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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)   |                            |                   |                     |   |                     |                     |                     | DATE<br>February 2000    |                     |            |
|---|----------------------------|-------------------|---------------------|---|---------------------|---------------------|---------------------|--------------------------|---------------------|------------|
| BUDGET ACTIVITY<br><b>06 - Management and Support</b> |                            |                   |                     | PE NUMBER AND TITLE<br><b>0604759F Major T&amp;E Investment</b> |                     |                     |                     | PROJECT<br><b>664597</b> |                     |            |
| COST (\$ in Thousands)                                |                            | FY 1999<br>Actual | FY 2000<br>Estimate | FY 2001<br>Estimate   | FY 2002<br>Estimate | FY 2003<br>Estimate | FY 2004<br>Estimate | FY 2005<br>Estimate      | Cost to<br>Complete | Total Cost |
| 664597  | Air Force Test Investments | 37,995            | 56,659              | 54,057  | 51,136              | 50,053              | 60,502              | 70,242                   | Continuing          | TBD        |
|   | Quantity of RDT&E Articles | 0                 | 0                   | 0   | 0                   | 0                   | 0                   | 0                        | 0                   | 0          |

**(U) A. Mission Description**

This program element provides planning, improvements, and modernization for test capabilities at four Air Force test organizations: 46 Test Wing of the Air Armament Center (AAC), Arnold Engineering Development Center (AEDC), Air Force Flight Test Center (AFFTC), and the Space and Missile Systems Center's Test & Evaluation Directorate (SMC/TE). The purpose is to help test organizations keep pace with emerging weapon system technologies. For example, advances in missile seeker technology and capabilities drive the requirement for improvement in missile seeker test capabilities such as the Guided Weapon Evaluation Facility (GWEF) and the Seeker T&E projects; advances in the Global Positioning System (GPS), providing greater time-space-position accuracy, will be integrated into the ranges at Eglin and Edwards Air Force Bases; and advances in computer capabilities, which will enhance efficiencies in data collection, analysis, and distribution, will be exploited in the Data Acquisition and Processing System (DAPS) and Computer Aided Modernization Project (CMP) projects. Test investment activities are also funded at the Joint Program Office (JPO) for Test and Evaluation (T&E). The fluctuations in the funding at these locations are due to changing priorities in the improvement and modernization requirements as defined through the AF Test Investment Planning & Programming Process. Also, all projects have been reviewed through the tri-Service Reliance effort (to communicate AF efforts to the other Services and avoid unwarranted duplication of effort) and are documented in the Test Capability Master Plans. Further, each project has its own planning, development, equipment acquisition/facility construction, equipment installation, and checkout phases which often requires significant differences in funding from one year to the next. As such, the changes in funding from year to year do not necessarily indicate program growth but rather a planned phasing of improvement and modernization efforts. The test capabilities at these locations enable testing through all phases of weapon system acquisition from system concept exploration through component and full scale integrated weapon system testing to operational testing. These test organizations have over \$10 billion worth of unique test facilities/capabilities. They are a national asset operated and maintained by the Air Force for DoD test and evaluation missions, but they are available to others having a requirement for their unique capabilities.

46 TW, located at Eglin AFB, FL, conducts and supports developmental test and evaluation and operational test and evaluation of non-nuclear air armaments, Command, Control, Communications, Computers and Intelligence (C4I) systems, and target acquisition and weapon delivery systems; provides a climatic simulation capability; and determines target/test item spectral signatures. The Guided Weapon Evaluation Facility (GWEF) provides a full spectrum, multifunctional seeker/sensor laboratory test capability for all guided weapons. Common Airborne Instrumentation System (CAIS) Integration provides standardized airborne test instrumentation to enhance interoperability and commonality. Global Positioning System (GPS) Range Systems will provide a major improvement for Time-Space-Position-Information (TSPI) at all Major Range and Test Facility Bases (MRTFB) and specifically at the Eglin Ranges for munitions testing. C4I Test Capabilities Upgrade will provide

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(U) **A. Mission Description Continued**

connectivity to existing capabilities and add needed networks and hardware to develop a C4I test bed. The Preflight Integration of Munitions and Electronic Systems (PRIMES) facility conducts preflight test and evaluation of total integrated weapon systems in a secure anechoic chamber. The Armament Systems Test Environment (ASTE) Range Systems effort upgrades instrumentation of the major data collection systems supporting open air testing. Mission Control/Data Analysis provides for real-time central mission control and analysis. Multispectral Missile Engagement Hardware-in-the-Loop (HITL) Test provides a capability to support multiple and wide field-of-view missile engagements incorporating multispectral stimulators. The Santa Rosa Island Reconstitution effort will provide hardware-in-the-loop equipment for three focus sites to support armament/munitions and C4I testing. Seeker T&E will upgrade unique Electro-Optical/Infrared/Millimeter Wave (EO/IR/MMW) field measurement capabilities to support tri-Service smart weapons development. These projects ensure test center technology is compatible with weapon systems to be tested such as AMRAAM, JDAM, ASRAAM, AGM-130, JTIDS, JSTARS, Combat Talon, etc.

