Exhibit R-1, RDT&E Programs

Department of Defense

OPERATIONAL TEST AND EVALUATION, DEFENSE APPROPRIATION (0460) Date: July 2001

R-1 Line Item No	Program Element Number	Item	Budget Activity	FY 2000 Cost [1]	FY 2001 Cost [2]	FY 2002 Cost
1	0603941D8Z [U]	Test & Evaluation Science & Technology	3	0 [3]	0 [3]	16,000 [3]
2	0604940D8Z [U]	Central Test and Evaluation Investment	6	132,866	134,157	113,642
3	0605118D8Z [U]	Operational Test and Evaluation	6	14,602	20,978	17,379
4	0605131D8Z [U]	Live Fire Testing	6	16,669	17,054	9,887
5	0605804D8Z [U]	Development Test and Evaluation	6	99,840	52,786	59,447
6	0605806D8Z[U]	Implementing Defense Science Board Recommendations	6	0[4]	0[4]	1,000[4]
Total	Operational Test & Evaluation, Defense			263,977	224,975	217,355

[1] - PE 0604940D8Z and PE 0605804D8Z were in appropriation 0450 (Developmental Test and Evaluation, Defense (DTE,D)) through FY 00. The SECDEF approved disestablishment of DTE,D in June 1999.

[2] - Beginning in FY 2001, PE 0604940D8Z transferred in its entirety to appropriation 0460 (Operational Test and Evaluation, Defense (OTE, D)) and PE 0605804D8Z is split between appropriations 0460 and 0400 (Defense-wide RDT&E).

[3] – Test & Evaluation Science & Technology PE 0603941D8Z is a new program element starting in FY 2002

[4] – Implementing Defense Science Board Recommendations PE 0605806D8Z is a new program element starting in FY 2002

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2)			July 2001		
OPERATIONAL TEST AND EVALUATION, DEFENSE (0460) BUDGET ACTIVITY THREE			TEST AND EVALUATION SCIENCE AND TECHNOLOGY PE 0603941D8Z		
$'s in Millions	FY 2000	FY 2001	FY 2002	COST TO COMPLETE	TOTAL COST
PE 0603941D			16.000	Continuing	Continuing

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

This program, for the first time, provides the DoD with a structured program that fosters a robust Test and Evaluation/Science and Technology (T&E/S&T) integrated planning process. This program will allow test technologies to pace evolving weapons technology, and is absolutely critical to ensuring that we have the capability to fully and completely test advanced systems that will be fielded in the future. The operational demands under which the DoD conducts Test and Evaluation (T&E) of increasingly sophisticated weapons systems have grown exponentially. Weapon technology is quickly outdistancing our ability to adequately test systems as they develop. The T&E/S&T program:

- exploits new technologies and processes to meet important T&E requirements,
- expedites the transition of new technologies from the laboratory environment to the T&E community,
- leverages/exploits commercial equipment and networking innovations to support the T&E community.

Additionally, the program will examine emerging test requirements to identify needed technology areas and develop a long-range roadmap for technology insertion. This program will leverage and employ applicable 6.2 applied research from the highly developed technology base in the DoD Service Laboratories and Test Centers, industry, and academia to accelerate the development of new test capabilities. This Program Element also includes funds to perform official travel in support of its activities.

This program is Budget Activity 3, Advanced Technology Development, since it develops and demonstrates high payoff technologies for current and future DoD test capabilities.

(U) PROGRAM PLANS:

FY 2002 Plans:

Embedded Instrumentation: Establish a series of advanced technology demonstration projects to evaluate the use of embedded sensors and processors employing microelectronic, microelectromechanical (MEMS), and nano-size technologies to reduce the developmental test and operational test equipment impacts on systems in test, training or operational deployment. Initial projects will focus on micro-miniaturization of instrumentation components such as inertial measurement units, multi axis stress/strain gauges, field programmable gate arrays with embedded analog/digital converters, wireless sensors, and power supplies. Products from this effort will be crucial to testing systems that demand non-intrusive test instrumentation such as low observable, multi spectral stealth, and hypersonic weapons.

Spectrum Efficient Technology: Specific goals in the spectrum area include increasing bandwidth efficiency by a factor of three over the next five years, increase use of available frequencies by 100% over the next ten years, and increase information capacity of range telemetry data systems by a factor of seven over the next 15 years. T&E/S&T program will initiate projects that develop advanced technologies that address these goals. Specifically, in FY02 projects will be initiated that increase spectral efficiencies by orders of magnitude and investigate alternative frequencies and the technical obstacles that must be overcome, including transmitter power, antennas, Doppler effects, channel characteristics, and atmospheric attenuation. Technology investigations in this area directly supports the increasing data rates that advanced weapon systems require.

Information Systems Technology: Investigate and evaluate test technologies required to test complex multi-spectral sensor arrays and to provide multi-spectral test environments (that simulate battlefield environments), to stimulate the network centric warfare systems currently under development. Specific challenges to the test community are data fusion requirements, visualization techniques, and information assurance. Initiate projects to investigate modeling and simulation technologies required to aid in the evaluation and analysis of advanced weapons system. Areas of investigation in support of live fire test and evaluation area may include technologies to evaluate the survivability of fielded weapons systems and planned weapon system concepts to single or multiple hits from threat weapon systems, or projects to accurately predict the full 3-D time dependent structural damage processes, including high strain rate effects, that occur when a complex structure is impacted by a threat weapon. Investigate the development and integration of advanced information management/information transfer (IM/IT) techniques for use in the test network infrastructure.

Hypersonic Testing Technologies: Investigate technologies needed for test and evaluation of hypersonic (MACH 10+) ground test capabilities. Areas of research include energy sources required to be “dumped” into high-speed air streams to create the correct similitude for sustained environmental simulations on the ground.

Space-Based Test Range: Investigate the technical architecture requirements and associated technology requirements for a comprehensive space-based test range, to include hit-to-kill end game scoring requirements, capacitive blankets, and small baseline interferometers.

T&E/S&T Master Plan: This plan will document the near and long term test capability shortfalls in a test technology roadmap. This plan will be consistent with the Department's other planning documents such as Joint Vision 2020, the Defense Science and Technology plans, and the Defense Planning Guidance to insure that the projects funded by this office meet future needs.

(U) B. PROGRAM CHANGE SUMMARY

($ in Millions)	FY 2000	FY 2001	FY 2002
FY 2001 President's Budget	0	0	0
Appropriated Value	0	0	0
Adjustments to Appropriated Value			
Current Budget Submit			16.000[1]

[1] $3.000 of the funds for this PE were transferred from PE 0605940D Central Test and Evaluation Investment Program (CTEIP)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2)			July 2001		
OPERATIONAL TEST AND EVALUATION, DEFENSE (0460) BUDGET ACTIVITY SIX			CENTRAL TEST AND EVALUATION INVESTMENT PROGRAM (CTEIP) PE 0604940D8Z		
$'s in Millions	FY 2000	FY 2001	FY 2002	COST TO COMPLETE	TOTAL COST
PE 0604940D	132.866	134.157	113.642	Continuing	Continuing

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

Since its inception in FY 1990, this program element has been, and continues to be, used to fund the development of critically needed, high priority Test and Evaluation (T&E) capabilities for joint/multi-Service requirements. The Central Test and Evaluation Investment Program (CTEIP) uses a corporate investment approach to combine Service and Defense Agency T&E needs, maximize opportunities for joint efforts, and eliminate unwarranted duplication of test capabilities. CTEIP focuses investments on projects that will have high productivity returns on investment. projects under the CTEIP Program Element (PE) support two basic tasks: investments to improve the test capabilities base (Joint Improvement and Modernization (JIM) projects), and development of near-term solutions to test capability shortfalls in support of an ongoing operational test program (Resource Enhancement project (REP)).

The JIM projects fund critically needed test and evaluation investments in the major functional areas of test mission command, control, communications and instrumentation; electronic warfare systems; threat and computational simulation test and evaluation; space systems T&E; weapons effects test capabilities; targets; and physical and environmental test capabilities. The investments include both the demonstrations of advanced technologies needed to test increasingly complex and sophisticated weapon systems and the transition of these technologies into test capabilities. Examples of project subject matter include: automated data collection, processing, display and archiving; smart munitions testing; modeling and simulation; advanced electronic combat systems; low-observable technologies and signature measurements; targets and target control; time-space-position-information; end-game measurement; testing of advanced materials application; test design; and advanced sensors and space systems. CTEIP continues as the focal point for fostering common architectures throughout the test and training communities to enhance the sharing of resources and links between test and training ranges. CTEIP has provided special focus to institutionalize the use of modeling and simulation as practical test methods; to link ranges through internetting to enhance inter-range and inter-Service cooperation and resource sharing; and, to ensure development and acquisition of common instrumentation necessary for a more efficient test infrastructure. These efforts directly support the Department's initiative to improve the effectiveness of the Simulation, Test and Evaluation Process (STEP). Analyses of alternative solutions are conducted for each investment project to validate T&E requirements, to define integrated support systems, and to

determine overall cost effectiveness of the proposed test investments. The use of DoD-wide criteria for requirement validation, prioritization, and risk assessment ensures an effective test resource investment program.

The REP funds development of near-term solutions for critical ongoing operational tests supporting decisions on major, high priority defense acquisition programs. The requirements for these solutions and test assets are generally not known more than two years in advance of a critical test event, and as such, are not programmable within the normal planning and budgeting process. These unanticipated OT capability requirements arise from several sources such as a new threat system identified during OT planning, unexpectedly acquiring foreign military assets critical in determining weapon system operational effectiveness, short timelines between system design maturity and scheduled OT, and emerging test requirements resulting from operational concept changes or system of systems testing. Funding these activities under the CTEIP provides the opportunity to coordinate and integrate these near-term test requirements with the total DoD test and evaluation investment planning, and ensures their availability and legacy for other programs that may have similar testing requirements.

This Research Category 6.4 PE supports the development and application of proven technologies to provide major test and evaluation capabilities required to meet DoD component weapon system test requirements.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

FY 2000 Accomplishments:

JIM Projects:

- Initiated the system development phase of the Electromagnetic Environmental Effects Generating System project to provide a multi-service test facility capable of assessing actual performance of a full-scale, fixed, or rotary-winged aircraft completely immersed in a user-specified radio frequency environment.
- Initiated the system development phase of the Airborne Icing Tanker project to develop an airborne icing capability for testing various DoD aircraft systems at both high and low altitude, suitably presenting natural rain and icing conditions.
- Initiated the system development phase of the Joint Advanced Missile Instrumentation project to develop integrated instrumentation for applications in tri-Service small missile test and training.
- Initiated the system development phase of the Multi-Service Target Control System (MSTCS) project to provide interoperable tri-Service target control systems.
- Initiated the DECADE Radiation Test Facility--Enhancement project to develop and field an upgraded, above ground ionizing radiation test capability to meet existing and emerging nuclear weapons effects test requirements.
- Initiated the concept development phase of the GPS Signal Validation project to develop a Joint GPS inverted range as a realistic field testing environment for testing new GPS modernization signals.
- Initiated the concept development phase of the Advanced Instrumentation Data & Control System project to develop state-of-the-art instrumentation and control systems to meet DoD T&E requirements for propulsion systems, aerodynamic systems and space systems.

- Initiated requirements development and program planning for Magdalena Ridge Observatory effort to develop a dual-use, state-of-the-art optical tracking system.
- Initiated development and prototyping of the EO/IR background and environment player, the design of a graphical user interface (GUI) prototype and tasks to document the technical architecture used by the Joint Modeling and Simulation System project to provide interoperability among the Services' models and simulations.
- Continued development, delivery, and testing of the Test and Evaluation Enabling Architecture (TENA) within the Foundation Initiatives 2010 project.
- Continued the system development phase of the Hardened Sub-Miniature Telemetry and Sensor System project to develop and demonstrate a new generation of rugged, miniaturized, on-board instrumentation applicable to weapon system flight tests.
- Continued the conventional Holloman High Speed Sled Track Upgrade project to develop techniques and capabilities necessary for improved reliability and also to provide increased payload/velocity and instrumentation capabilities.
- Continued the system development phase for the Advanced Range Telemetry project to improve the efficiency, reliability, utility, and availability of aeronautical telemetry spectrum by adapting advances in commercial communications technology.
- Continued threat system simulator development efforts under the Threat System Simulator Development project to improve integration, reduce potential duplication in threat and target development, and ensure that accurate, cost-effective representations of threat systems are available to support testing.
- Continued the Test Technology Development and Demonstration project.
- Continued the Tri-Service and CTEIP support projects.
- Continued integration and testing of the Transportable Range Augmentation Control System project to develop a suite of transportable equipment and instrumentation for common range control functions.
- Continued requirements development for the BIG CROW EW Enhancement project to upgrade and modernize high power amplifiers, antennas, communications and data systems for the BIG CROW high power standoff jamming capability.
- Continued the concept development phase of the Electromagnetic Transient (EMT) Test and Evaluation Facility (EMTTEF) project to provide a capability to assess aircraft hardness to EMT environments to meet MILSTD 464 requirements.
- Continued development of the High Speed Massive Memory capability, an ultra high speed and high capacity electronic media storage device that will capture data from high resolution digital imaging devices and transfer it to a data reduction workstation for post-event analysis.
- Continued development of the Long-Term Test Capability (LTTC) camera and the Multi-System Controller (MSC), and initiate development of the Super High-Speed Visible (SHV) camera, under Airborne Separation Video project.
- Continued the concept development phase of the Advanced Mobile Object Acquisition System project to include an automatic radar mode management and power allocation control capability to provide the next generation multi-target acquisition system. Initiated development of the Multiple Object Tracking Radar MOTR) Programmable Resource Control (PRC) capability.
- Completed the Translated GPS Range System project to develop a new generation of time-space-position information instrumentation.
- Completed the Advanced Static RCS Measurement project to provided enhanced radar cross-section measurement capabilities for advanced weapon systems.

- Completed design of the Roadway Simulator to provide a vehicle-in-the-loop test capability for advanced mobility vehicles and other tactical vehicles in a laboratory environment. Initiated development of capability for light truck testing.
- Completed the concept development phase of the Land and Sea Vulnerability Test Capability project to provide an instrumented land-sea interface test location at the Aberdeen Test Center.
- Completed the Multi-Spectral Scene Generator and the Infrared Sensor Stimulator instrumentation and continued efforts on the Communication, Navigation, Identification Simulator and the Generic Radar Target Generator instrumentation within the Joint Installed System Test Facility project.
- Completed the Air-to-Air Signature Measurement System (AASMS), continued development of the Acoustic Signature Measurement and Unaugmented Tracking System (ASMUTS), and initiated the Air-to-Ground and Ground Signature Measurement Systems (AGSMS and GSMS) within the Tri-Service Signature Measurement and Database System project.

