermeasures, Joint Precision Approach and Landing System (JPALS), GPS integrated and embedded inertial navigation programs, aircraft navigation systems including F-22, JSF, F-16, F-15, P-3, B-1, B-52, C-130, HH-60 and MH-53, munitions navigation systems including the Conventional Air-Launched Cruise Missile (CALCM), Small Diameter Bomb (SDB), as well as numerous advanced navigation and navigation warfare research projects; Bomb Live Unit (BLU) -121 and BLU-128 developmental testing, Theater High Altitude Area Defense (THAAD) Live Fire T&E (LFT&E), JSF ejection seat and transparency removal systems, High Speed Penetrator, Patriot Advanced Capabilities-3 (PAC-3), Joint Service Aircrew Mask, Army Tactical Missile System (ATACMS), Active Denial System (ADS), Airborne Laser (ABL), Advanced Tactical Laser (ATL), various high-powered microwave (HPM), and high-energy laser (HEL) systems, RCS testing, as well as multiple classified programs. Continue GPS-Joint Program Office (JPO) Responsible Test	3.930	4.272	4.327

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Project 06TG

Exhibit R-2a (PE 0605807F)

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY 06 RDT&E Management Support	PE NUMBER AND TITLE 0605807F Test and Evaluation Support	PROJECT NUMBER AND TITLE 06TG 46 Test Group
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(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Organization (RTO) responsibilities.			
(U) Utilities	0.265	0.273	0.270
(U) Contractor Services (in-house contract support activities)	12.379	12.809	10.000
(U) T&E Civilian Pay	12.303	12.914	14.034
(U) Aircraft flying costs include test, test support and pilot proficiency for sustained readiness. Costs include programmed depot maintenance (PDM), engine overhauls, petroleum, oils and lubricants (POL), depot level reparables (DLR); fuel and related support. Funds proficiency flying and aircraft infrastructure to support test flying requirements.	0.580	0.750	0.226
(U) Total Cost	29.457	31.018	28.857

(U) <u>C. Other Program Funding Summary (\$ in Millions)</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost to</u>	
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>	<u>Total Cost</u>						
(U) Related RDT&E:										
PE 0604759F, Major T&E Investment; PE 0604256F Threat Simulator Development; PE 0604940D, Central T&E Investments; PE 0605976F, Facility Restoration and Modernization - T&E and PE 0605978F Facility Sustainment - T&E Support										

(U) **D. Acquisition Strategy**
Not applicable

Exhibit R-2a, RDT&E Project Justification

DATE
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BUDGET ACTIVITY 06 RDT&E Management Support					PE NUMBER AND TITLE 0605807F Test and Evaluation Support			PROJECT NUMBER AND TITLE 06TS Test and Evaluation Support		
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
06TS Test and Evaluation Support	723.763	754.558	707.631	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

This project provides resources to operate the Air Force 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. Three major Air Force test centers are supported by this project: (1) Arnold Engineering and Development Center (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) Air Force Flight Test Center (AFFTC), 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. Included are operations at Air Force Electronic Warfare Evaluation Simulator (AFEWES) located at AF Plant 4 in Ft. Worth, TX. The AFFTC mission includes the USAF Test Pilot School. (3) Air Armament Center (AAC) 46th Test Wing (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. AAC 46TW 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; multi-service climatic simulation capability; and special operations aircraft systems. AAC 46TW provides a scientific test process that supports the development, production, sustainment, and enhancement of munitions systems that support tri-service digital weapons development. AAC 46TW technology is compatible with weapon systems requiring test such as the next generation Advanced Medium Air-to-Air Missile (AMRAAM), Laser Joint Direct Attack Munition (JDAM), next generation Small Diameter Bomb (SDB), Extended Range Joint Air-to-Surface Standoff Missile (JASSM-ER), Joint Tactical Information Distribution System (JTIDS), ALR-69A Radar Warning Receiver, Full Scale Aerial Target, Distributed Common Ground System (DCGS), Miniature Air Launched Decoy (MALD) and Jammer (MALD-J), Combat Talon, etc. T&E support

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Exhibit R-2a, RDT&E Project Justification		DATE May 2009
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services contracts are awarded on the basis of full and open competition.