AEDC, located at Arnold AFB, TN, provides ground environmental test support for DoD aeronautical, missile, and space programs. The center has 53 test facilities providing: aerodynamic testing of scale model aircraft, missile, and space systems; testing of large and full-scale satellites, sensors, and space vehicles in a simulated space environment; altitude environmental testing for aircraft, missile, and spacecraft propulsion systems; and testing of large-scale models such as space boosters together with their propulsion systems. The AEDC Data Acquisition and Processing System (DAPS) provides processing capability for advanced turbine engine testing for programs like the F-22. This effort also upgrades data systems for the arc heaters and hypervelocity gun facility for Theater High Altitude Air Defense (THAAD) testing. Inefficiencies in these current data systems result in increased program costs and schedule delays. The Computer Aided Modernization Project (CMP) will provide increased capability for data processing and storage and provide wider availability of workstations. The Propulsion Wind Tunnel (PWT) Upgrades project sustains long-term operation of tunnels 16T and 16S to meet transonic/supersonic test needs. The Improve Turbine Engine Structural Integrity project will provide new state-of-the-art structural test monitoring and data analysis systems to support turbine engine structural tests to detect and analyze high cycle fatigue. The Hypersonic Capability Development project provides for the studies and analysis of the hypersonic wind tunnel requirements definition and program planning.

AFFTC, located at Edwards AFB, CA conducts and supports developmental test and evaluation and operational test and evaluation of aircraft and aircraft systems, aerospace research vehicles, uninhabited aerial vehicles, cruise missiles, parachutes delivery/recovery systems, and cargo handling systems. The AF Common Airborne Instrumentation System (CAIS) Integration & Support (I&S) supports DoD objectives for interoperability/commonality. The goal of CAIS I&S is to integrate CAIS equipment, develop and integrate supporting instrumentation equipment and systems to provide a full airborne instrumentation operational capability. The Advanced Data Acquisition and Processing Systems (ADAPS) project provides an integrated capability to satisfy real-time, first generation, post-test data processing, archival, and display requirements of the next decade. The developmental approach is directed towards providing a high degree of interoperability between systems and components adherence to Air Force and DoD guidelines. The technologies being developed under ADAPS have the potential to satisfy data processing and display needs at various multi-Service test ranges. The Flight Simulation Modernization project will upgrade the Test and Evaluation Modeling and Simulation (TEMS) facility to meet future man-in-the loop simulator requirements. The Modeling and Simulation T&E Resources (MASTER) project will provide the Test and Evaluation Modeling and Simulation (TEMS) facility with subsystem models to build future simulations and the tools to validate real-time modeling with ground tests and open-air range flight

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| <p>(U) <b><u>A. Mission Description Continued</u></b><br/>           test. The Linked Interactive T&amp;E Networking (LITENING) project will provide the network infrastructure to support inter-range simulations and support the efficient transmission of flight test data to various facilities at Edwards for processing and analysis. The Advanced Range Telemetry (ARTM) Integration project will procure and integrate improved range telemetry systems to provide greater efficiencies in telemetry frequency utilization.</p> <p>SMC/TE located at Kirtland AFB, NM is responsible for test planning and implementation for all space and ballistic missile systems. The Combined Space Test Task Force project will provide the capability to develop and test new satellites and ground control systems.</p> |  |                           |
| <p>(U) <b><u>FY 1999 (\$ in Thousands)</u></b></p>   |  |                           |
| (U) \$0  | 46 Test Wing, Air Armament Center  |                           |
| (U) \$1,615  | CAIS Integration. Continued integration, procured production units, and continued procurement of support equipment.  |                           |
| (U) \$724  | C4I Test Capabilities Upgrade. Continued the acquisition of workstations, network connections, and processing hardware/software.   |                           |
| (U) \$2,453  | GWEF. Completed the expanded radar simulator and midwave IR simulator. Began development of the multispectral man-in-the-loop simulator. Continued aircraft/munitions modeling and simulation.   |                           |
| (U) \$2,109  | GPS Range Integration. Continued integration and completed the acquisition of translator/processor system.   |                           |