Resource Enhancement Projects:

- Initiated Geometric Automated Video Enhanced Location System subproject to locate events / detonations needed to answer accuracy critical operational issues (COIs) for Army field artillery systems, Army airborne systems, and Marine non-lethal weapon systems.
- Initiated TAMD Interoperability Assessment Capability subproject to support PAC 3 and TAMD Family of Systems operational testing.
- Initiated Shallow Water ASW Target subproject to modify an existing, manned diesel-electric research submarine for use as an Anti-Submarine Warfare (ASW) target to support MK-54 and MK-48 ADCAP torpedo testing.
- Initiated Real-Time SAM Models for OT&E subproject to develop real-time surface-to-air (RTSAM) models to be used in virtual simulations being developed for the F-22 and JSF Test and Evaluation programs.
- Initiated Geometric Pairing subproject to design and develop a geometric pairing (pointing) device to be used with Air Defense weapons against aircraft during Comanche operational test.
- Initiated Instrumentation of the IBIS Hammer System for use in IDECM RFCM and IDECM Integration testing.
- Initiated the Electronic Order of Battle – Environment Generator System subproject to develop computer-driven simulations replicating selectable threat and friendly electronic environments for operational testing of the Team Portable Collection System (TPCS), the Mobile Electronic Warfare Support System (MEWSS), and the Technical Control and Analysis Center (TCAC).
- Continued Test Resource, Analysis, and Planning task to identify near-term OT shortfalls and validate the requirement for test capability.
- Continued to identify candidate subprojects based on critical OT&E test capability shortfalls.
- Continued the Weapons Analysis Facility Enhancement Resource (WAFER) subproject to develop threat submarine, surface combatant and surface launch torpedo models, complete model interfaces with new high speed computing hardware and Verify and Validate upgraded environmental, CM and threat target models.
- Continued the Radio Frequency Phase Distribution Upgrade (RF PDU) subproject which procures Advanced Tactical Electronic Warfare Environment Simulator (ATEWES) Microwave Phase Distribution (MDS) hardware and develops software subsystems to meet EA-6B Improved Capability (ICAP) III LR-700 receiver upgrade and planned follow-on interferometer receiver systems test.
- Continued the Joint OT&E Simulation Environment Facility (JOSEF) subproject, which provides a representative warfare / contingency operations environment for OT&E of network centric C4I systems such as the Defense Message System and Global Command and

Control System.
- Completed the Reconfigurable Electro-Optical and Magnetic Expendable Target (REMET) subproject that will provide an expendable, electro-optical and magnetic signature replicate of the T-80 tank for use in Short Range Anti-Tank Weapon (SRAW) testing.
- Completed the QF-4 IR Characterization (IR CHAR) subproject to provide predictive codes and models of the infrared (IR) and ultraviolet (UV) characteristics of the QF-4 (DoD Full-Scale Aerial Target) to support AIM-9X testing.
- Completed the Missile Warning Test Capability (MWTC) subproject and supported F-16 Common Missile Warning System testing.
- Completed the Dismounted Troop Instrumentation (DMT) subproject to reduce the size and weight of instrumentation required for Land Warrior testing.

FY 2001 Plans:

JIM Projects:
- Initiate the system development phase of the Land and Sea Vulnerability Test Capability project to provide an instrumented land-sea interface test location at the Aberdeen Test Center.
- Initiate the concept development phase of the Joint Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) System project to develop a capability to test increasingly complex multi-discipline fusion concepts.
- Initiate the concept development phase of the Infrared Sensor Stimulator product improvement under the Joint Installed Systems Test Facility Product Improvements project to provide improved installed systems capabilities needed to support Joint Strike Fighter testing.
- Initiate and complete the Silent Sentry project to evaluate passive coherent location technology.
- Initiate and complete the Digital Video Laboratory project to provide digital video data analysis and reporting capability for aircraft stores separation.
- Initiate, within the Joint Advanced Missile Instrumentation project, integration of time-space-position information (TSPI), flight termination / safe arm (FTSA), and end game scoring (EGS) functions into Tomahawk and AMRAAM systems development. Conduct qualification testing of the TSPI, FTSA, and EGS functions.
- Initiate development of the TENA object model definition and tools for resource management and test/exercise management within the Foundation Initiatives 2010 project.
- Initiate the concept development phase of the Contamination Avoidance Detector Test Suite, Joint Data Acquisition Network Standards, and Enhanced Range Application projects.
- Continue the system development phase of the Hardened Sub-Miniature Telemetry and Sensor System project to develop and demonstrate a new generation of rugged, miniaturized, on-board instrumentation applicable to weapon system flight tests.
- Continue the system development phase of the Electromagnetic Environmental Effects Generating System project to provide a multi-service test facility capable of assessing actual performance of a full-scale, fixed, or rotary-winged aircraft completely immersed in a user-specified radio frequency environment.
- Continue the system development phase of the Multi-Service Target Control System (MSTCS) project to provide upgraded, interoperable tri-Service target control systems.

- Continue the Holloman High Speed Sled Track conventional upgrade to develop techniques and capabilities necessary for improved reliability and also to provide increased payload/velocity and instrumentation capabilities.
- Continue development of the Advanced Range Telemetry project to improve the efficiency, reliability, utility, and availability of aeronautical telemetry spectrum by adapting advances in commercial communications technology.
- Continue development of the Joint Modeling and Simulation System project to provide interoperability among the Services' models and simulations.
- Continue the system development phase of the Airborne Icing Tanker project to develop an airborne icing capability for testing various DoD aircraft systems at both high and low altitude, suitably presenting natural rain and icing conditions.
- Continue the Test Technology Development and Demonstration project.
- Continue the Tri-Service and CTEIP support projects.
- Continue the systems development phase of the Communication, Navigation, Identification Simulator and the Generic Radar Target Generator instrumentation projects within the Joint Installed System Test Facility project.
- Defer threat system simulator development efforts under the Threat System Simulator Development project.
- Continue the concept development phase and defer the systems development phase for the BIG CROW EW Enhancement project to upgrade and modernize high power amplifiers, antennas, communications and data systems for the BIG CROW high power standoff jamming capability.
- Complete the concept development phase and Initiate the system development phase of the Electromagnetic Transient (EMT) Test and Evaluation Facility (EMTTEF) project to provide a capability to assess aircraft hardness to EMT environments to meet MILSTD 464 requirements.
- Complete the Transportable Range Augmentation Control System project capability to develop a suite of transportable equipment and instrumentation for common range control functions.
- Complete requirements development and program planning and initiate system development of Magdalena Ridge Observatory capability to provide a dual-use, state-of-the-art optical tracking system.
- Complete development of the Roadway Simulator capability for light truck testing and initiate development of a capability for heavy truck testing.
- Complete development of Programmable Resource Control for MOTR and defer the system development phase of the Advanced Mobile Object Acquisition System (AMOAS) project.
- Complete Acoustic Signature Measurement and Unaugmented Tracking System (ASMUTS) and continue the Air-to-Ground and Ground Signature Measurement Systems (AGSMS and GSMS) developments within the Tri-Service Signature Measurement and Database System project.
- Complete development of the Long-Term Test Capability (LTTC) camera and the Multi-System Controller (MSC), and initiate the integration of an infrared sensor with the Super High-Speed Visible camera under the Airborne Separation Video project.
- Complete the concept development phase and initiate the system development phase for the DECADE Radiation Test Facility--Enhanced project to develop and field an upgraded, above ground ionizing radiation test capability to meet existing and emerging nuclear weapons effects test requirements.

- Complete the concept development phase and initiate the system development phase of the GPS Signal Validation project to develop a Joint GPS inverted range as a realistic field testing environment for testing new GPS modernization signals.
- Complete the concept development phase of the Advanced Instrumentation Data & Control System project to develop state-of-the-art instrumentation and control systems to meet DoD T&E requirements for propulsion systems, aerodynamic systems and space systems.

Resource Enhancement Projects:

- Initiate Countermeasure Threat Emulator subproject to fabricate programmable countermeasure devices to emulate foreign countermeasures that can be deployed from submarines or surface ships.
- Initiate XM-11S subproject to correct fidelity deficiencies of the XM11S Simulator antenna, transmitter, and receiver subsystems.
- Initiate NAIC Aircraft Threat Models development for F-22 Air Combat Simulation subproject to provide air combat threat models required for virtual simulations being developed for F-22 test and evaluation.
- Initiate and complete Portable Joint Link-16 Monitoring Capability subproject to provide an integrated real-time Joint Data Network analysis capability.
- Initiate Information Assurance Suite subproject to select commercial off-the-shelf (COTS) hardware, instrumentation, and systems that can be utilized to test vulnerability to information warfare techniques.
- Initiate and complete Deliberate and Crisis Action Planning and Execution Segments (DCAPES) and Theater Battle Management Core System (TBMCS) Command and Control Test Capability subproject to provide specialized computer hardware and data collection instrumentation needed to provide and command and control test capability.
- Initiate and complete SA-XX Modifications subproject to provide a critical modern missile seeker test capability and to provide a key threat simulator for the RF countermeasures portion of the IDECM suite.
- Initiate Intelligence Modeling and Simulation for Evaluation subproject to develop a computer based high-fidelity simulation to accurately represent the disposition of enemy forces, the tasking and collection of intelligence sensors, generation of intelligence messages, and delivery of intelligence products to appropriate users.
- Initiate and complete the F-22 Operational Test Mission Planning Resource Augmentation subproject to provide a realistic operational effectiveness and suitability test capability for the F-22 Mission Support System combined DT/OT and IOT&E.
- Continue to identify candidate subprojects based on critical OT&E test capability shortfalls.
- Continue Geometric Automated Video Enhanced Location System subproject to locate events / detonations needed to answer accuracy critical operational issues (COIs) for field artillery systems, airborne systems, and non-lethal weapon systems.
- Continue Shallow Water ASW Target subproject to modify an existing, manned diesel-electric research submarine for use as an Anti-Submarine Warfare (ASW) target to support Mk54 and Mk 48 ADCAP torpedo testing.
- Complete TAMD Interoperability Assessment Capability subproject to support PAC 3 and TAMD Family of Systems operational testing.
- Complete Real Time SAM Models for OT&E subproject to develop real-time surface-to-air (RTSAM) models to be used in virtual simulations being developed for the F-22 and JSF Test and Evaluation programs.
- Complete Geometric Pairing subproject to design and develop a geometric pairing (pointing) device to be used with Air Defense weapons against aircraft during Comanche operational test.

- Complete Instrumentation of the IBIS Hammer System for use in IDECM RFCM and IDECM Integration testing.
- Complete the Electronic Order of Battle – Environment Generator System subproject to develop computer-driven simulations replicating selectable threat and friendly electronic environments for operational testing of the Team Portable Collection System (TPCS), the Mobile Electronic Warfare Support System (MEWSS), and the Technical Control and Analysis Center (TCAC).
- Complete Joint OTE Simulation Environment Facility subproject which provides a representative warfare / contingency operations environment for OT&E of network centric C4I systems such as the Defense Message System and Global Command and Control System.
- Complete Weapons Analysis Facility Enhancement subproject to develop threat submarine, surface combatant and surface launched torpedo models, complete model interfaces with new high speed computing hardware and verify and validate upgraded environmental, countermeasure and threat target models.
- Complete the Radio Frequency Phase Distribution Upgrade (RF PDU) subproject which procures Advanced Tactical Electronic Warfare Simulator (ATEWES) Microwave Phase Distribution (MDS) hardware and develops software subsystems to meet EA-6B Improved Capability (ICAP) III LR-700 receiver upgrade and planned follow-on interferometer receiver systems test.

FY 2002 Plans:

JIM Projects:

- Initiate concept development of the Soft Impact Location Capability project to provide the necessary instrumentation, signal processing, communication, and data processing capabilities to detect and locate the point and angle of impact of projectile and missile weapons within an 800m by 800m impact area.
- Initiate concept development of the Digital Video Systems Development project, to provide DoD test and evaluation facilities and ranges the necessary instrumentation to enable collection, processing, storage, and distribution of data from high-performance digital imagery systems.
- Initiate the system development phase of the Advanced Instrumentation Data & Control System project to develop state-of-the-art instrumentation and control systems to meet DoD T&E requirements for propulsion systems, aerodynamic systems and space systems.
- Initiate development of software tools for test/exercise planning and analysis and range integration products within the Foundation Initiatives 2010 project.
- Continue threat system simulator development efforts under the Threat System Simulator Development project to improve integration, reduce potential duplication in threat and target development, and ensure that accurate, cost-effective representations of threat systems are available to support testing.
- Continue the system development phase of the Land and Sea Vulnerability Test Capability project to provide an instrumented land-sea interface test location at the Aberdeen Test Center.
- Continue the system development phase of the Electromagnetic Transient (EMT) Test and Evaluation Facility (EMTTEF) project to provide a capability to assess aircraft hardness to EMT environments to meet MILSTD 464 requirements.
- Continue the system development phase of the Multi-Service Target Control System (MSTCS) project to provide upgraded, interoperable tri-Service target control systems.

