

UNCLASSIFIED

PE NUMBER: 0605807F

PE TITLE: Test and Evaluation Support

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2005

BUDGET ACTIVITY

06 RDT&E Management Support

PE NUMBER AND TITLE

0605807F Test and Evaluation Support

Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	336.751	356.632	692.665	672.848	733.231	744.754	774.422	780.826	Continuing	TBD
06TG 46 Test Group	20.903	23.623	26.807	27.805	29.334	30.462	31.825	32.470	Continuing	TBD
06TS Test and Evaluation Support	315.848	333.009	665.858	645.043	703.897	714.292	742.597	748.356	Continuing	TBD

In FY 2006, Project 6606TS, Test and Evaluation Support, includes a new start effort

(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, limited space environmental simulation chambers, armament test ranges, 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). Due to administrative limitations the R-1 shows \$50M for FY06 in Budget Activity 5, System Development and Demonstration. For documentation purposes the \$50M is included in this Budget Activity 6 documentation.

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	324.665	356.266	503.983	363.289
(U) Current PBR/President's Budget	336.751	356.632	692.665	672.848
(U) Total Adjustments	12.086	0.366		
(U) Congressional Program Reductions				
Congressional Rescissions		-3.134		
Congressional Increases		3.500		
Reprogrammings	12.086			
SBIR/STTR Transfer				

(U) **Significant Program Changes:**

The FY03 National Defense Authorization Act (NDAA) language directed T&E centers to charge only direct costs beginning in FY06; this resulted in a zero-balance transfer (ZBT) of funding over the FYDP from the customer accounts (for indirect test costs) to T&E Support, PE 0605807F.

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Exhibit R-2a, RDT&E Project Justification

DATE

February 2005

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 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
06TG 46 Test Group	20.903	23.623	26.807	27.805	29.334	30.462	31.825	32.470	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 funds institutional test infrastructure support including: Command and supervisory staffs; supply stocks; upkeep, refurbishment, repair, and replacement of non-repairable or obsolete test equipment; test infrastructure for data collection, transmission, reduction, and analysis; civilian salaries, utilities, temporary duty travel, support contract costs for hardware and software engineering and maintenance. 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), the 586th Flight Test Squadron and Detachment 1 (DET 1). CIGTF provides independent assessments of inertial components, aircraft navigation systems, and missile guidance systems. 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 bi-static amplitude and phase measurements, antenna pattern measurements, glint and near field measurements for low observable targets. The DET 1 provides liaison function for coordination of all AF test and training operations at White Sands Missile Range (WSMR). A growing number of the WSMR tests support Directed Energy Systems. The 586th Flight Test Squadron provides flight test support for weapon system, missile, guided bomb and spaceplane test and evaluation. 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) Accomplishments/Planned Program:

(U) Provide infrastructure to support testing of DoD, FMS and commercial weapon systems.

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Continue institutional test infrastructure support to enable testing for unclassified programs such as Miniaturized Airborne Global Positioning Upgrade, Joint Global Positioning System (GPS) Combat Effectiveness, GPS jamming and electronic countermeasures, NAVWAR, Federal Aviation Authority (FAA), GPS integrated and embedded Inertial Navigation System (INS) programs, aircraft navigation systems including B-2 and F-22, munitions navigation systems such as Joint Air-to-Surface Standoff Missile (JASSM), F-22 ejection seat, Advanced Concept Ejection Seat (ACES) II Cooperative Modification Project (CMP), SM-3 Live Fire T&E (LFT&E), Theater High Altitude Area Defense (THAAD) LFT&E, Compact Energy Missile (CKEM) LFT&E, RCS testing, as well as multiple classified programs. Continue GPS-Joint Program Office (JPO) Responsible Test Organization (RTO) responsibilities.	2.324	4.233	4.371	4.149

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

(U) Contractor Services (in-house contract support activities)	8.062	10.838	12.659	13.759
(U) T&E Civilian Pay	10.517	8.552	9.777	9.897
(U) Total Cost	20.903	23.623	26.807	27.805

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

<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Cost to</u>	<u>Total Cost</u>
<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</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