| (U) \$1,071  | PRIMES. Acquired a F-15/APG 63-V1 radar interface. Began acquisition of a data link for the Com/Nav simulator.   |                           |
| (U) \$1,712  | ASTE Range Systems. Continued upgrades to TSPI systems, telemetry, microwave, communications, arenas, gun test, and photo-optics.  |                           |
| (U) \$853  | Mission Control/Data Analysis. Began procurement of data acquisition equipment and real-time TM equipment, and a 3-D terrain generation/visualization capability.  |                           |
| (U) \$1,672  | Multispectral Missile Warning System Test Capability. Began acquisition of a high off boresight angle flight motion simulator and countermeasure simulations.  |                           |
| (U) \$2,395  | Santa Rosa Island Reconstitution. Continued development of three focus sites to provide open air Hardware-in-the-Loop (HITL) capability.   |                           |
| (U) \$1,197  | EC Operational Test and Training. Provided for the operations and maintenance of range assets required by AFSOC to test and train aircrews at the Eglin location.  |                           |
| (U) \$400  | GPS Y2K Receivers. Procured required GPS receivers to conduct Y2K testing.   |                           |
| (U) \$0  | Arnold Engineering Development Center  |                           |
| (U) \$868  | AEDC DAPS. Completed installation of the J4 rocket test cell DAPS. IOC of J1/J2 test cell portion of DAPS.   |                           |
| (U) \$1,097  | CMP. Continued purchase of CMP workstations. Continued to implement the AEDC Reengineering Computer Base.  |                           |
| (U) \$4,560  | PWT Upgrades. Continued installation of data acquisition and processing system in 16T and 16S tunnels. Completed installation of the on-cart data acquisition and processing system in the 16T wind tunnel and the pre-test check out system in the 16T/16S wind tunnels. Began design of plant control systems. |                           |
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| (U) <u>A. Mission Description Continued</u>         |   |                           |
| (U) <u>FY 1999 (\$ in Thousands) Continued</u>      |   |                           |
| (U) \$695   | Improve Turbine Engine Structural Integrity. Began design and procurement of Non-Intrusive Stress Monitoring System (NSMS) hardware. Installed dynamic data acquisition and processing system.  |                           |
| (U) \$2,681   | Hypersonic Capability Development. Continued study contracts for requirements definition and program planning.  |                           |
| (U) \$0   | Air Force Flight Test Center  |                           |
| (U) \$3,514   | CAIS I&S development. Continued rehost of TIMS to Windows NT platform (Instrumentation Loading, Integration, and Decommuation (ILIAD)) and improved TIMS with automated setup of systems, automated diagnostics, and simulation capability. Continued development of an advanced solid state recorder.  |                           |
| (U) \$5,595   | ADAPS. Continued to integrate simulation system with real-time data analysis capability. Began development of desktop simulation capability. Continued to provide the traditional structures & flutter post-test analysis capability in near real-time in the Ridley Mission Control Rooms. Began installation of post test analysis capabilities for flight testing. Provided avionics data processing in near real-time in the Ridley Mission Control Rooms. Ensured Y2K compliance of all systems under development. |                           |
| (U) \$1,127   | Flight Simulation Modernization. Provided the reconfigurable cockpit prototype to validate the design for the reconfigurable cockpit upgrades to the TEMS facility.   |                           |
| (U) \$658   | LITENING. Began the network design phase. Communication Equipment Rooms have been surveyed, network traffic is in the process of being analyzed and connectivity to the Defense Research Engineering Network (DREN) has been established.   |                           |
| (U) \$0   | Space & Missile Systems Center T&E Directorate  |                           |
| (U) \$752   | Combined Space Test Task Force. Began procurement of hardware and software to complete evaluations of on-orbit R&D satellites and technologies. Began development of a satellite command and control database and models.   |                           |
| (U) \$0   | Other Projects  |                           |
| (U) \$247   | Joint Project Office for T&E support.   |                           |
| (U) \$37,995  | Total   |                           |
| (U) <u>FY 2000 (\$ in Thousands)</u>                |   |                           |
| (U) \$0   | 46 Test Wing, Air Armament Center   |                           |
| (U) \$2,958   | CAIS Integration. Continue integration, procure mini-CAIS hardware, and continue procurement of support equipment for CAD/CAM and preflight quick-look capability.  |                           |