- Continue the system development phase of the Advanced Range Telemetry project to improve the efficiency, reliability, utility, and availability of aeronautical telemetry spectrum by adapting advances in commercial communications technology.
- Continue development of the Joint Modeling and Simulation System project to provide interoperability among the Services' models and simulations.
- Continue the Test Technology Development and Demonstration project.
- Continue the Tri-Service and CTEIP support projects.
- Continue system development for the DECADE Radiation Test Facility--Enhancement project to develop and field an upgraded, above ground ionizing radiation test capability to meet existing and emerging nuclear weapons effects test requirements.
- Continue the system development phase of the Electromagnetic Environment Effects Generating project to provide a multi-service test facility capable of assessing actual performance of a full-scale, fixed, or rotary-winged aircraft completely immersed in a user-specified radio frequency environment.
- Continue the Tri-Service Signature Measurement and Database System project.
- Complete the Holloman High Speed Sled Track conventional upgrade to develop techniques and capabilities necessary for improved reliability and also to provide increased payload/velocity and instrumentation capabilities.
- Complete the Airborne Icing project to develop an airborne icing capability for testing various DoD aircraft systems at both high and low altitude, suitably presenting natural rain and icing conditions.
- Complete the Hardened Sub-Miniature Telemetry and Sensor System project to develop and demonstrate a new generation of rugged, miniaturized, on-board instrumentation applicable to weapon system flight tests.
- Complete the GPS Signal Validation project to develop a Joint GPS inverted range as a realistic field test environment for testing new GPS modernization signals.
- Complete the Communication, Navigation, Identification Simulator and the Generic Radar Target generator instrumentation projects within the Joint Installed System Test Facility project.
- Complete the development of the Super High-Speed Visible (SHV) camera, and the integration of an infrared sensor with the SHV, under the Airborne Separation Video project.
- Complete concept development and initiate systems development of the Enhanced Range Applications project to provide a state-of-the-art Airborne Range Data System that supports next generation data collection requirements.
- Complete concept development and initiate systems development of the Contamination Avoidance Detector Test Suite project to provide test methodology, instrumentation, and modeling/simulation tools required to test and evaluate current and developmental CB detector systems over the entire range of expected use conditions.
- Complete concept development and initiate systems development of the Joint Data Acquisition Network Standards project to provide a suite of standards to establish component interoperability within a vehicular data acquisition network.
- Complete integration of Joint Advanced Missile Instrumentation project capability into Tomahawk and AMRAAM. Complete development and testing of time-space-position information (TSPI), flight termination / safe arm (FTSA), and end game scoring (EGS) functions.
- Complete concept development and initiate systems development of the Joint Command, Control, Communications, Computers,

Intelligence, Surveillance and Reconnaissance (C4ISR) System project to develop a capability to test increasingly complex multi-discipline fusion concepts.

- Complete concept development and initiate systems development of the Infrared Sensor Stimulator product improvement under the Joint Installed Systems Test Facility Product Improvements project to provide improved installed systems capabilities needed to support Joint Strike Fighter testing.

Resource Enhancement Projects:

- Continue to identify candidate subprojects based on critical OT&E test capability shortfalls.
- Complete Countermeasure Threat Emulator subproject to fabricate programmable countermeasure devices to emulate foreign countermeasures that can be deployed from submarines or surface ships.
- Complete XM-11S subproject to correct fidelity deficiencies of the XM11S Simulator antenna, transmitter, and receiver subsystems.
- Complete NAIC Aircraft Threat Models development for F-22 Air Combat Simulation subproject to provide air combat threat models required for virtual simulations being developed for F-22 test and evaluation.
- Complete Information Assurance Suite subproject to select commercial off-the-shelf (COTS) hardware, instrumentation, and systems that can be utilized to test vulnerability to information warfare techniques.
- Complete Geometric Automated Video Enhanced Location System subproject to locate events / detonations needed to answer accuracy critical operational issues (COIs) for Army field artillery systems, Army airborne systems, and Marine non-lethal weapon systems.
- Complete Shallow Water ASW Target subproject to modify an existing, manned diesel-electric research submarine for use as an Anti Submarine Warfare (ASW) target to support Mk54 and Mk 48 ADCAP torpedo testing.
- Initiate Intelligence Modeling and Simulation for Evaluation subproject to develop a computer based high-fidelity simulation to accurately represent the disposition of enemy forces, the tasking and collection of intelligence sensors, generation of intelligence messages, and delivery of intelligence products to appropriate users.
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General DOT&E Support:

Continue the design and development of a Knowledge Management System, adding robust functionality to enable rapid decision-making on time critical events. The system will be extended to the majority of the DOT&E enterprise and will include CTEIP templates, guidelines and best practices for DOD personnel. This effort will fully support the Department's goal and vision.

Official Travel and Administrative Support:

Perform official travel and procure administrative support to carry out oversight of CTEIP as well as fund efforts of common interest with the Director, Operational Test and Evaluation.

B. (U) PROGRAM CHANGE SUMMARY

($ in Millions)	FY 2000	FY 2001	FY 2002
FY 2001 President's Budget	132.866	121.401	116.642
Roadway Simulator		12.000	
Magdalena Ridge Observatory		7.000	
Silent Sentry		3.500	
Digital Video Laboratory		2.500	
Threat Simulators/Targets		(5.000)	
Program Delays		(6.000)	
Section 8086 Reduction		(.948)	
P.L. 106-554 Reduction		(.296)	
Appropriated Value	132.866	134.157	
Adjustments to Appropriated Value			
Transfer to PE 0603941D TEST			(3.000)
Current Budget Submit	132.866	134.157	113.642

C. (U) OTHER PROGRAM FUNDING NA

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2)			July 2001		
OPERATIONAL TEST AND EVALUATION, DEFENSE (0460) BUDGET ACTIVITY SIX			OPERATIONAL TEST AND EVALUATION PE 0605118D8Z		
$'s in Millions	FY 2000	FY 2001	FY 2002	COST TO COMPLETE	TOTAL COST
PE 0605118D	14.602	20.978	17.379	Continuing	Continuing

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Director of Operational Test and Evaluation (DOT&E) is responsible under Title 10 for policy and procedures for all aspects of operational test and evaluation within the Department of Defense (DoD), with particular focus on OT&E that supports major weapon system production decisions. Currently there are approximately 200 Major Defense Acquisition Programs (MDAPs) on the DOT&E oversight list. These MDAPs may not proceed beyond low-rate initial production (LRIP) until operational test and evaluation of the program is completed. This requires early involvement by DOT&E in the planning phase of each program to ensure adequate testing and satisfactory progress through the acquisition milestones toward operational effectiveness, suitability goals and full-scale production. Key elements of the DOT&E's authority for MDAPs include: the approval of Service Test and Evaluation Master Plans (TEMPs) and Service operational test and evaluation (OT&E) plans; assessment of the adequacy of OT&E and the operational effectiveness and suitability of the weapon system; and participation in DoD-wide planning, programming and budgeting activities to highlight test and evaluation capabilities, needs and priorities. This Program Element also includes funds to perform official travel in support of its activities.

Funds are used to purchase contractor support in the science/engineering disciplines. The contractor support reviews Service Test and Evaluation Management Plans (TEMPs) and test plans and provides expert recommendations to ensure test adequacy; observes preparation for, and conduct of, field operational tests; Assists in the evaluation of OT results and reports evaluations to the Director and DoD senior management; and conducts assessments on programs to include evaluation of projected resource requirements and funding levels for OT&E.

Baseline increase in funding from FY 2000 to FY 2001 is for early involvement in testing as well as logistics and sustainability in the Department’s weapon systems.

The funding shown in this exhibit, as management support of research and development, is budgeted for in Program Element Research

Category 6.5.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

FY 2000 Accomplishments:
Programs on the oversight list include:

Land Warfare Programs

Abrams Tank (M1A2) System Enhancement Program (SEP)
Army Tactical Missile System Brilliant Anti-Armor Submunition (ATACMS/BAT)
ATACMS-BAT/Pre-Planned Product Improvement (P3I)
Biological-Chemical Programs (Detection/Protection/Decontamination/C41)
Bradley Fighting Vehicle System (BFVS) -A3/M2A3 and M3A3 Program
Chinook (CH-47) Improved Cargo Helicopter (ICH)
Close Combat Tactical Trainer (CCTT)
Comanche RAH-66
CRUSADER Howitzer & Resupply Vehicle
Family of Medium Tactical Vehicles (FMTV)
High Mobility Multi-Purpose Light Tactical Vehicle (HMMLTV)
Javelin Advanced Anti-Tank Weapon System
Joint Distribution System (JDS)
Joint Modular Lighting System
Joint Surveillance Target Attack Radar System
(JSTARS) Common Ground Station (CGS)
Kiowa Warrior (OH-58D)
Land Warrior
Line of Sight Anti-Tank (LOSAT) Weapon System
Longbow Hellfire Missile System
Multiple Launched Rocket System (MLRS) Upgrade
Sense and Destroy Armor (SADARM)
Stinger Reprogrammable Microprocessor II (RMP II)
Tactical Unmanned Aerial Vehicle (UAV) --Outrider
UH-60 Black Hawk Service Life Extension Program (SLEP)

Naval Warfare Programs

Advanced Amphibious Assault Vehicle (AAAV)
Advanced Combat Direction System (ACDS) Block I
Advanced Integrated Electronic Warfare System (AIEWS)
Aegis SPY Radar (AN/SPY-1B/D/D(V))
Auxiliary Dry Cargo Carrier (T-ADC(X))
CH-60S Fleet Combat Support Helicopter
Cooperative Engagement Capability (CEC)
DD21 Land Attack Destroyer
DDG-51 Arleigh Burke Class Destroyer
Evolved Sea Sparrow Missile (ESSM)
Fixed Distributive System (FDS) and
Advanced Deployable System (ADS)
Future Sea-Based Tactical Aviation Platform (CV/X)
LPD-17 Amphibious Assault Ship
MK-48 Advanced Capability (ADCAP) Torpedo
Virginia (SSN 774) Class Submarine
Rolling Airframe Missile (RAM)
Seawolf Class Nuclear Attack Submarine/Combat System (SSN-21/BSY-2)
SH-60R Multi-Mission Helicopter Program
Ship Self-Defense System (SSDS)
Standard Missile (SM-2) Block IIIB and Block IV/IVA
Strategic Sealift Ship (SSP)
Submarine External Communications System (SubECS)
TAGOS/SURTASS Surveillance Ship/Low Frequency Active (LFA) Sonar

Air Warfare Programs

Advanced Medium Range Air-to Air (AMRAAM)
AH-1 and UH-1 Helicopter Upgrades (4BN/4BW Upgrade)
AIM-9X Missile
AN/SQQ-89 Antisubmarine Warfare Combat System
C-130 Aircraft Modernization Program (AMP)
C-130J All Variants (KC-130J, EC-130J, WC-130J, C-130J-30, and C-130J)
C-17 Airlift Aircraft
F/A-18 C/D Hornet
F/A-18 E/F Hornet

F-22 Air Superiority Fighter
Global Hawk High Altitude Endurance UAV
Joint Air-to-Surface Strike Missile (JASSM)
Joint Direct Attack Munition (JDAM)
Joint Primary Aircraft Training System (JPATS)
Joint Standoff Weapon (JSOW)
Joint Strike Fighter (JSF)
Joint Surveillance and Target Attack Radar System (JSTARS) E-8
Predator Medium Altitude Endurance UAV
Sensor Fused Weapon (SFW)
Standoff Land Attack Missile---Expanded Response (SLAM-ER)
T-45 Training System
Tactical Aviation Mission Planning System (TAMPS)
V-22 Osprey (Joint Vertical Airlift)

Electronic Warfare Programs

AAR-47 Upgrade
AN/ALR-56 (all versions) RWR -- all upgrades
AN/ALR-67 (all versions - includes AN/ALR-67[V]
3 Advanced Special Receiver) RWR -- all upgrades
AN/ALR-67E (V)2 RWR upgrade
AN/ALR-69 (all versions) RWR -- all upgrades
AN/APR-39 (all versions) Radar Warning Receiver (RWR) -- all upgrades
B-1B Bomber Defensive System Upgrade Program (DSUP)
EA-6B Analysis of Alternatives (AoA) Follow-on
"EA-6B ""Prowler"" (includes AN/ALQ-99 Tactical Jamming System and AN/USQ-113 Communications Jammer) -- all upgrades"
EA-6B:
Band 7/8 Jammer
Band 9/10 Jammer
Improved Capability (ICAP) III
Low Band Transmitter
Multi-mission Advanced Tactical Terminal/Integrated Data Modem (MATT/IDM)
USQ-113 Connectivity Suite
F-15 Tactical Electronic Warfare System (TEWS) including
AN/ALQ-135 self-protection jammer -- all upgrades

Integrated Defensive Electronic Countermeasures (IDECM)
Integrated Defensive Electronic Countermeasures (IDECM) Block I Interim Suite (Airborne Self- Protection Jammer/ALE-50)
Suite of Integrated Infrared Countermeasures / Common Missile Warning System (SIIRCM/CMWS)
Suite of Integrated Radio Frequency Countermeasures (SIRFC)

Command, Control, Communications, and Intelligence Programs

All Source Analysis System (ASAS)
Army Global Command and Control System (AGCCS)
Army Tactical Command and Control System (ATCCS) Capstone
Battlefield Digitization
C2 Vehicle
Cheyenne Mountain Upgrade
Combat ID
Combat Survivor Evader Location (CSEL) System
Composite Health Care System (CHCS II)
Defense Civilian Personnel Data System (DCPDS)
Defense Medical Logistics Standard Support (DMLSS)
Defense Message System (DMS)
Distribution Standard System (DSS)
E-2C Hawkeye Airborne Early Warning
E-3A Airborne Warning and Control System (AWACS)
Radar System Improvement Program (RSIP)
E-6A TACAMO (multiple subprograms)
F-15 Fighter Data Link
Forward Area Air Defense System (FAADS) C3I
Global Transportation Network (GTN)
High Performance Computing Modification Plan (HPCMP)
Integrated Maintenance Data System (IMDS)
Joint Computer Aided Acquisition and Logistics Support (JCALS)
Joint Receiving Information Support System
Joint Service Imagery Processing System (JSIPS)
Joint Tactical Information Distribution System (JTIDS)
Maneuver Control System (MCS)
MILSTAR Satellite Communications System
Multifunctional Information Distribution System (MIDS)

NAVASTAR GPS User Equipment (UE)
Navy Standard Integrated Personnel System (NSIPS)
Non-Tactical Command Support System (NTCSS)
Reserve Component Automation System (RCAS)
Standard Installation/Division Personnel System 3 (SIDPERS3)
Standard Procurement System (SPS)
Strategic War Planning System (SWPS)
Theater Medical Information Program (TMIP)

Strategic Warfare and Space Systems Programs

B1-B Lancer
B2 Advanced Technology Bomber
Evolved Expendable Launch Vehicle (EELV)
Medium Extended Air Defense System (MEADS)
National Airspace System (NAS)
National Missile Defense (NMD) System
Navy Theater Ballistic Missile Defense (TMBD)
Patriot P3I
Patriot Upgrade
Theater High Altitude Area Defense (THAAD)
TITAN IV Space Booster
Tomahawk Block IV / Theater Mission Planning Center (TMPC)

Other Systems

Chemical Demilitarization

CINC Support

Conducted outcome-based interoperability assessments of fielded systems and provided readiness implications of issues and deficiencies identified.