Budget Activity Justification:

This program element is in Budget Activity 6, RDT&E Management Support, because it funds institutional infrastructure resources (civilians, aircraft, facilities and ranges) to operate the Air Force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB).

(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Provide infrastructure to support testing of DoD, other Government Agencies, FMS and commercial weapon systems.			
(U) ARNOLD ENGINEERING AND DEVELOPMENT CENTER (AEDC)			
(U) Continue institutional test infrastructure support to enable ground testing for classified programs and unclassified programs (Alpha RLV, ICBM, JSF, Engine CIP, Spacetrack, Ballistic Missile Defense, Minuteman, Foreign Tech, HIFIRE, AMC-X, B1B-F101, Falcon, UH-60 IBC, AHW, F-18, F405 Engine, F/A-18E/F, DTRF Maint/Transition, Threat Airborne Simulator, Threat Signature Simulation, Kinetic Energy Interceptor, SM-3, FMS-XF710 Engine, Global Hawk and FaCET.) Contract was awarded for the RC-1 Phase I Dessicant Dryer Unit.	36.447	17.061	17.461
(U) Utilities.	10.330	10.640	10.508
(U) Contractor Services (in-house contract support activities & includes RC-1 chiller repair funded in FY08 Omnibus.	126.214	127.152	103.120
(U) T&E Civilian Pay.	15.914	16.866	16.857
(U) AIR FORCE FLIGHT TEST CENTER (AFFTC)			
(U) Continue to provide institutional test infrastructure support enabling testing of the B-1B, B-2, B-52, F-16, F-15, F-15E, F-22A, F-117, F-35, C-17, CV-22, ATIC, ECCM, ABL, Predator, Global Hawk, Test Tanker II, C-20, Next Generation Tanker, etc., communications, information systems, and classified programs. Operates the USAF Test Pilot School.	7.048	30.590	48.588
(U) Utilities	7.417	7.575	7.481
(U) Contractor services (in-house contract support activities)	90.235	94.219	71.911
(U) T&E Civilian Pay	167.427	178.326	180.976
(U) Aircraft flying costs include test, test support and pilot proficiency for sustained readiness. Costs include programmed depot maintenance (PDM), engine overhauls, petroleum, oils and lubricants (POL), depot level reparables (DLR); fuel and related support. Funds proficiency flying and aircraft infrastructure to support test flying requirements.	86.743	80.071	70.767
(U) AIR ARMAMENT CENTER (AAC) 46th Test Wing (TW)			
(U) Continue institutional test infrastructure support for non-nuclear air armaments (JASSM, JASSM-ER, SEEK EAGLE, F-35, AIM9X, AMRAAM, Hellfire, DIRCM, PATRIOT, etc.); C2 (DCAPES, GBS, IBS, GCSS-AF, TBMCS, R/SAOC, Link 16); special operations (CV-22, C-130 variants); and tactical aircraft OFP (A-10 Suite 2+/3,	21.523	26.954	34.287

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Project 06TS

Exhibit R-2a (PE 0605807F)

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(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
F-15E, F-15C/D).			
(U) Utilities.	5.009	5.211	5.146
(U) Contractor Services (in-house contract support activities).	76.106	75.786	58.699
(U) T&E Civilian Pay	48.161	49.470	54.652
(U) Aircraft flying hours costs include: pilot proficiency flying for sustained readiness; deferred and projected programmed depot maintenance (PDM); engine overhauls; petroleum, oils, and lubricants (POL); depot level reparables (DLR); fuel and related support. Funds proficiency flying and aircraft infrastructure to support test flying requirements.	25.189	34.637	27.178
(U) Total Cost	723.763	754.558	707.631

(U) <u>C. Other Program Funding Summary (\$ in Millions)</u>		<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) Related RDT&E: PE 0604759F, Major T&E Investment; PE 0604256F Threat Simulator Development; PE 0604940D, Central T&E Investments; PE 0605976F, Facility Restoration and Modernization - T&E and PE 0605978F Facility Sustainment - T&E Support											

(U) D. Acquisition Strategy
Not applicable.