| (U) \$1,538   | C4I Test Capabilities Upgrade. Continue acquisition of workstations, network connections, and processing hardware/software. Begin upgrades to the JTIDS OPFAC.  |                           |
| (U) \$3,787   | GWEF. Continue acquisition of the multispectral man-in-the-loop. Begin acquisition of an active laser simulator and an Imaging IR Simulation  |                           |
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| (U)   | <u>A. Mission Description Continued</u>   |                                       |
| (U)   | <u>FY 2000 (\$ in Thousands) Continued</u>  |                                       |
|   | & Projection capability. Continue development of aircraft/munitions modeling and simulation.  |                                       |
| (U) \$1,755   | GPS Range Integration. Continue acquisition of Advanced Range Data System (ARDS) pods, S/W improvements, and ground vehicle instrumentation.  |                                       |
| (U) \$1,927   | PRIMES. Begin development of aircraft/munitions interface simulations for F-15 and F-16. Continue advanced signature generator upgrades. Complete the Com/Nav simulator data link.  |                                       |
| (U) \$2,698   | ASTE Range Systems. Continue upgrades to telemetry, TSPI systems, communications and arenas. Begin upgrades to gun ranges, microwave, fuze test, range instrumentation systems and the Kinetic Energy Munition Test Facility. Acquire a Forward Looking Infrared (FLIR) system, and video phototheodolites.   |                                       |
| (U) \$1,263   | Mission Control/Data Analysis. Continue procurement of data acquisition equipment and 3-D terrain generation/visualization capability. Begin acquisition of H/W and S/W for 'near' real-time data processing.   |                                       |
| (U) \$1,648   | Multispectral Missile Warning System Test Capability. Complete the high off boresight angle flight motion simulator (FMS) and countermeasures simulation.   |                                       |
| (U) \$1,398   | Seeker T&E. Begin upgrades to the MMW measurement systems. Acquire a midwave focal plane array (FPA) imaging radiometer. Upgrade the Seeker Test Van tracking system.   |                                       |
| (U) \$4,431   | Eglin Range Upgrades. Will support three on-going projects: 1. Santa Rosa Island Reconstitution will continue development of three focus sites to provide open air Hardware-in-the-Loop (HITL) capability. 2. Armament Systems Test Environment will improve several subsystems by integrating the latest technology to support the T&E of modern weapon systems. 3. C4I Upgrades will improve multifunctional reconfigurable C4I Test and Evaluation infrastructure. |                                       |
| (U) \$0   | Arnold Engineering Development Center   |                                       |
| (U) \$1,196   | CMP. Add increment five worksystems. Initiate the Aircraft Systems Test Operations Pilot effort. Integrate the Product Data Manager application software packages. Initiate the migration of real-property drawings and designs to a raster format.   |                                       |
| (U) \$6,761   | PWT Upgrades. Complete installation of data acquisition and processing system in the 16T wind tunnel. Design the 16S wind tunnel data acquisition and processing system. Begin installation of 16S wind tunnel data acquisition and processing system. Begin installation of 16T/16S wind tunnel plant control systems. Begin planning/design for electric motor repower upgrades. Begin planning for flow quality improvements.                                      |                                       |
| (U) \$523   | Improve Turbine Engine Structural Integrity. Develop Non-Intrusive Stress Monitoring System (NSMS) software to identify turbine engine rotor blade characteristics. Install additional channels for the dynamic data acquisition and processing system.   |                                       |
| (U) \$1,000   | Laser Induced Surface Induction (LISI). Fund the development and test of University of Tennessee Space Institute LISI project   |                                       |
| (U) \$3,938   | Hypersonic Capability Development. Continue study contracts for requirements definition and program planning.   |                                       |
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| (U)   | <u>A. Mission Description Continued</u>    |  |
| (U)   | <u>FY 2000 (\$ in Thousands) Continued</u> |  |
| (U)   | \$0  | Air Force Flight Test Center   |
| (U)   | \$3,651                                    | CAIS I&S. Continue development and implementation of an internet-based instrumentation management information system. Procure additional airborne Solid State Recorder. Procure bandwidth efficient telemetry transmitters and demodulators. IOC of ILIAD will be established. Begin integration of commercial tools for instrumentation support into ILIAD. Test prototype and procure a production Solid State Recorder. Complete rehost of TIMS to ILAD. Begin development of CAIS Bus to Next Generation (NextGen) Bus (Fibre Channel) bridge. Provide the capability to support new airborne instrumentation capabilities including: on-board processing innovations, on-board smart sensors, and high data rate decommutation and recording. |