- Provided technical, on-site and reach back contractor support to augment the government staff in CINC theaters to advise the CINCs on how to: develop key operational issues to focus evaluation objectives; develop evaluation strategies; design test and evaluation plans/programs; evaluate operational performance; and, identify and track corrective actions.
- Integrated with military exercises, operational assessments, Advanced Concept Technology Demonstrations (ACTDs), joint experiments, joint test and evaluations (JT&Es), and other mission-based operational performance evaluations to address readiness implications within the individual commands.

Performed official travel to carry out oversight of DoD operational testing and evaluation.

FY 2001 Accomplishments:
Programs on the oversight list include:

Land Warfare Programs

- Army Tactical Missile System Brilliant Anti-Armor Submunition (ATACMS/BAT) P3I
- Blackhawk (UH-60L) Service Life Extension Program (SLEP)
- Bradley Fighting Vehicle System (BFVS)-A3/M2A3 and M3A3 Programs
- Close Combat Tactical Trainer (CCTT)
- Chinook (CH-47) Improved Cargo Helicopter
- Chemical Demilitarization
- Comanche (RAH-66)
- CRUSADER Howitzer & Resupply Vehicle
- Family of Medium Tactical Vehicles (FMTV)
- Future Combat System (FCS)
- Future Scout / Calvary System (FSCS)
- High Mobility Artillery Rocket System
- Javelin Advanced Anti-Tank Weapon System
- Joint Biological Point Detection
- Joint Biological Remote Early Warning
- Joint Chemical Agent Detector
- Joint Service Light NBC Reconnaissance
- Joint Service Lightweight Standoff
- Joint Warning & Reporting Network
- Common Ground Station (CGS)
- Kiowa Warrior (OH-58D)
- Land Warrior
- Longbow Apache (AH-64D)
- Longbow Hellfire Missile System
- Line of Sight Anti-Tank (LOSAT) Weapon System
- Abrams Tank (M1A2) System Enhancement Program (SEP)
- Multiple Launched Rocket System (MLRS) Upgrade
- Multiple Launched Rocket System (MLRS) Upgrade

Nuclear-Biological-Chemical Reconnaissance System (NBCRS) Vehicle
Sense and Destroy Armor (SADARM)
Tube Launched, Optically Tracked, Wire Guided (TOW) - Fire and Forget
Tactical Unmanned Aerial Vehicle (UAV)-Outrider

Naval Warfare Programs

Advanced Amphibious Assault Vehicle (AAAV)
Advanced Combat Direction System (ACDS) Block I
Aegis SPY Radar (AN/SPY-1B/D/D(V))
Cooperative Engagement Capability (CEC)
CH-60S Fleet Combat Support Helicopter
Future Sea-Based Tactical Aviation Platform (CV/(X))
CVN-69 Class
DD21 Land Attack Destroyer
DDG-51 Arleigh Burke Class Destroyer
Evolved Seasparrow Missile (ESSM)
Fixed Distributive System (FDS) and Advanced Deployable System (ADS)
Amphibious Assault Ship (LPD-17)
MK-48 Advanced Capability (ADCAP) Torpedo
Ship Self-Defense System (Mark 1 & Mark 2)
Rolling Airframe Missile (RAM)
SH-60R Multi-Mission Helicopter Program
Seawolf Class Nuclear Attack Submarine/Combat System (SSN-21/BSY-2)
SSN-23 Jimmy Carter
Strategic Sealift Ship (SSP)
Submarine External Communications System (SubECS)
Auxiliary Dry Cargo Carrier (T-ADC(X))
Virginia (SSN 774) Class Submarine

Air Warfare Programs

Advanced Early Warning (AEW)
AIM-9X Missile
Advanced Medium Range Air-to-Air Missile (AMRAAM)
AN/SQQ-89 Antisubmarine Warfare Combat System
C-130J All Variants (KC-130J, EC-130J, WC-130J, C-130J-30, and C-130J)

C-17 Airlift Aircraft
F/A-18 C/D Hornet
F/A-18 E/F Hornet
F-22 Air Superiority Fighter
Global Hawk High Altitude Endurance UAV (HAEUAV)
Joint Air-to-Surface Strike Missile (JASSM)
Joint Direct Attack Munition (JDAM)
Joint Primary Aircraft Training System (JPATS)
Joint Strike Fighter (JSF)
Joint Standoff Weapon (JSOW)
Joint Standoff Weapon (JSOW)
Joint Standoff Weapon (JSOW)
Joint Surveillance Target Attack Radar System (JSTARS)
Predator Medium Altitude Endurance UAV
Sensor Fused Weapon (SFW) P3I
Standoff Land Attack Missile-Expanded Response (SLAM-ER)
T-45 Training System
Tactical Aviation Mission Planning System (TAMPS)
USMC H1 Upgrade
V-22 Osprey (Joint Airlift Vehicle)

Electronic Warfare Programs

AN/ALR-56 (All Versions) Radar Warning Receiver-All Upgrades
AN/ALR-67 (All Versions)-includes AN/ALR-67(V)
AN/APR-39 (All Versions) Radar Warning Receiver-All Upgrades
ASPJ (ALQ-165)
B-1B Lancer Conventional Mission Upgrade Program (CMUP)/Defensive System Upgrade Program (DSUP)
EA-6B Prowler-All Upgrades
F-15 Tactical Electronic Warfare System (TEWS) including AN/ALQ-135 Self-Protection Jammer
Integrated Defensive Electronic Countermeasures (IDECM)
Suite of Integrated Infrared Countermeasures/Common Missile Warning System (SIIRCM/CMWS)
Suite of Integrated Radio Frequency Countermeasures (SIRFC)

Command, Control, Communications, and Intelligence Programs

Army Tactical Command and Control System (ATCCS) Capstone

Battlefield Digitization
All Source Analysis System (ASAS)/Army Tactical Command and Control System (ATCCS)
Composite Health Care System II (CHCS II)
Defense Message System (DMS)
E-C2 Hawkeye Airborne Early Warning
E-3A Airborne Warning and Control System (AWACS) Radar System Improvement Program (RISP)
Army Global Command and Control System (AGCCS)
Global Command Support System -Air Force (GCSS-AF)
Integrated Maintenance Data System (IMDS)
Joint Ammunition Management Standard System (JMASS)
Joint Computer Aided Acquisition and Logistics Support (JCALS)
Joint Tactical Radio System (JTRS)
Maneuver Control System (MCS)
Multifunctional Information Distribution System (MIDS)
NAVSTAR GPS User Equipment (UE)
Navy Standard Integrated Personnel System (NSIPS)
Unmanned Aerial Vehicle Tactical Control System (UAV-TCS)
Theater Medical Information Program (TMIP)
Combat ID
Defense Medical Logistics Standard Support (DMLSS)
Forward Area Air Defense System (FAADS) C3I
MILSTAR Satellite Communications System
Reserve Component Automation System (RCAS)
Defense Civilian Personnel Data System
F-15 Fighter Data Link (FDL)
Global Transportation Network (GTN)
Standard Procurement System (SPS)

Strategic Warfare and Space Systems Programs

B1-B Lancer
B2 Advanced Technology Bomber
Evolved Expendable Launch Vehicle (EELV)
Medium Extended Air Defense System (MEADS)
Navy Theater Ballistic Missile Defense (TBMD)
National Missile Defense (NMD) System

Patriot P3I and Patriot Upgrade
Theater High Altitude Area Defense (THAAD)
Tomahawk Theater Mission Planning Center
National Airspace System
Tomahawk Block IV
TITAN IV Space Booster

Other Systems
Chemical Demilitarization

Test Improvement

The FY01 Defense Appropriations Bill provided an additional $4.0M under the project title Improvement in Test. The following five initiatives were funded:

1. Simulation Testing Operations Rehearsal Model (STORM). Managed by the Army Test and Evaluation Center, STORM provides simulation of the command, control, communications and intelligence (C^4I) networks of various command organizations. This effort allows the operational tester to more fully stress C^4I networks that are in use during field tests.
2. Fiber Optic Cable Upgrade to the Nevada Test and Training Range (NTTR). This effort will partially fund the upgrade of the current unreliable link between Indian Springs and Nellis AFB, providing a secure, encrypted high-bandwidth fiber optic link for real-time analysis work.
3. Commander, Operational Test and Evaluation Force (COMOPTEVFOR) Modeling and Simulation (M&S) Computer Laboratory. This effort provides partial funding for the M&S laboratory that will allow COMOPTEVFOR to do evaluations more thoroughly and efficiently.
4. Navy Test and Evaluation Training. This effort enables Navy Training to develop instructional courses to train fleet operators in the technologies necessary for modern testing.
5. Marine Corps Operational Test and Evaluation Activity (MCOTEA) Network Infrastructure Upgrade at Quantico. This effort was used to procure the servers and other equipment to host a Management Information Network (MIN) to support MCOTEA staff in the conduct of OT&E for 53 programs. MCOTEA had been sharing an Air Force server that resides at Kirtland AFB. The server was accessible only through the Internet, resulting in significant down time and a reduction in the ability to work test plans and assessments.

Performed official travel to carry out oversight of DoD operational testing and evaluation.

FY 2002 Plans:
Programs on the oversight list include:

Land Warfare Programs:

- Blackhawk (UH-60L) Service Life Extension Program (SLEP)
- Bradley Fighting Vehicle System (BFVS)-A3/M2A3 and M3A3 Programs
- Close Combat Tactical Trainer (CCTT)
- Chinook (CH-47) Improved Cargo Helicopter
- Comanche (RAH-66)
- CRUSADER Howitzer & Resupply Vehicle
- Family of Medium Tactical Vehicles (FMTV)
- Future Combat System (FCS)
- Future Scout / Calvary System (FSCS)
- High Mobility Artillery Rocket System
- Joint Biological Point Detection
- Joint Biological Remote Early Warning
- Joint Chemical Agent Detector
- Joint Service Light NBC Reconnaissance
- Joint Service Lightweight Standoff
- Joint Warning & Reporting Network
- Common Ground Station (CGS)
- Kiowa Warrior (OH-58D)
- Land Warrior
- Longbow Apache (AH-64D)
- Longbow Hellfire Missile System
- Line of Sight Anti-Tank (LOSAT) Weapon System
- Abrams Tank (M1A2) System Enhancement Program (SEP)
- Multiple Launched Rocket System (MLRS) Upgrade
- Nuclear-Biological-Chemical Reconnaissance System (NBCRS) Vehicle
- Sense and Destroy Armor (SADARM)
- Tube Launched, Optically Tracked, Wire Guided (TOW) - Fire and Forget

Naval Warfare Programs:

- Advanced Amphibious Assault Vehicle (AAAV)
- Advanced Combat Direction System (ACDS) Block I
- Advanced Integrated Electronic Warfare System (AIEWS)
- Aegis SPY Radar (AN/SPY-1B/D/D(V))

Cooperative Engagement Capability (CEC)
Future Sea-Based Tactical Aviation Platform (CV/(X))
CVN-69 Class
DD21 Land Attack Destroyer
DDG-51 Arleigh Burke Class Destroyer
Evolved Seasparrow Missile (ESSM)
Fixed Distributive System (FDS) and Advanced Deployable System (ADS)
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MK-48 Advanced Capability (ADCAP) Torpedo
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SH-60R Multi-Mission Helicopter Program
Seawolf Class Nuclear Attack Submarine/Combat System (SSN-21/BSY-2)
SSN-23 Jimmy Carter
Strategic Sealift Ship (SSP)
Submarine External Communications System (SubECS)
Auxiliary Dry Cargo Carrier (T-ADC(X))
TAGOS/SURTASS Surveillance Ship/Low Frequency Active (LFA) Sonar
Virginia (SSN 774) Class Submarine

Air Warfare Programs:
Advanced Early Warning (AEW)
AIM-9X Missile
Advanced Medium Range Air-to-Air Missile (AMRAAM)
AN/SQQ-89 Antisubmarine Warfare Combat System
C-130J All Variants (KC-130J, EC-130J, WC-130J, C-130J-30, and C-130J)
C-17 Airlift Aircraft
F/A-18 C/D Hornet
F/A-18 E/F Hornet
F-22 Air Superiority Fighter
Global Hawk High Altitude Endurance UAV (HAEUAV)
Joint Air-to-Surface Strike Missile (JASSM)
Joint Direct Attack Munition (JDAM)
Joint Primary Aircraft Training System (JPATS)
Joint Strike Fighter (JSF)
Joint Standoff Weapon (JSOW)

Joint Standoff Weapon (JSOW)
Joint Standoff Weapon (JSOW)
Joint Surveillance Target Attack Radar System (JSTARS)
Predator Medium Altitude Endurance UAV
Sensor Fused Weapon (SFW) P3I
Standoff Land Attack Missile-Expanded Response (SLAM-ER)
T-45 Training System
USMC H1 Upgrade
V-22 Osprey (Joint Airlift Vehicle)

Electronic Warfare Programs:

AN/ALR-56 (All Versions) Radar Warning Receiver-All Upgrades
AN/ALR-67 (All Versions)-includes AN/ALR-67(V)
AN/APR-39 (All Versions) Radar Warning Receiver-All Upgrades
ASPJ (ALQ-165)
B-1B Lancer Conventional Mission Upgrade Program (CMUP)/Defensive System Upgrade Program (DSUP)
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Integrated Defensive Electronic Countermeasures (IDECM)
Suite of Integrated Infrared Countermeasures/Common Missile Warning System (SIIRCM/CMWS)
Suite of Integrated Radio Frequency Countermeasures (SIRFC)

Command, Control, Communications, and Intelligence Programs

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Battlefield Digitization
All Source Analysis System (ASAS)/Army Tactical Command and Control System (ATCCS)
Composite Health Care System II (CHCS II)
Defense Message System (DMS)
E-C2 Hawkeye Airborne Early Warning
E-3A Airborne Warning and Control System (AWACS) Radar System Improvement Program (RISP)
Army Global Command and Contrail System (AGCCS)
Global Command Support System -Air Force (GCSS-AF)
Integrated Maintenance Data System (IMDS)
Joint Ammunition Management Standard System (JMASS)
Joint Computer Aided Acquisition and Logistics Support (JCALS)

Joint Tactical Radio System (JTRS)
Maneuver Control System (MCS)
Multifunctional Information Distribution System (MIDS)
NAVSTAR GPS User Equipment (UE)
Navy Standard Integrated Personnel System (NSIPS)
Unmanned Aerial Vehicle Tactical Control System (UAV-TCS)
Theater Medical Information Program (TMIP)
Combat ID
Defense Medical Logistics Standard Support (DMLSS)
Forward Area Air Defense System (FAADS) C3I
MILSTAR Satellite Communications System
Reserve Component Automation System (RCAS)

Strategic Warfare and Space Systems Programs
B1-B Lancer
B2 Advanced Technology Bomber
Evolved Expendable Launch Vehicle (EELV)
Medium Extended Air Defense System (MEADS)
Navy Theater Ballistic Missile Defense (TBMD)
National Missile Defense (NMD) System
Patriot P3I and Patriot Upgrade
Theater High Altitude Area Defense (THAAD)
Tomahawk Theater Mission Planning Center
National Airspace System

Plans - Other Systems:
Chemical Demilitarization

Will perform official travel to carry out oversight of DoD operational testing and evaluation.