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

06TS Test and Evaluation Support

Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
06TS Test and Evaluation Support	315.848	333.009	665.858	645.043	703.897	714.292	742.597	748.356	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, limited space environmental simulation chambers, armament test ranges, 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 free 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). (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. The AFFTC mission includes the United States Air Force (USAF) Test Pilot School. (3) Air Armament Center (AAC) 46th Test Wing (TW) located at Eglin AFB, FL, is comprised of 724 square miles of land area, and approximately 123,000 square miles of water space. AAC 46TW provides the institutional test infrastructure required for the conduct of developmental and operational test and evaluation of non-nuclear air armaments (including aircraft guns, ammunition, bombs, and missiles); Command, Control, Communications, Computers and Intelligence (C4I) systems; target acquisition and weapon delivery systems; a multi-service climatic simulation capability, and determines target/test item spectral signatures for DOD and allied forces. AAC 46TW provides a scientific test process that supports the development and enhancement of munitions systems that support tri-service smart weapons development. AAC 46TW technology is compatible with weapon systems to be tested such as Advanced Medium Range Air-to-Air Missile (AMRAAM), Joint Direct Attack Munition (JDAM), AGM-130, Advanced Short Range Air-to-Air Missile (ASRAAM), Joint Tactical Information Distribution System (JTIDS), Joint Surveillance Target Attack Radar System (JSTARS), Combat Talon, etc. T&E 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). Due to administrative limitations the R-1 shows \$50.000M for FY06 in Budget Activity 5, System Development and Demonstration. For documentation purposes the

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Exhibit R-2a, RDT&E Project Justification			DATE February 2005		
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			
\$50.000M is included in this Budget Activity 6 documentation.					
(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u>		<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Accomplishments/Planned Program:					
(U) Provide infrastructure to support testing of DoD, 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 (F-22, JDAM, F-15, F-16, JSF, B-1B, B-2, X-37, X-38, KC-10, Global Hawk, AMRAAM, AIM 9X, Minuteman, Peace Keeper, MDA, EELV, THAAD, Hyper-X CTS, Delta IV, F-18, TF39, F404, F414, F100, F110, F415, F118, F119, and Tunnel 9).		4.601	5.989	8.811	11.245
(U) Utilities.		7.448	6.921	7.216	7.385
(U) Contractor Services (in-house contract support activities).		81.428	94.902	130.008	131.680
(U) T&E Civilian Pay.		13.334	13.008	15.600	14.685
(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-22, F-117, AFTI/F-16, C-17, ATIC, ECCM, EW (B-1B ALQ-161, F-16 AN/ASQ-213, C-130 ALQ-172, etc.), communications, information systems, and classified programs. Operate the Test Pilot School. Significant increase from FY04 to FY05 reflects the planned execution of a "direct conversion" of previously identified A-76 study personnel (mil to civ) into a High Performance Organization manned by civilians. FY 06 increase includes \$50M for aircraft modifications to provide an airborne communications test bed and a secure communications test bed.		9.325	52.433	80.150	20.657
(U) Utilities.		0.798	3.053	5.482	5.077
(U) Contractor services (in-house contract support activities)		22.624	9.690	42.051	99.506
(U) T&E Civilian Pay		87.459	44.189	152.165	147.525
(U) Aircraft flying hour costs for pilot proficiency for sustained readiness to include programmed depot maintenance (PDM), engine overhauls, petroleum, oils, and lubricants (POL), depot level reparable (DLR) and related support. Increase in FY05 is due to a higher requirement for time and calendar based maintenance. Flying proficiency funded at minimum levels to meet AFFTC proficiency flying goals.		14.161	27.102	89.155	77.536
(U) AIR ARMAMENT CENTER (AAC) 46th Test Wing (TW)					
(U) Continue institutional test infrastructure support for non-nuclear air armaments (JASSM, SEEK EAGLE, WCMD, F-22, AIM 9X, AMRAAM, ASRAAM, Hellfire, PATRIOT, DIRCM, AAV, UCAV, etc.); C2 (TMBCS, Link 16, BISS, and aircraft software upgrades (AFMSS)).		19.431	17.643	9.951	9.154
(U) Utilities.		0.007	4.239	4.387	4.457
(U) Contractor Services (in-house contract support activities).		18.329	8.073	42.336	32.568
Project 06TS		R-1 Shopping List - Item No. 108-6 of 108-7		Exhibit R-2a (PE 0605807F)	

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BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT NUMBER AND TITLE			
06 RDT&E Management Support				0605807F Test and Evaluation Support			06TS Test and Evaluation Support			
(U)	T&E Civilian Pay			24.529			32.365	50.169	50.617	
(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 fuel price increases; and related support. Funds proficiency flying to minimum levels allowing AAC 46TW to meet proficiency flying goals.			12.374			13.402	28.377	32.951	
(U)	Total Cost			315.848			333.009	665.858	645.043	
(U)	<u>C. Other Program Funding Summary (\$ in Millions)</u>									
	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</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)	<u>D. Acquisition Strategy</u> Not applicable.									