| (U)   | \$2,807                                    | ADAPS. Integrate real-time systems across the flight test center to replace older systems. Begin distribution of full capability for post test analysis system. Evaluate and activate first prototypes of modeling and simulation integration of real-time operations.   |
| (U)   | \$3,367                                    | Flight Simulation Modernization. Upgrade TEMS facility with first of four reconfigurable cockpits. This system will be a high fidelity cockpit with a high fidelity visual system. Upgrade the interfaces between the TEMS simulations to allow multi-ship testing.  |
| (U)   | \$2,151                                    | LITENING. Connect the Avionics Test & Integration Complex (ATIC), Ridley Mission Control Center and the Combined Test Forces together. Begin development on the ATM Network Operations Center.   |
| (U)   | \$1,666                                    | MASTER. Develop the repository for models and data using established procedures to validate them with data collected during ground and flight test. The models and the data will be used to support man-in-the-loop simulator testing and training, which will support configurable simulations for the AWMS cockpits. Existing models will be converted to Joint Modeling & Simulation System (J-MASS) real-time compatible models.   |
| (U)   | \$5,021                                    | Heavylift Launch Platform. Upgrade B-52H aircraft to perform heavy-lift launch platform duties for Re-usable Aerospace Vehicles (RAV) testing and operation. The upgrade will strengthen the B-52H wing structure and pylon mounts, increasing the external payload capacity from 25,000 to 70,000 pounds. Upgrade also includes installation of instrumentation needed for monitoring key test parameters of the launch platform and test vehicle.  |
| (U)   | \$0  | Space & Missile Systems Center T&E Directorate   |
| (U)   | \$950                                      | Combined Space Test Task Force. Begin development and acquisition of expert systems to support operations and testing of future technology for R&D satellites. Evaluate effectiveness of these systems and their value to support warfighter needs.  |
| (U)   | \$0  | Other Projects   |
| (U)   | \$225                                      | Joint Project Office for T&E support.  |
| (U)   | \$56,659                                   | Total  |
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| (U)   | <u><b>A. Mission Description Continued</b></u> |   |
| (U)   | <u>FY 2001 (\$ in Thousands)</u>               |   |
| (U)   | \$0  | 46 Test Wing, Air Armament Center   |
| (U)   | \$2,914  | CAIS Integration. Complete integration and required support equipment acquisition.  |
| (U)   | \$1,762  | C4I Upgrade. Complete the acquisition of workstations, connectivity, HW/SW upgrades, and JTIDS OPFAC upgrades. Acquire test analysis equipment and M&S tools.   |
| (U)   | \$2,545  | GWEF. Complete the multispectral man-in-the-loop and imaging IR developments. Continue aircraft/munition M&S efforts.   |
| (U)   | \$1,711  | GPS Range Integration. Complete acquisition of ARDS pods, S/W improvements, and ground vehicle instrumentation.   |
| (U)   | \$1,692  | PRIMES. Complete the aircraft/munitions interface simulations and the advanced signature generator upgrades. Acquire a synthetic aperture radar target simulator.   |
| (U)   | \$1,856  | ASTE Range Systems. Complete acquisition of instrumentation/equipment for infrastructure upgrades in such areas as TSPI, microwave, TM, fiber optics/communications, arena test, gun ranges, high speed video, and fuze test.   |
| (U)   | \$1,402  | Mission Control/Data Analysis. Complete procurement of data acquisition equipment, near real-time data processing equipment, and a 3-D terrain generation/visualization capability.   |
| (U)   | \$862  | Seeker T&E. Complete upgrades to the MMW measurement system and acquire a high speed digital data recorder, a longwave and shortwave length FPA imaging radiometers. Upgrade the Airborne Seeker Evaluation Test System (ASETS) instrumentation.  |
| (U)   | \$0  | Arnold Engineering Development Center   |
| (U)   | \$3,777  | CMP. Procure/Install increment six worksystems. Complete Product Data Manager integration with application software packages. Upgrade older worksystems to the state-of-the-art PC hardware configuration. FOC of CMP systems.  |
| (U)   | \$20,133                                       | PWT Upgrades. Complete installation of 16S wind tunnel data acquisition and processing system. Complete installation of plant control systems in 16T/16S wind tunnels. Initiate procurements for electric motor upgrades. Begin design of flow quality improvements.  |