B. (U) PROGRAM CHANGE SUMMARY

($ in Millions)	FY 2000	FY 2001	FY 2002

FY 2001 President's Budget	14.602	17.172	17.379
Increase Program for Improvement of Tests		4.000	
Section 8086 Reduction		(.148)	
P.L. 106-554 Reduction		(.046)	
Appropriated Value	14.602	20.978	
Adjustments to Appropriated Value			
Current Budget Submit	14.602	20.978	17.379

C. (U) OTHER PROGRAM FUNDING NA

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2)			July 2001		
OPERATIONAL TEST AND EVALUATION, DEFENSE (0460) BUDGET ACTIVITY SIX			LIVE FIRE TESTING PE 0605131D8Z		
$'s in Millions	FY 2000	FY 2001	FY 2002	COST TO COMPLETE	TOTAL COST
PE 0605131D	16.669	17.054	9.887	Continuing	Continuing

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

This program element, 0605131D8Z, directly supports the Congressional statutory requirements for oversight of Live Fire Test and Evaluation (LFT&E). The Federal Acquisition Streamlining Act of 1994 amended Title 10 to transfer, within the Office of the Secretary of Defense, responsibility for monitoring and reviewing the live fire testing activities of the Department of Defense. Responsibility was reassigned from the Director of Test, Systems, Engineering and Evaluation, Office of the Under Secretary of Defense (Acquisition and Technology), to the Director of Operational Test and Evaluation (DOT&E) in FY 1995.

The primary objective of LFT&E is to assure that the vulnerability and survivability of DoD crew-carrying weapons platforms and the lethality of our conventional munitions are known and acceptable before entering full-rate production. LFT&E encompasses realistic tests involving actual U.S. and threat hardware or, if not available, acceptable surrogate threat hardware. The objective is to identify and correct design deficiencies early in the development process, and is required to be completed before weapons programs proceed beyond low-rate initial production. It also includes realistic modeling and simulation, to include pretest predictions, to assure the maximum benefit from the testing. The LFT&E program is essential, especially in view of the escalating costs of technologically sophisticated weapons systems.

The LFT&E program element also supports the DoD's Joint Live Fire (JLF) Program which began in 1984 under an OSD charter to test fielded front-line U.S. and threat combat aircraft and armor systems for their vulnerabilities and fielded weapons, both U.S. and threat, for their lethalities against their respective targets. The Congress, seeing the vulnerability and lethality issues raised by the JLF program, decided that there must be legislation to require that this realistic testing be done on new systems before they reach the field. Hence the Live Fire Test Legislation, Title X, Section 2366 was passed in 1987.

In the FY 1997 DoD Appropriations Act, the Congress appropriated an initial $3.0M for the Live Fire Testing and Training (LFT&T) program, formalizing an important LFT&E program relationship. The funding strengthens the natural relationship between live fire test activities and the models and simulations being developed to support the Services' testing and training activities. The LFT&T program is directed by a Senior Advisory Group consisting of DOT&E's Deputy Director for Live Fire Test (Chair) and the four Military Service leaders for training technology located in Orlando, Florida. In FY 1998, the Congress appropriated $4.0M for continuation and expansion of the program. Again, in FY 1999, the Congress appropriated $5.0M for further continuation and expansion of the program. Once more, in FY 2000, the Congress appropriated $7.0M for continuation and expansion of the program. For FY 2001, the Congress added $7.5M to the LFT&E PE to continue and expand the Live Fire Test and Training Program, specifying that $1.5M be dedicated to the Augmented Reality for Firefighting initiative started in FY97, and took $0.120M in reductions for the Section 8086 0.7% across the board appropriation reduction.

The LFT&E program element also funds other activities used to support the functions of the LFT&E, JLF, and LFT&T programs. The other activities, outlined below, are "Crew Casualty Assessment," "Exploring New Technologies/Advanced Concepts and Survivability Initiatives," and "Assuring Modeling and Simulation Adequacy." Efforts in those categories have undergone significant changes during FY 2000, as emphasis is growing on modeling and simulation in support of LFT&E.

LFT&E funding is part of management oversight over research, development, test, and evaluation (RDT&E) of new systems, as well as RDT&E of fielded systems, and therefore budgeted in Program Element Research Category 6.5.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

FY 2000 Accomplishments:

Reviewed and Monitored Major T&E Programs: Completed LFT&E technical assessments for those systems approaching due dates for LFT&E reporting to Congress such as Joint Stand-Off Weapon (JSOW) (BLU-97 warhead), Stand-Off Land-Attack Missile-Expanded Response (SLAM-ER), B-1B Lancer Conventional Mission Upgrade Program (CMUP), B-2 Spirit, MH-47E and MH-60K Special Operations Aircraft, Rolling Airframe Missile (RAM), Command and Control Vehicle, and SH-60B Light Airborne Multi-Purpose System (LAMPS). Oversight of continuing efforts in FY 2000 will include: the Advanced Amphibious Assault Vehicle, the Crusader field artillery system, the M1-based Grizzly Breacher, the Light Tactical Vehicle, the M1A2 Upgrade, the M2A3 Bradley FVS upgrade, the M1-based Wolverine Heavy Assault Bridge (HAB), the Cobra AH-1W Upgrade, the Longbow HELLFIRE, M829E3 120mm Armor-Piercing Fin-Stabilized Discarding Sabot-Tracer (APFSDS-T) ammunition, the Multiple Launch Rocket System (MLRS) (Guided), the High Mobility Rocket System (HIMARS), the Stinger Reprogrammable Microprocessor (RMP) missile, XM1001 Cartridges, the Mk48 Advanced Capability (ADCAP) torpedo, the JDAM weapon, the Medium Extended Air Defense System (MEADS), Navy Theater Wide missile defense, the UH-1N Upgrade, the B-1B Lancer Conventional Munitions Upgrade Program (CMUP), the F-22 Raptor, the F/A-18E/F Super Hornet, the Joint Strike Fighter, the OH-58D Kiowa Warrior, the RAH-66 Comanche, the V-22 Osprey, the CVN(X) aircraft carrier, the SSN-774 (Virginia Class) attack submarine, the SSN-21 (Seawolf)

submarine, the DDG-51 guided missile destroyer, the LPD-17 transport ship, the ATACMS Block II (BAT), the Follow-on-to-TOW (FOTT), the Javelin Alternate Main Charge Warhead (AMCW) system, the Joint Air to Surface Stand-off Missile (JASSM), the Joint Standoff Weapon (JSOW) (BLU-108 and Unitary warheads), the Objective Crew Served Weapon (OCSW), the Objective Individual Combat Weapon (OICW), Sense and Destroy Armor Munition (SADARM), the Sensor Fuzed Weapon (SFW), the Advanced Medium Air-to-Air Missile (AMRAAM), the AIM-9X Sidewinder missile, the Evolved Sea Sparrow Missile (ESSM), the Navy Area Tactical Ballistic Missile Defense System, Patriot Advanced Capability (PAC-3), Theater High Altitude Area Defense (THAAD), the Airborne Laser (ABL) system, the Medium Extended Air Defense (MEADS) System, and the National Missile Defense (NMD) System.

Managed Joint Live Fire Programs: The first phase of the JLF fuel filler (metal mesh) using generic fuel tanks tests was completed and Phase II testing was started utilizing AH-1S fuel tanks using the same 5 contractor products. Planning for the JLF C-130 wing hydrodynamic ram testing and the test firings were completed. Phase I (static tests) of the CH-47D rotor blade vulnerability program as well as planning of the next phase (quasi-static tests) were completed. JLF sponsored a MANPADS Threat Characterization Workshop that successfully brought together the test & evaluation, modeling & simulation, design, and requirements communities for the first time to work this important issue. In addition to recommending a follow-on discussion, this workshop confirmed the value of the JLF MANPADS tests completed in the past and helped to better plan future tests. JLF also investigated the vulnerability of the F-14 by conducting MANPADS and external fuel tank tests. The external fuel tanks tests were done using both a fuel tank simulator and an actual external fuel tank. A foreign MANPADS threat was also fired at the F-16 using shotlines from Operation Desert Storm. The JLF F-16 program will determine its vulnerability to foreign MANPADS threats by identifying kill mechanisms and their effect on flight performance. The principle objectives are to: 1) obtain a physical understanding of the kinetic energy kill mechanisms and its relative contribution to a kill, 2) identify vulnerable areas and potential vulnerability reduction measures, and 3) collect test data for use in vulnerability analyses and model accreditation. A study of the PGU-28 20mm projectile was also completed, which recommended future JLF testing. JLF lethality tests of U.S. weapons against a SCUD missile launcher was started and tests against two foreign ground vehicles continued. Planning for Phase III of the fuel filler (metal mesh) against fuel tanks found in a wheeled-ground vehicle and a classified foreign vehicle were completed.

Crew Casualty Assessment: Continued the evaluation of aircraft mishaps due to contribution of gravity-induced loss of consciousness (G-LOC). Conducted a Ground Collision Avoidance System (GCAS) G-LOC flight demonstration with Air Force Combat Command operational pilots.

Exploring New Technologies/Advanced Concepts and Survivability Initiative: Completed sponsor testing program of contractor supplied passive ullage protective systems.

Assuring Modeling & Simulation Adequacy: Under the Safety and Survivability of Aircraft Initiative (SSAI) program, continued to address dry bay fire modeling and incorporate the explosive modeling techniques developed at the National Labs under the TWA Flight 800 effort. Continued hypervelocity impact work to identify and document the applicability of hydrocodes and engineering analysis tools to the problem of assessing intercept lethality. The physics-based modeling initiative will evolve and expand to incorporate elements of other DoD M&S efforts. Working meetings were arranged to coordinate R&D, DoD High Performance Computing (HPC), technical support from DOE and Service labs, and

acquisition decision needs from developmental testing through operational testing, including LFT&E. Initiated an update of the Target Interaction, Lethality, and Vulnerability (TILV) Master Plan to support Directed Energy Weapons.

Live Fire Testing and Training: Completed the Effectiveness of Small Arms Fire project started under the FY 1997 program. Completed the Battle Damage Assessment and Repair, Realistic Munitions Impact Flash Events, and Augmented Reality for Total Ship Survivability Test projects started under the FY 1998 program. Completed the Enhance Recovery/Training of Aircrew, the LFT&E Training Opportunities for Battle Damage Assessment, and Non-ballistic Live Fire Test and Training Laser Threats projects started under the FY 1999 program. Completed solicitation, evaluation, and selection process to identify FY 2001 new start projects. The five new projects are Weapons Aim Point Analysis and Training Tool, Results of JLF MANPADS Testing for Training, Almost Loss of Consciousness (ALOC) on Aircrew Performance, Moving Weapons Platform Simulator, and Virtual Target Gunnery System.

Radio Frequency (RF) Weapons Vulnerability Assessment: Continued the assessment of the requirements for testing of the vulnerability of U.S. military systems to asymmetric threats. Initiated vulnerability testing and evaluation of the threat of RF devices (characteristic of what a rogue nation or terrorist could fabricate using only “open source” information and available hardware components) on modern and future military systems, support infrastructure, and systems under development using commercial off-the-shelf technology, which could or will have military application. These systems were evaluated with regard to their vulnerability, susceptibility, and survivability to degradation, disruption, upset, and damage from the RF devices. The testing was conducted in realistic environments where such RF devices would be used.

Official Travel and Administrative Support: Performed official travel and procured administrative support to carry out oversight of Live Fire Test and Evaluation programs as well as fund efforts of common interest with the Director, Operational Test and Evaluation.

FY 2001 Plans:

Review and Monitor Major T&E Programs: Complete LFT&E technical assessments for those systems approaching due dates for LFT&E reporting to Congress. Oversight of continuing vulnerability efforts in the category of armored vehicles will include: the Advanced Amphibious Assault Vehicle, the M1A2 Abrams Tank Upgrade, the Command and Control Vehicle (C2V), the Crusader field artillery system, the M1-based Grizzly Breacher, the M1-based Wolverine Heavy Assault Bridge (HAB), the M2A3 Bradley FVS upgrade, the family of Interim Armored Vehicles (IAV), the Line-of-Sight Anti-Tank (LOSAT), and the High Mobility Rocket System (HIMARS). Under the category of ships and submarines, efforts will continue on the DDG-51 guided missile destroyer, the Seawolf (SSN-21) submarine, the USS Jimmy Carter (SSN-23), the LPD-17 transport ship, the T-ADC(X) Auxiliary Dry Cargo Ship, the CVN(X) aircraft carrier, the DD 21 Land Attack Destroyer, the Virginia Class (SSN-774) attack submarine, the Joint Command and Control ship (JCC(X)), and the replacement amphibious assault ship LHA(R). Under aircraft, vulnerability oversight will continue on the OH-58D Kiowa Warrior, the RAH-66 Comanche, the F-22 Raptor, the V-22 Osprey, the MH-47E and MH-60K Special Operations Aircraft (SOA), the F/A-18E/F Super Hornet, the B-2 Spirit, C-130 AMP, the C-130J, the Joint Strike Fighter, the UH-60L+ Blackhawk, the CH-47F Improved Cargo Helicopter, the AH-1W Helicopter Upgrade, the UH-1N Upgrade, the CH-60S, SH-60R, the CH-60 Combat Search and Rescue (CSAR), the CH-60 OAMCM, the KC-130J, the C-5 REPR, the C-17A Upgrade, the B-1B

Lancer Conventional Mission Upgrade Program (CMUP), and the Airborne Laser (ABL) system. Oversight of lethality efforts in the category of ground attack weapons will include the Javelin Alternate Main Charge Warhead (AMCW) system, the ATACMS Block II (BAT), the Sense and Destroy Armor Munition (SADARM), the Tactical Tomahawk, the Joint Air to Surface Stand-off Missile (JASSM), the Sensor Fuzed Weapon (SFW), the Objective Crew Served Weapon (OCSW), the Objective Individual Combat Weapon (OICW), M829E3 120mm APFSDS-T ammunition, the Multiple Launch Rocket System (MLRS) (Guided), the Joint Standoff Weapon (JSOW) (Unitary warhead), the XM96 Lightweight Fragmentation Hand Grenade, the TOW Fire and Forget, the LOSAT missile, and the Wide Area Munition (WAM) PI. Oversight of lethality of air and missile defense systems will include the Patriot Advanced Capability (PAC-3), the Medium Extended Air Defense System (MEADS), Theater High Altitude Area Defense (THAAD), the Advanced Medium Air-to-Air Missile (AMRAAM), the AIM-9X Sidewinder missile upgrade, the Standard Missile Block IVA, the Evolved Sea Sparrow Missile (ESSM), the Navy Area Tactical Ballistic Missile Defense System, the Rolling Airframe Missile (RAM) HAS, the National Missile Defense (NMD) System, the Stinger-Reprogrammable MicroProcessor (RMP) missile, Navy Theater Wide missile defense, and the Airborne Laser (ABL) system.

