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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i> | | | | PE 0605807F: <i>Test and Evaluation Support</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 755.992 | 759.868 | 654.475 | - | 654.475 | 578.997 | 595.567 | 615.594 | 613.825 | Continuing | Continuing |
| 6606TG: <i>46 Test Group</i> | 29.299 | 32.095 | 31.129 | - | 31.129 | 32.182 | 33.067 | 32.864 | 32.872 | Continuing | Continuing |
| 6606TS: <i>Test and Evaluation Support</i> | 726.693 | 727.773 | 623.346 | - | 623.346 | 546.815 | 562.500 | 582.730 | 580.953 | Continuing | Continuing |

Note

FY2010 funding totals include \$3.291 appropriated for supplemental fuel funding.

The program funding includes reductions for manpower efficiencies that are not intended to impact program content. The efficiencies total \$109.336 in FY12.

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 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 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 746.488 | 759.868 | 773.537 | - | 773.537 |
| Current President's Budget | 755.992 | 759.868 | 654.475 | - | 654.475 |
| Total Adjustments | 9.504 | - | -119.062 | - | -119.062 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | -3.137 | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 9.350 | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Other Adjustments | 3.291 | - | -119.062 | - | -119.062 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | | | | | | DATE: February 2011 | | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support | | | | R-1 ITEM NOMENCLATURE PE 0605807F: Test and Evaluation Support | | | | PROJECT 6606TG: 46 Test Group | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost | |
| 6606TG: 46 Test Group | 29.299 | 32.095 | 31.129 | - | 31.129 | 32.182 | 33.067 | 32.864 | 32.872 | Continuing | Continuing | |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| 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 Detachment 1 (Det 1), 46 TG Operating Location (46 TG OL-AA) at Kirtland AFB, and 46 TG Operation Location (46 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 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 46 TG OL-AC includes the Landing Gear Test Facility (LGTF) and the Aerospace Vehicle Survivability Facility (AVSF). LGTF's capabilities include variable and fixed inertia dynamometers, compression/tension load applicators, 4 drop towers, a burst pit and a dynamic load simulator. The AVSF's capabilities include developing/refining new projectile launch techniques, ballistic flammability studies, ballistic testing of full-size production aircraft or components. The 46th TG support services contracts are awarded on the basis of full and open competition. | | | | | | | | | | | | |
| 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. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| Title: 46th Test Group | | | | | | | | 29.299 | 32.095 | 31.129 | - | 31.129 |
| Description: Provide infrastructure at the 46th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems. | | | | | | | | | | | | |
| FY 2010 Accomplishments: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. Contractor Services (in-house contract support activities). | | | | | | | | | | | | |
| FY 2011 Plans: | | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | | | | | DATE: February 2011 | | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i> | | | R-1 ITEM NOMENCLATURE PE 0605807F: <i>Test and Evaluation Support</i> | | | PROJECT 6606TG: <i>46 Test Group</i> | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| Total consists of utilities, contractor services, and civilian pay. Increase in FY 2011 due to civilian pay with contractor to civilian conversion. | | | | | | | | | | | |
| FY 2012 Base Plans: Total consists of utilities, contractor services, and civilian pay. Decrease in FY 2012 due to manpower efficiencies and cilvian pay raise reduction. | | | | | | | | | | | |
| FY 2012 OCO Plans: | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | | 29.299 | 32.095 | 31.129 | - | 31.129 |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| • PE 0604256F: <i>Threat Simulator Development</i> | 25.375 | 21.245 | 22.420 | 0.000 | 22.420 | 23.234 | 22.379 | 20.592 | 19.923 | Continuing | Continuing |
| • PE 0604759F: <i>Major Test and Evaluation Investment</i> | 63.892 | 61.587 | 62.206 | 0.000 | 62.206 | 60.038 | 49.606 | 46.223 | 53.760 | Continuing | Continuing |
| • PE 0605976F: <i>Facility Restoration and Modernization - T&E</i> | 52.190 | 46.327 | 44.547 | 0.000 | 44.547 | 45.723 | 44.236 | 40.071 | 38.191 | Continuing | Continuing |
| • PE 0605978F: <i>Facility Sustainment - T&E Support</i> | 29.559 | 27.579 | 27.953 | 0.000 | 27.953 | 28.049 | 27.220 | 26.416 | 25.600 | Continuing | Continuing |
| D. Acquisition Strategy Not applicable | | | | | | | | | | | |
| E. 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. | | | | | | | | | | | |