| (U)   | \$886  | Improve Turbine Engine Structural Integrity. Complete installation of the dynamic data acquisition and processing system and the NSMS. Begin planning/design of the Structural Dynamic Response Analysis Capability.  |
| (U)   | \$0  | Air Force Flight Test Center  |
| (U)   | \$2,662  | CAIS I&S. Complete the development and integration of an internet-based instrumentation management system. Continue development of CAIS Bus to NextGen Bus (Fibre Channel) Bridge. Provide data compression and on-board processing operational capability developed under the ARTM program.  |
| (U)   | \$2,601  | ADAPS. Complete integration of the post test analysis capability at the Combined Test Force level. Complete post test analysis development. Complete the installation of common data systems throughout the Flight Test Center. Upgrade control room workstations. Complete integration of modeling and simulation with real-time operations. |
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| (U)   | <b><u>A. Mission Description Continued</u></b>   |  |                |                                       |                   |
| (U)   | <u>FY 2001 (\$ in Thousands) Continued</u>   |  |                |                                       |                   |
| (U)   | \$3,887  | Flight Simulation Modernization. Upgrade TEMS Facility with the second of four reconfigurable cockpits.  |                |                                       |                   |
| (U)   | \$2,322  | LITENING. Extend the ATM backbone network to critical Range Support buildings and CTFs. Develop the Network Operations Center to monitor and manage network traffic loads. Expand secure network links to allow classified test data to be transferred between integrated secret, compartmentalized facilities.                          |                |                                       |                   |
| (U)   | \$1,000  | MASTER. Convert and validate flying qualities and avionics models acquired from System Program Offices into J-MASS compatible models. Arnold AFB will begin to convert propulsion, weapons, and airframe interaction models.   |                |                                       |                   |
| (U)   | \$768  | Advanced Range Telemetry (ARTM) Integration. Begin integration of RCC FQPSK modulation/demodulation technology into telemetry transmitters/receivers. Begin integration of PCM data compression and forward error correction technology into the range infrastructure. Begin improvement and modernization of telemetry ground stations. |                |                                       |                   |
| (U)   | \$0  | Space & Missile Systems Center T&E Directorate   |                |                                       |                   |
| (U)   | \$942  | Combined Space Test Task Force. Continue development and evaluation of expert systems to support operations and testing of future technology R&D satellites. Implement lessons learned and transition technical advancements to operational users.   |                |                                       |                   |
| (U)   | \$0  | Other Projects   |                |                                       |                   |
| (U)   | \$335  | Joint Project Office for T&E support.  |                |                                       |                   |
| (U)   | \$54,057   | Total  |                |                                       |                   |
| (U)   | <b><u>B. Budget Activity Justification</u></b>   |  |                |                                       |                   |
|   | This Program Element is in Budget Activity 6, Management and Support, because it is a Research and Development (R&D) effort for Improvement and Modernization of T&E capabilities at Air Force Test Centers. |  |                |                                       |                   |
| (U)   | <b><u>C. Program Change Summary (\$ in Thousands)</u></b>  |  |                |                                       |                   |
|   |  | <u>FY 1999</u>   | <u>FY 2000</u> | <u>FY 2001</u>                        | <u>Total Cost</u> |
| (U)   | Previous President's Budget (FY 2000 PBR)  | 40,416   | 47,334         | 56,238                                |                   |
| (U)   | Appropriated Value   | 41,068   | 57,934         |                                       |                   |
| (U)   | Adjustments to Appropriated Value  |  |                |                                       |                   |
|   | a. Congressional/General Reductions  | -652   | -39            |                                       |                   |
|   | b. Small Business Innovative Research  | -805   |                |                                       |                   |
|   | c. Omnibus or Other Above Threshold Reprogram  |  | -870           |                                       |                   |