Manage Joint Live Fire Programs: Conduct tests of fielded systems not previously tested under Air, Land, or Sea Joint Live Fire programs. JLF expects to plan and execute a lethality test of a helicopter-launched Hellfire missile against a small-ship target. Lethality testing of U.S. weapons against a SCUD missile should begin. We expect to start lethality tests against an additional foreign target vehicle, continue testing of a second vehicle started in FY 2001, and complete testing of the third classified vehicle started in FY 1999. Phase II of the fuel filler (metal mesh) testing and a C-130 mission abort study will be completed. Vulnerability testing of F-14 and F-16 aircraft will continue addressing different subsystems, issues, and possibly threat munitions. JLF will explore the availability and need for F-117 vulnerability testing. The final JLF tests of the CH-47D rotor blades will be started by firing at dynamic, loaded rotor blades on an operating helicopter. Advanced planning and feasibility studies will be completed for potential future projects, such as EA-6B composite wing, fire suppression for the C-130 wing leading edge, AH-1 tail rotor blade static, anti-helicopter mine threat, engine vulnerability, and damage digitization equipment development. JLF will sponsor another MANPADS Threat Characterization Workshop as a follow-on to the FY 2000 meeting. The analysis of the C-130 wing hydrodynamic ram test data will be completed. Lethality testing of the PGU-28 20mm projectile against the MiG-29 aircraft is also planned. JLF will look to acquire foreign targets and munitions, invest in development of technologies that increase test realism, and improve data base management tools.

Crew Casualty Assessment: Complete the effort toward investigating the issues and potential user casualty risks associated with the operational impact of acceleration-induced incapacitation, along with G-LOC, caused by highly dynamic aircraft flight. Begin to evaluate potential mitigation techniques to decrease incapacitation and improve training for resistance to acceleration induced incapacitation. Conduct a Ground Collision Avoidance System (GCAS) G-LOC flight demonstration with Air Force Combat Command operational pilots.

Exploring New Technologies/Advanced Concepts and Survivability Initiative: Continue to sponsor testing of contractor-supplied passive ullage protective systems. Test results will be reported and supplied to participating contractors as well as the services and major airframe manufacturers.

Physics Based Evaluations: Continue strong emphasis on understanding the application of physics-based modeling and simulations to test programs and the evaluation of their adequacy. Generate resources for continuing SSAI and provide seed funding for other efforts stemming from the LFT&E physics-based modeling workshops. Assure that programmatic focus is maintained in the development and application of M&S tools and that training capabilities are continuously improved to reflect more credible models. Push for a more consistent infrastructure for managing the M&S that supports T&E specifically and the acquisition process in general. In an environment of shrinking resources it is essential to understand the marginal return on M&S investment. Complete an update to and release of the Target Interaction, Lethality, and Vulnerability (TILV) Master Plan to support Directed Energy Weapons.

Live Fire Testing and Training: Continue projects started in prior years and start new projects to the extent funding allows. Begin dedicated project in Augmented Reality based firefighting.

Radio Frequency (RF) Weapons Vulnerability Assessment: Continue the testing of the vulnerability and survivability of U.S. military systems and commercial off-the-shelf (COTS) technologies to potential asymmetric RF devices of differing wavelengths. Expand the test and evaluation program to encompass more military weapon systems, new COTS technologies, and other directed energy threats.

Official Travel and Administrative Support: Perform official travel and procure administrative support to carry out oversight of Live Fire Test and Evaluation programs as well as fund efforts of common interest with the Director, Operational Test and Evaluation.

FY 2002 Plans:

Review and Monitor Major T&E Programs: Complete LFT&E technical assessments for those systems approaching due dates for reporting to Congress. Oversight of vulnerability efforts in FY 2002 are expected to include the Advanced Amphibious Assault Vehicle, the M1A2 Abrams Tank Upgrade, the Command and Control Vehicle (C2V), the Crusader field artillery system, the M1-based Grizzly Breacher, the M1-based Wolverine Heavy Assault Bridge (HAB), the M2A3 Bradley FVS upgrade, the family of Interim Armored Vehicles (IAV), the Line-of-Sight Anti-Tank (LOSAT), and the High Mobility Rocket System (HIMARS). Under the category of ships and submarines, efforts will continue on the DDG-51 guided missile destroyer, the Seawolf (SSN-21) submarine, the USS Jimmy Carter (SSN-23), the LPD-17 transport ship, the T-ADC(X) Auxiliary Dry Cargo Ship, the CVN(X) aircraft carrier, the DD 21 Land Attack Destroyer, the Virginia Class (SSN-774) attack submarine, the Joint Command and Control ship (JCC(X)), and the replacement amphibious assault ship LHA(R). Under aircraft, vulnerability oversight will continue on the OH-58D Kiowa Warrior, the RAH-66 Comanche, the F-22 Raptor, the V-22 Osprey, the MH-47E and MH-60K Special Operations Aircraft (SOA), the F/A-18E/F Super Hornet, the B-2 Spirit, C-130 AMP, the C-130J, the Joint Strike Fighter, the UH-60L+ Blackhawk, the CH-47F Improved Cargo Helicopter, the AH-1W Helicopter Upgrade, the UH-1N Upgrade, the CH-60S, SH-60R, the CH-60 Combat Search and Rescue (CSAR), the CH-60 OAMCM, the KC-130J, the C-5 REPR, the C-17A Upgrade, the B-1B Lancer Conventional Mission Upgrade Program (CMUP), and the Airborne Laser (ABL) system. Oversight of lethality efforts in the category of ground attack weapons will include the Javelin Alternate Main Charge Warhead (AMCW) system, the ATACMS Block II (BAT), the Sense and Destroy

Armor Munition (SADARM), the Tactical Tomahawk, the Joint Air to Surface Stand-off Missile (JASSM), the Sensor Fuzed Weapon (SFW), the Objective Crew Served Weapon (OCSW), the Objective Individual Combat Weapon (OICW), M829E3 120mm APFSDS-T ammunition, the Multiple Launch Rocket System (MLRS) (Guided), the Joint Standoff Weapon (JSOW) (Unitary warhead), the XM96 Lightweight Fragmentation Hand Grenade, the TOW Fire and Forget, the LOSAT missile, and the Wide Area Munition (WAM) PI. Oversight of lethality of air and missile defense systems will include the Patriot Advanced Capability (PAC-3), the Medium Extended Air Defense System (MEADS), Theater High Altitude Area Defense (THAAD), the Advanced Medium Air-to-Air Missile (AMRAAM), the AIM-9X Sidewinder missile upgrade, the Standard Missile Block IVA, the Evolved Sea Sparrow Missile (ESSM), the Navy Area Tactical Ballistic Missile Defense System, the Rolling Airframe Missile (RAM) HAS, the National Missile Defense (NMD) System, the Stinger-Reprogrammable MicroProcessor (RMP) missile, Navy Theater Wide missile defense, and the Airborne Laser (ABL) system.

Manage Joint Live Fire Programs: Conduct tests of fielded systems not previously tested under Air, Land, or Sea Joint Live Fire programs. Tests of foreign systems acquired for exploitation will continue. Additional U.S. munitions will be tested against the SCUD launcher. Testing of U.S. munitions against the remaining two classified targets should be completed. Plans for JLF tests to investigate the lethality of U.S. munitions against foreign air defense systems will be also be finalized. JLF testing of the CH-47D rotor blades will be completed and lethality testing of U.S. weapons against the MiG-29, Hind, and additional air defense systems has been proposed. Additional aircraft vulnerability tests of the F-14 and F-16 are being considered as well as tests of the AH-64, F-117, AH-1S, CH-53E, and OH-58C/D. JLF will continue to acquire foreign targets and munitions, invest in development of technologies that increase test realism, and improve data base management tools.

Crew Casualty Assessment: Continue to promote and evaluate crew casualty technologies and initiatives to the extent that funding allows. Emphasis will be on human/crew performance and survivability.

Exploring New Technologies/Advanced Concepts and Survivability Initiative: Continue to promote and evaluate new technologies in support of safety and survivability of aircraft, focusing on fire and explosion effects and mitigation.

Physics Based Evaluations: Emphasis will continue in the area of physics based modeling and simulation and its close connection to realistic assessment and training. Continue development of consistent approaches to risk evaluation and T&E prioritization based on modeling.

Live Fire Testing and Training: Continue projects started in prior years and start new projects to the extent funding allows. Continue dedicated project in Augmented Reality based firefighting for transition to fleet use to the extent funding allows.

Radio Frequency (RF) Weapons Vulnerability Assessment: Continue the testing of the vulnerability and survivability of U.S. military systems and commercial off-the-shelf (COTS) technologies to potential asymmetric RF devices of differing wavelengths to the extent funding permits from within LFT&E core funding. Expand the test and evaluation program to encompass more military weapon systems, new COTS technologies, and other directed energy threats.

General DOT&E Support: Continue the design and development of a Knowledge Management System , adding robust functionality to enable rapid decision-making on time critical events. The system will be extended to the majority of the DOT&E enterprise and will include Live Fire Test and Evaluation templates, guidelines and best practices for DOD personnel. This effort will fully support the Department's goal and vision.

Official Travel and Administrative Support: Perform official travel and procure administrative support to carry out oversight of Live Fire Test and Evaluation programs as well as fund efforts of common interest with the Director, Operational Test and Evaluation.

B. (U) PROGRAM CHANGE SUMMARY

($ in Millions)	FY 2000	FY 2001	FY 2002
FY 2001 President's Budget	16.669	9.712	9.887
Live Fire Testing		6.000	
Reality Fire-Fighting Training		1.500	
Section 8086 Reduction		(.120)	
P.L. 106-554 Reduction		(.038)	
Appropriated Value	16.669	17.054	
Adjustments to Appropriated Value			
Current Budget Submit	16.669	17.054	9.887

C. (U) OTHER PROGRAM FUNDING NA

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2)			July 2001		
OPERATIONAL TEST AND EVALUATION, DEFENSE (0460) BUDGET ACTIVITY SIX			TEST AND EVALUATION (T&E) PE 0605804D8Z		
$'s in Millions	FY 2000[1]	FY 2001[2]	FY 2002	COST TO COMPLETE	TOTAL COST
PE 0605804D8Z	99.840	52.786	59.447	Continuing	Continuing

Notes: [1] - PE 0604940D8Z and PE 0605804D8Z were in appropriation 0450 (Developmental Test and Evaluation, Defense (DTE,D)) through FY 00. The SECDEF approved disestablishment of DTE,D in June 1999.

[2] - Beginning in FY 2001, PE 0604940D8Z transferred in its entirety to appropriation 0460 (Operational Test and Evaluation, Defense (OTE,D)) and PE 0605804D8Z was split between appropriations 0460 and 0400 (Defense-wide RDT&E).

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

This program element consists of two programs: Test and Evaluation (T&E) Programs and T&E Independent Activities.

T&E Programs consists of four activities: Threat Systems (TS); Center for Countermeasures (CCM) (formerly known as Precision Guided Weapons Countermeasures); Joint Technical Coordinating Groups on Aircraft Survivability (JTCG/AS) and Munitions Effectiveness (JTCG/ME). Program Decision Memorandum I increased the JTCG/ME FY 2002 budget by $5.1 to provide Joint Munitions Effectiveness Manual (JMEM) for all weapon systems and to reduce the JMEM distribution cycle to 14 months.

The T&E programs are continuing efforts that provide management and oversight of DoD T&E functions and T&E expertise to the DoD. TS provides OSD policy and oversight to Service threat systems and target developments to ensure increased commonality, minimize duplications and provide consistent threat representation validation for T&E. TS funds the management and oversight functions for development of common use threat specifications for threat simulators, threat representative targets and digital threat models used for T&E; integration of T&E requirements for Foreign Material Acquisition (FMA); DoD validation of threat simulators, threat representative targets, and digital threat models; analysis of advanced threat technology applications for simulators and targets; and investigation of new approaches and methods for conducting operational testing of systems and their interoperability in a realistic threat environment. CCM, a DoD Joint Service T&E Directorate, conducts analysis and T&E of Electro-Optical (EO), Infrared (IR), Radar, and Millimeterwave (MMW) weapons, countermeasures (CM) equipment and warning devices for the Services, T&E Agencies, and the Intelligence Community. The JTCG/AS supports the joint service community to enhance the combat survivability of aircraft. This Tri-Service organization serves as the DoD focal point for aircraft survivability

methodology and data. This Joint Aeronautical Commanders Group (JACG) chartered program also acts as the DoD focal point for aircraft vulnerability/survivability information, modeling, and simulation methodology, as well as the Executive Agent for the Joint Live Fire Aircraft Program managed by the Live Fire Test office of the DOT&E. The JTCG/AS also develops and standardizes methodologies for the evaluation of aircraft survivability (susceptibility and vulnerability) to threat weapons. The JTCG/ME was chartered by the Joint Logistics Commanders (JLC) over 30 years ago to serve as DoD's focal point for authenticated non-nuclear munitions effectiveness information (Joint Munitions Effectiveness Manuals or JMEMs) on all US major non-nuclear weapons. Their efforts include validating, standardizing, and disseminating M&S methodologies for evaluating the lethalities of our systems. The JTCG/ME, under the auspices of the JLCs, authenticates data published by the JTCG/ME for use in training, systems acquisition, weaponeering, procurement, and combat modeling. JMEMs are used by the Armed Forces of the United States, NATO and other allies to plan operational missions, support training and tactics development, and support force-level analyses. The JTCG/ME also develops and standardizes methodologies for evaluation of munitions effectiveness and maintains databases for target vulnerability, munitions lethality and weapon system accuracy. JTCG/AS and JTCG/ME co-chair the Survivability/Vulnerability Information Analysis Center (SURVIAC) Technical Coordinating Group (TCG). DTEPI provides computer-based training and on-line WEB-based training to the DoD Test and Evaluation community in technical T&E subjects.