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| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i> | | | | R-1 ITEM NOMENCLATURE PE 0605807F: <i>Test and Evaluation Support</i> | | | | PROJECT 6606TS: <i>Test and Evaluation Support</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 6606TS: <i>Test and Evaluation Support</i> | 726.693 | 727.773 | 623.346 | - | 623.346 | 546.815 | 562.500 | 582.730 | 580.953 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

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. 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 services contracts are awarded on the basis of full and open competition.

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| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support | | R-1 ITEM NOMENCLATURE PE 0605807F: Test and Evaluation Support | | PROJECT 6606TS: Test and Evaluation Support | | |
| 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, and test and evaluation. | | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| <p>Title: AEDC</p> <p>Description: Provide infrastructure to support testing of DoD, other Government Agencies, FMS and commercial weapon systems at Arnold Engineering and Development Center (AEDC).</p> <p>FY 2010 Accomplishments: Total consists of utilities, contractor services, and civilian pay.</p> <p>FY 2011 Plans: Total consists of utilities, contractor services, and civilian pay. Decrease in FY 2011 due to contractor services related to contractor to civilian conversion.</p> <p>FY 2012 Base Plans: Total consists of utilities, contractor services, and civilian pay. Decrease in FY 2012 due to manpower efficiencies and civilian pay raise reduction.</p> <p>FY 2012 OCO Plans:</p> | | 174.065 | 173.421 | 152.049 | - | 152.049 |
| <p>Title: AFFTC</p> <p>Description: Continue to provide institutional test infrastructure support at the Air Force Flight Test Center (AFFTC) and continue to operate the USAF Test Pilot School.</p> <p>FY 2010 Accomplishments: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs.</p> <p>FY 2011 Plans: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. Increase in FY 2011 due to civilian pay with contractor to civilian conversion.</p> <p>FY 2012 Base Plans: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. Decrease in FY12 due to manpower efficiencies and civilian pay raise reduction.</p> <p>FY 2012 OCO Plans:</p> | | 373.343 | 374.087 | 315.203 | - | 315.203 |
| Title: 46th Test Wing | | 179.285 | 180.265 | 156.094 | - | 156.094 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | | | |
| | | | | | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | |
| Description: Continue institutional test infrastructure support at 46th Test Wing (TW) for non-nuclear air armaments. FY 2010 Accomplishments: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. FY 2011 Plans: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. FY 2012 Base Plans: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. Decrease in FY 2012 due to manpower efficiencies and civilian pay raise reduction. FY 2012 OCO Plans: | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | 726.693 | 727.773 | 623.346 | - | 623.346 | |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| • PE 0604256F: <i>Threat Simulator Development</i> | 25.338 | 21.245 | 22.420 | 0.000 | 22.420 | 23.234 | 22.379 | 20.592 | 19.923 | Continuing | Continuing |
| • PE 0604759F: <i>Major Test and Evaluation Investment</i> | 63.892 | 61.587 | 62.206 | 0.000 | 62.206 | 60.038 | 49.606 | 46.223 | 53.760 | Continuing | Continuing |
| • PE 0605976F: <i>Facility Restoration and Modernization-T&E</i> | 52.190 | 46.327 | 44.547 | 0.000 | 44.547 | 45.723 | 44.236 | 40.071 | 38.191 | Continuing | Continuing |
| • PE 0605978F: <i>Facility Sustainment - T&E Support</i> | 29.559 | 27.579 | 27.953 | 0.000 | 27.953 | 28.049 | 27.220 | 26.416 | 25.600 | Continuing | Continuing |
| D. Acquisition Strategy Not applicable. | | | | | | | | | | | |

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E. 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.

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