|   | d. Below Threshold Reprogram   | -1,403   |                |                                       |                   |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)              |  |                |                 |  |                 |                 | DATE<br>February 2000 |                 |                 |                   |
|--|--|----------------|-----------------|--|-----------------|-----------------|-----------------------|-----------------|-----------------|-------------------|
| BUDGET ACTIVITY  |  |                |                 | PE NUMBER AND TITLE                      |                 |                 |                       | PROJECT         |                 |                   |
| <b>06 - Management and Support</b>                               |  |                |                 | <b>0604759F Major T&amp;E Investment</b> |                 |                 |                       | <b>664597</b>   |                 |                   |
| <b>(U) C. Program Change Summary (\$ in Thousands) Continued</b> |  |                |                 |  |                 |                 |                       |                 |                 |                   |
|  |  |                | <u>FY 1999</u>  |  | <u>FY 2000</u>  |                 | <u>FY 2001</u>        |                 |                 | <u>Total Cost</u> |
|  | e. Rescissions   |                | -213            |  | -366            |                 |                       |                 |                 |                   |
|  | f. Other   |                |                 |  |                 |                 |                       |                 |                 |                   |
| (U)  | Adjustments to Budget Years Since FY 2000 PBR  |                |                 |  |                 |                 | -2,181                |                 |                 |                   |
| (U)  | Current Budget Submit/FY 2001 PBR  |                | 37,995          |  | 56,659          |                 | 54,057                |                 |                 | TBD               |
| (U)  | <u>Significant Program Changes:</u><br>Congressional action, FY00 plus up of 13,600: Eglin Range Upgrade (4,500), Hypersonic Capability Development (4,000), Heavy Launch Platform (5,100).  |                |                 |  |                 |                 |                       |                 |                 |                   |
| <b>(U) D. Other Program Funding Summary (\$ in Thousands)</b>    |  |                |                 |  |                 |                 |                       |                 |                 |                   |
|  |  | <u>FY 1999</u> | <u>FY 2000</u>  | <u>FY 2001</u>                           | <u>FY 2002</u>  | <u>FY 2003</u>  | <u>FY 2004</u>        | <u>FY 2005</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>Complete</u> |                   |
| (U)  | AF RDT&E   |                |                 |  |                 |                 |                       |                 |                 |                   |
| (U)  | Other APPN   |                |                 |  |                 |                 |                       |                 |                 |                   |
|  | Related RDT&E: PE 0604256F, Threat Simulater Development and PE 0604940D, Central Test and Evaluation Investment Program   |                |                 |  |                 |                 |                       |                 |                 |                   |
| <b>(U) E. Acquisition Strategy</b>                               |  |                |                 |  |                 |                 |                       |                 |                 |                   |
|  | This program element uses several different contracting strategies to provide the most cost effective T&E investment solutions. The main acquisition strategy is to use full and open competition wherever possible to improve and modernize existing test capabilities. |                |                 |  |                 |                 |                       |                 |                 |                   |
| <b>(U) F. Schedule Profile</b>                                   |  |                |                 |  |                 |                 |                       |                 |                 |                   |
|  |  |                | <u>FY 1999</u>  |  | <u>FY 2000</u>  |                 | <u>FY 2001</u>        |                 |                 |                   |
|  |  |                | 1               | 2  | 3               | 4               | 1                     | 2               | 3               | 4                 |
| (U)  | This PE contains multiple schedule profiles which are available upon request.  |                |                 |  |                 |                 |                       |                 |                 |                   |