T&E Independent Activities is the only source of funding for the DOT&E for studies, analyses, management and technical support, on a continuing basis, in support of policy development, decision-making, management and oversight of the DoD T&E infrastructure, including stewardship of the Major Range and Test Facility Base (MRTFB). Studies and analyses examine the implications and consequences of current and proposed policy, plans, operations, strategies, and budgets and are essential for the oversight and management of DOT&E mission.. Funds are used to perform official travel related to the activities within this program element. *Due to the volume of work in this category, examples of the accomplishments and plans are listed in Program Accomplishments and Plans.*

This Research Category 6.5 PE supports joint military testing of the Department's weapons systems to determine if they meet their detailed performance requirements for the Joint Staff and the Services and management of the DoD test and evaluation process.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

FY 2000 Accomplishments:

T & E Programs

- CCM tested, analyzed, and reported on 32 US EO, MMW, and foreign PGW systems/components in a countermeasure environment as listed below:

  Air Force:

  - Powered-Low Cost Autonomous Attack System (P-LOCAAS), Sensor Fuzed Weapon (SFW), Airborne Laser (ABL), Agent Defeat Weapon (ADW), Enhanced Paveway, Advanced Strategic and Tactical Expendables (ASTE), Air-to-Ground Weapon System Evaluation Program (A/G WSEP), LITENING, HH-60 SPS (Self-Protection System), A-10/F-16 Force Development Evaluation, Red Team

Army:

- Brilliant Anti-armored Tank (BAT), Javelin, Suite of Integrated Infrared CM/Common Missile Warning System (SIIRCM/CMWS), Laser Warning Receiver System (AN/AVVR-1), Longbow Missile

Navy/Marines:

- BISTEM, Laser CM (LaCM), High Angular Resolution Laser Irradiance Detector (HARLID), Electronic Warfare Advanced Technology (EWAT), Laser Warning Receiver System (LWRS), NRL-LWR, MV-22, Tactical Directed IRCM (TADIRCM), AN/AAR-47 Sensor Upgrade (SU), AAR-47 SU/Laser Warning, MJU-52, Joint Stand Off Weapon (JSOW), Laser Beamrider Detector System, WIDGET II (code name)

Foreign:

- Foreign Laser Beam Rider (FLBR), Foreign Precision Guided Munition (FPGM), Foreign Active Protection System (Drozd), Night Sights, Foreign Optical Sight Detection (FOSD), Foreign Laser Illuminator & Night Sight (FLINS)

M&S:

- Reviewed applicability of Naval Air Warfare Center's (NAWCs) Threat Signal Processing-In-the-Loop/Digital Scene Injection (TSPIL/DSI) and The Technical Cooperative Program (TTCP) anti-ship missile engagement models; upgraded Missile Constructively Simulated Operational Field Tool Measurement System [(MCSOFT) (flares, manpads, targets)]; MV-22 Multi-Service Operational Test, Vertical Take-off Naval Unmanned Aerial Vehicles (VTUAV), Direct View Optical (DVO) Tests; conducted CV-22 Tilt-rotor CM Developmental/Operational Tests (DT/OT)

Other:

- The Technical Cooperation Program (TTCP) PRONGHORN tests, G-17 and Special Working Group-4 (SWG-4) NATO Panels
- Provided CM inputs for evolving programs, identified by the Service Acquisition Program Executive Offices/Program Managers (PEOs/PMs)
- Countermeasure (CM) Warfare Initiative: Conducted approximately 36 briefs at the Service Joint and Component level and CG USAREUR, CG 7th ATC, and the Combat Maneuver Training Center advocating the program, with the following results:
  - Injected CM scenarios during Roving Sands 2000 (RS00)/Purple Dragon
  - Provided RS00/Purple Dragon after-action reports to USJFCOM, 18th ABN, FORSCOM, and DOT&E
  - Provided input to the Joint Center for Lessons Learned
  - Developed CM/CCM tutorials for the Warfighting CINCs

- Threat Systems:

Simulators

- Executed the DoD validation program for threat simulators and threat digital models.
- Continued management oversight of Service threat simulators and threat digital models.
- Continued threat support to test and evaluation by investigations of current scientific and technical development for insertion in Service threat representation programs (e.g., Advanced System Endgame Methodologies, Clutter Generation For Semi-Active & Air-To-Air Missiles, and IR Missile Miss Distance Correlation).

- Continued cooperative technical research and test bed projects to facilitate threat realism (e.g., Modeling and Testing of and Advanced Threat Aircraft Model).
- Provided tools to exchange the latest scientific and technological information between the test and evaluation and intelligence communities.
- Updated the Automated Joint Threat Systems Handbook to maintain inventory of threat representative assets available for T&E.

Targets

- Continued management oversight of Service threat representative targets.
- Provided OSD seed funds to prototype solutions to highest priority deficiencies in current target systems (e.g., Air Force Subscale Aerial Target Feasibility Study, and Threat "D" ASCM Study).
- Supported the development of new target modeling and simulation capabilities/tools that meet multi-Service T&E needs within common/DoD standard architecture (e.g., BQM-34S Harpoon integration, Target Electronic Countermeasures Miniaturization, Common Digital Architecture implementation, super MQM Flight Performance, Decoy Countermeasures, Aerial Target IR Enhancement, and BQM- 43 Seeker Follow-on).
- Provided oversight of Service activities in support of the DoD validation program for Service threat representative targets.
- Continued cooperative technical research to address shortfalls identified within the target validation program.

- JTCG/AS
  - Initiated the Man-Portable Air Defense Systems (MANPADS) ad hoc committee.
  - Initiated MANPADS projects on vulnerability reduction.
  - Developed MANPADS integrated long-range plan of action.
  - Initiated MANPADS JT&E Joint Feasibility Study.
  - Continued legacy model credibility assessments; develop transition strategies from legacy model to HLA and JMASS objects.
  - Released the Advanced Joint Effectiveness Model (AJEM), a physics-based vulnerability, lethality and end game simulation on 9/29/00.
  - Along with JTCG/ME, continued to populate the component vulnerability archive.
  - Continued development of advanced ullage and dry bay protection systems.
  - Performed research on thermal energy management techniques on aircraft.
  - Identified ways to reduce vulnerability of engine vectored thrust nozzles.
  - Investigated degradable chaff, and monobit multisignal instantaneous frequency measurement for threat missiles.
  - Completed development and ground test of an engine Active Core Exhaust (ACE) modification to modify IR signature.
  - Enhanced capability of dual mode (RF and IR) and imaging seeker countermeasures.
  - Transitioned technology development of active engine exhaust to a technology transfer program (TTP).
  - Completed development of two color focal plane array readout for missile warning systems, integrated on-board and off-board infrared countermeasures.

- Used fuze investigation results to develop fuze modules that are compatible with current and future vulnerability and endgame simulations.
- Completed research into development of capability for in-flight controls reconfiguration due to battle damage.
- Completed work toward development of advanced transparent armor systems for aircraft windshields and rotorcraft fragment barriers.
- Completed phase development of model for Hydrodynamic Ram phenomenon and reduced vulnerability techniques for engine hot exhaust structures.
- Advanced the capability of software methodologies and system hardware to evaluate monobit multisignal instantaneous frequency measurement.
- Initiated work on evaluating steered agile laser beams for CM, network centric RF jamming and setting up for a flight test to evaluate effects of adjusting engine thrust on signature.
- Initiated the ATIRCMS/CMWS end to end simulation upgrade project.
- Initiated the methodology to assess helicopter susceptibility to mines project.

- JTCG/ME
  - Completed conversion/updates of existing JMEMs and JTCG/ME Special Reports to CD-ROMs (i.e., JMEM Air-to-Surface Weaponeering System (JAWS) v2.1, Joint Anti-air Combat Effectiveness - Air Defense (J-ACE: AD) v1.0, JMEM/Surface-to-Surface Weaponeering Effectiveness System (JWES) v1.0, Special Operations Target Vulnerability & Weaponeering Manual v2.0, and Target Vulnerability Manual for JAWS v2.1.
  - Developed releasable version of JWES for ROK including MLRS-ER.
  - Continued conversion/updates of existing JMEMs and JTCG/ME Special reports to CD-ROMs (i.e., JMEM Air-to-Surface Weaponeering System (JAWS) v.2.2, Joint Anti-air Combat Effectiveness – Air Superiority (J-ACE: AS) v2.0, Joint Anti-Air Combat Effectiveness - Air Defense (J-ACE: AD) v2.0, Joint Anti-air Combat Effectiveness – Ship Anti-air Warfare (J-ACE: Ship AAW) Prototype version, and JMEM/Surface-to-Surface Weaponeering Effectiveness System (JWES) v2.0.
  - Distributed products via the classified internet with the Joint Product and Information Access System (JPIAS) v1.0 (Books-on-line, Automated products, Models, Tri-Service Data, and Support service).
  - Continued expansion of existing databases to incorporate data for newly fielded weapons (i.e., Air-to-Surface Basic Manual – Revision 4, and Surface-to-Surface Direct/Indirect Fire).
  - Continued execution and technical coordination efforts to address Target Vulnerability data generation and methodology improvements (e.g., buildings and content, rock penetration, agent release model, interdiction, fragment penetration equation standardization, and ORCA extension).
  - Continued the development of standardized models and methodology for Air-to-Surface, Surface-to-Surface and Antiair effectiveness calculations (i.e., Joint Antiair Model (JAAM) v2.0, delivery accuracy, building analysis, collateral damage, search/target acquisition, hardened targets, safe distances/risk to friendly troops, ship-to-ship gun effectiveness, dual stage warhead, directed energy weapons and Mean Area Effectiveness standardization).

- Conducted Configuration Management/VV&A efforts on specific JTCG/ME models (i.e., Air Target Geometries, BEAMS/ABEL, ORCA, PENCRV3D, ASAP, AJEM/MUVES-S2, MEVA-GF, BAS, JSEM, JSWM, JAAM, ARTQUIK, SAMSITE, MAE, and NGEM).
- Together with JTCG/AS, released Advanced Joint Effectiveness Model (AJEM) v1.0 (Anti-air effectiveness, lethality, and vulnerability assessment tool for acquisition, LFT, and JTCG/ME communities). Continued to work the release of Advanced Joint Effectiveness Model (AJEM) v2.0 (with features including TBM Body-to-Body, Explosive Initiation, Hydrodynamic Ram, and Blast/Frag Combined Effects), and Joint Component Vulnerability Archive v1.0.
- Conducted CINC data calls for identification of new threats in support of FY01 program build requirements.

T&E Independent Activities

- Major Range and Test Facility Base (MRTFB) Support:
  - Analyzed MRTFB institutional and customer data in support of policy decisions regarding the composition and management of the MRTFBs.
  - Monitored and evaluated the MRTFB to ensure adequacy to meet requirements and to prevent unnecessary duplication of capabilities.
  - Developed and issued a summary and database of MRTFB capabilities in coordination with the Military Departments.
  - Analyzed MRTFB data and proposed issues for the Annual MRTFB Review. Prepared a Summary Report and follow-up on actions.
  - Analyzed T&E PPBS information for identification and resolution of potential shortfalls during POM and budget reviews.
  - Spectrum Support:
    - Analyzed the use of higher frequency spectral bands for T&E telemetry.
    - Assessed developments at worldwide conferences on potential threats to spectra used by T&E.
    - Developed plan for RF Spectrum Encroachment in support of Sustainable Range Working Group.
    - Analyzed and made recommendations on spectrum issues for national and international use.
  - Telemetry Support:
    - Developed architecture for Real Time Telemetry Network (RTTN).
    - Continued support to International Consortium for Telemetry Secretary
    - Developed plans for the instrumentation of radio frequency link for Space Technology Research Vehicle
  - Special Studies:
    - Analyzed and recommended OMNIBUS Legislation for Commercial Charge Policy.
    - Conducted Multi-Service Target Control Sys (MSTCS) study to calculate power flux density at Point Mugu.
    - Study on the elimination of the ARIA test aircraft.
    - Analyzed Big Crow program and Aberdeen Pulsed Radiation Facility and made funding recommendations.
    - Analyzed and updated DoD “International Test Facilities and Ranges Summary of Capabilities.”
    - Provided data and made recommendations for funding testing at Dugway Proving Grounds.
    - Test Resources Master Plan roadmapping.
    - Technical analyses and recommendation for the Joint Test and Training Range Roadmap.

- ATPS:
  - Provided an automated Defense-Wide system to plan, produce and coordinate Test and Evaluation Master Plans (TEMPs) and test plans. ATPS also serves as a source of test planning information. Approximately 1,400 users from 400 program offices use ATPS.
  - Managed and maintained the system to include upgrade of the system with new Windows and Macintosh operating systems.
  - Upgraded system to meet Y2K and new IT security standards.
  - Initiated conversion to open systems architecture using state-of-the-tools.
- Defense Test and Evaluation Professional Institute (DTEPI)
  - Developed and updated DoD-wide T&E course and training materials to include computer based and WEB-based training. Course and training projects included (examples):
    - Developed computer based training course on following proposed topic:
      - Modeling and Simulation it Test and Evaluation
    - Developed WEB-based Just-in-Time Information on:
      - Design of Experiments course
      - Live Fire Testing primer
      - Effectiveness and Suitability introduction
- T&E M&S:
  - Provided technical and analytical expertise in support of DOT&E work in M&S.
  - Analyzed and made recommendations of JWARS IOC Test Scenarios.
  - Developed T&E M&S information for use by the Integrated Product Team (IPT) for the Comanche.
  - Analyzed, assessed and made recommendations for the Joint Electronic Combat Simulation Final Report.
  - Provided technical expertise Joint Modeling and Simulation System TEMP.
- Director, Operational Test and Evaluation Enterprise Knowledge Management System (DEKMS):
  - Continue the design and development of a Knowledge Management System, adding robust functionality to enable rapid decision-making on time critical events. The system will be extended to the majority of the DOT&E enterprise and will include Test and Evaluation templates, guidelines and best practices for DOD personnel. This effort will fully support the Department's goal and vision.
- Official Travel and Administrative Support:
  - Perform official travel in support of the DOT&E oversight of T&E infrastructure.
  - Procure administrative support to carry out oversight of DOT&E programs.
- Accounting and Financial Management Support
  - Provided accounting and financial management support to the Office of the Director.

FY 2001 Accomplishments:

T & E Programs

- CCM tested, analyzed, and reported on 20-25 US and foreign PGW systems/components in a countermeasure environment, as well as CM and threat-warning systems as listed below:
  - Air Force:
    - P-LOCAAS, SFW, SFW P3I, ABL, Joint Air-to-Surface Stand-off Missile (JASSM), Enhanced Paveway, ADW, Joint Direct Attack Munition (JDAM), A/G WSEP, Red Team, Litening, C-17
  - Army:
    - BAT P3I, Javelin, SIIRCM/CMWS, PGMM, Longbow P3I Missile, Unmanned Aerial Vehicle (UAV), XM-982, Tank Extended Range Munition-Kinetic Energy (TERM-KE), LBR Detector, Tube-launched Optically-guided Wire Commanded (TOW) Fire & Forget/Modernized HELLFIRE, Comanche
  - Navy/Marines:
    - EWAT, LWRS, NRL-LWR, MV-22, TADIRCM, Extended Range Guided Munition (ERGM), JSOW Unitary Seeker, F/A-18 Night Attack System (NAS), Standoff Land Attack Missile-Automatic Target Acquisition (SLAM-ATA), AAR-47/LWR, Advanced Amphibious Assault Vehicle (AAAV), NATO EMBOW Trials, Integrated Electronic Warfare System/Multi-Antiship Missile Tactical Electronic System (IEWS/MATES)
  - Foreign:
    - Foreign Rangefinder Exploitation Evaluation-G (FREE-G), Night Attack Vision Exploitation (NAVE-G), Foreign GPS, Foreign Laser Beamrider (FLBR) Phase I (code names for classified projects)
  - M&S:
    - CV-22 Tilt-rotor DT/OT, VTUAV, Broadband Infrared Device Simulations (BIRD); DVO tests, JSOW
  - Other:
    - TTCP, NATO Panels G-17 and SWG-4, CINC Joint Training (Ulchi Focus Lens), and Roving Sands 2001 (RS01)
    - Provided CM inputs for evolving programs, identified by the Service Acquisition PEOs/PMs
    - Continued efforts promoting the CM Warfare Initiative, and direct plans for participation in operational warfighting exercises and simulations
- Threat Systems
  - Simulators
    - Executed the DoD validation program for threat simulators and threat digital models.
    - Continued management oversight of Service threat simulators and threat digital models.
    - Continued threat support to T&E by investigations of current scientific and technical developments for insertion in Service threat representation modeling programs (e.g., Integration of RT SAM models w/DIADS, IR SAM Flyout Model Upgrade, Standard UV Plume Model, and Enhanced IADS Messaging in a Simulation/Stimulation Environment).
    - Continued cooperative technical research and test bed projects to facilitate threat representation (e.g., complete Advanced Threat Aircraft Model testing, Real-Time Digital Receiver Processing for Multiple Threat Systems, IR Countermeasures Evaluation System, and Mobile Broadband Tactical Laser Illuminator).
    - Updated the Automated Joint Threat Systems Handbook to maintain inventory of threat representative assets available for the T&E community.

- Defined and planned a process to effectively utilize threat simulators as true distributed test resources in support of multi-service interoperability testing in a realistic threat environment.
- Managed a collaborative effort to provide support for interoperability testing in a realistic threat environment.

Targets

- Continued management oversight of Service threat representative targets.
- Provided OSD seed funds to prototype solution to highest priority deficiencies in current target systems (e.g., Electronic Countermeasures Miniaturization, Air Superiority Target Study, and Aerial Target IR Enhancement).
- Supported the development of new target modeling and simulation capabilities /tools that meet multi-Service T&E needs within common/DoD standard architectures (e.g., Radar Variations, Subscale Aerial Target Infrared Signature Augmentation, and Decoy Countermeasures System).
- Provided oversight of the Service activities in support of the DoD validation program for Service threat representative targets.
- Defined and planned a process to effectively utilize threat representative targets as true distributed test resources in support of multi-service interoperability testing in a realistic threat environment.
- Managed a collaborative effort to provide support for interoperability testing in a realistic threat environment.

- JTCG/AS
  - Completed work on the advanced ullage protection project.
  - Completed the survivable engine control demonstration project.
  - Completed work on the weapons bay ablative characterization project.
  - Completed work on the mono-bit multi-signal IFM development project.
  - Completed work on the dual mode seeker countermeasures project.
  - Completed work on the advanced wideband mode ‘former’ technology project.
  - Completed work on the MANPADS penetration methodology project.
  - Completed the network-centric stand-in jammer project.
  - Completed the very wideband accurate direction finding project.
  - Completed the acquisition deskbook survivability project.
  - Continued the fuze simulation and phenomenology investigation.
  - Continued the ATIRCM/CMWD end to end simulation upgrade.
  - Continued work on the advanced survivable rotorcraft project.
  - Continued participation on the COVART/FASTGEN and air-to-air (BRAWLER) configuration control boards.
  - Continued MANPADS coordinated database development.
  - Continued MANPADS coordinated methodology prediction and threat assessment efforts.
  - Continued MANPADS coordinated vulnerability reduction techniques development.
  - Continued work on the advanced spacecraft vulnerability analysis.
  - Continued the WINFIRE/ULLEX project.
  - Completed revision of the second edition of the aircraft survivability textbook to be published in FY 2002 by AIAA.

- Completed the acquisition desk-book survivability project.
- Continued the methodology to assess helicopter susceptibility to mines project.
- Continued to support the SURVIAC Model Manager and Model Accreditation.
- Co-fund the ACE flight test on a C-17.
- Initiated the proof of concept for weapons bay project.
- Initiated the engine damage detection project.
- Initiated the passive fire mitigation project.
- Initiated the Aerogels for retrofitted increases in aircraft survivability project.
- Initiated the dynamic loading methodology project.
- Initiated the bonded wing survivability project.
- Initiated the miniaturized countermeasures for UAVs.
- Initiated the air countermeasure with ultra-fine aluminum project.
- Initiated the joint service surrogate seeker project.
- Initiated the Tier II/III laser susceptibility project.
- Initiated the M&S support for acquisition programs project.
- Initiated the Surface to Air Missile credibility assessment project.
- Initiated follow-on modeling requirements for AJEM.
- Initiated the survivability in higher level analyses and return on investment for aircraft survivability.

- JTCG/ME
  - Continued conversion/updates of existing JMEMs to CD-ROM format (i.e., JMEM Air-to-Surface Weaponeering System (JAWS) v2.2/v3.0, Joint Anti-air Combat Effectiveness – Air Defense (J-ACE: AD) v2.0, Joint Anti-air Combat Effectiveness - Air Superiority (J-ACE: AS) v2.0/v3.0, Joint Anti-air Combat Effectiveness - Ship Anti-air Warfare (J-ACE: Ship AAW) v1.0, JMEM/Surface-to-Surface Weaponeering Effectiveness System (JWES) v2.0/v3.0, and Target Vulnerability Manual v2.2 on JAWS).
  - Distributed products via the classified internet with the Joint Product and Information Access System (JPIAS) v2.0 (Books-on-line, Automated products, Models, Tri-Service Data, and Support service).
  - Continued expansion of existing databases to incorporate data for newly fielded weapons (i.e., Air-to-Surface Basic Manual – Revision, and Surface-to-Surface Direct/Indirect Fire).
  - Continued execution and technical coordination efforts to address Target Vulnerability data generation (e.g., industrial targets, NCAA targets, small boats, building structures, SATCOMs and TBMs) and methodology improvements (e.g., counter proliferation, titanium fragment penetration/equation standardization, ORCA extension, and target model generation).
  - Continued the development of standardized models and methodology for Air-to-Surface, Surface-to-Surface and Anitair effectiveness calculations (i.e., collateral damage module, hardened targets module, building analysis module, JAAM, JAWS target acquisition, GPS accuracy and multiple weapon types).

- Conducted Configuration Management/VV&A efforts on specific JTCG/ME models (i.e., JSEM, AJEM, MEVA-GF, MUVES-S2, BEAMS/ABEL, GENESIS-BAT, PENCURV, ORCA, ICEM, MAE, and ASAP).
- Together with the JTCG/AS, released Advanced Joint Effectiveness Model (AJEM) v2.x (Generalized Body-to-Body and Internal Blast), and Joint Component Vulnerability Archive v1.x.
- Continued CINC data calls in support of FY02 program build requirements.
- Developed commonwealth JAWS CD-ROM (i.e., UK, Australia, and Canada) to meet CINC-endorsed foreign release requirements.

T&E Independent Activities

- Major Range and Test Facility Base (MRTFB) Support:
  - Analyzed MRTFB institutional and customer data in support of policy decisions regarding the composition and management of the MRTFBs.
  - Monitored and evaluated the MRTFB to ensure adequacy to meet requirements and to prevent unnecessary duplication of capabilities.
  - Developed and issued a summary and database of MRTFB capabilities in coordination with the Military Departments for use in assessing future capability requirements.
  - Analyzed MRTFB data and proposed issues for the Annual MRTFB Review. Prepared a Summary Report and follow-up to ensure implementation of DOT&E solutions to issues.
  - Analyzed T&E PPBS information for identification and resolution of potential shortfalls during POM and budget reviews.
  - Spectrum Support:
    - Submitted report key resolution approaches addressing spectrum augmentation at higher frequencies.
    - Assessed development associated with initiatives to reallocate spectrum from Federal allocations.
    - Continued support to Range Spectrum Requirements Working Group
  - Telemetry Support:
    - Presented technical briefings to the International Consortium for Telemetry Secretary
    - Continued to support Real Time Telemetry Network (RTTN) initiatives.
    - Conducted study assessing the capability of MSTC System at different bands.
  - Special Studies (Examples):
    - Evaluated and provided recommendations on the Navy's proposal to eliminate Atlantic Fleet Weapons Training Facility and add Pacific Missile Range Facility to the MRTFB.
    - Assessment of the Multi-Service Target Control System (MSTCS) in the 1350 to 1390 Mega Hertz band.
    - Drafted the new International Test and Evaluation Steering Committee Handbook.
    - Drafted the International Test Operations Procedures handbook.
    - Review legislative proposal reciprocal international use of T&E facilities.
    - Evaluated and assessed the potential implementation of the Defense Science Board Recommendations for improvement of test and evaluation and the test and evaluation infrastructure.

- ATPS:
  - Provided an automated Defense-Wide system to plan, produce and coordinate Test and Evaluation Master Plans (TEMPs) and test plans.
  - Managed and maintained the system to include incorporating MS Project program.
  - Completed conversion to open systems architecture using rational database driven expert system. Beta testing by 193 users.
  - Initiated and completed capability to extract data from documents and Internet.
  - Converted "rules" in the database to comply with new DoD 5000.2R (June 2001) regulations.
  - Incorporated new operational test and evaluation policy in the database "rules".
- Defense Test and Evaluation Professional Institute (DTEPI):
  - Develops and updates T&E course and training materials for the DoD T&E community to include computer based and WEB based training. Course and training projects included (examples):
    - Developed computer based training course on following proposed topic:
      - Interoperability Test & Evaluation
    - Developed WEB-based Just-in-Time Information on:
      - Environmental Issues For Test and Evaluation
      - Operational Test Agency Modeling and Simulation
      - Central Test and Evaluation Investment Program (CTEIP) Program Executive Guide
- T&E M&S:
  - Provided technical and analytical expertise in support of the DOT&E M&S efforts.
  - Assessed the JMASS 5.0 Beta software.
  - Analyzed and made recommendations on the Accreditation Plan for the Joint Standoff Weapons (JSOW).
  - Supported DOT&E with M&S analyses for the following IPTs: Interoperability, Comanche; and ATIRCM/CMWS;
- Director, Operational Test and Evaluation Enterprise Knowledge Management System (DEKMS):
  - Continue the design and development of a Knowledge Management System, adding robust functionality to enable rapid decision-making on time critical events. The system will be extended to the majority of the DOT&E enterprise and will include Test and Evaluation templates, guidelines and best practices for DOD personnel. This effort will fully support the Department's goal and vision.
- Official Travel and Administrative Support:
  - Perform official travel in support of the DOT&E oversight of T&E infrastructure.
  - Procure administrative support to carry out oversight of DOT&E programs.
- Accounting and Financial Management Support
  - Provided accounting and financial management support to the Office of the Director.

FY 2002 Plans:

T & E Programs:

- CCM will test, analyze, and report on 20-25 US and foreign PGW systems/components in a countermeasure environment, as well as CM and threat-warning systems as listed below:
  - Air Force:
    - P-LOCAAS, ABL, JASSM, Enhanced Paveway, JDAM, CV-22, C-17, Litening, Red Team, AGM-65 Maverick
  - Army:
    - Comanche, Modernized HELLFIRE, Future Scout Vehicle
  - Navy/Marines:
    - Ship-Based Laser Acquisition System (SBLAS), ERGM, V-22, Laser Weapon System, IEWS/MATES, JSOW
  - Foreign:
    - Foreign Rangefinder Exploitation Evaluation-G (FREE-G), Night Attack Vision Exploitation (NAVE-G), Foreign GPS, Foreign Laser Beamrider (FLBR) Phase I (code names for classified projects)
  - M&S:
    - CV-22 Tiltrotor DT/OT, VTUAV, BIRD, DVO tests, JSOW, continue efforts to promote software modifications to warfighting models and simulations to reflect EO/IR CM scenarios at the Joint and Component Service level
  - Other:
    - TTCP, NATO Panels G-17 and SWG-4, CINC Joint training (Ulchi Focus Lens), and Roving Sands 2001 (RS01)
    - Provide CM inputs for evolving programs, identified by the Service Acquisition PEOs/PMs
    - CM Warfare Initiative:
      - Coordinate CM Warfare Initiative at the CINC and MAJCOM levels
      - Direct plans for participation in operational warfighting exercises and simulations
      - Brief efforts to establish capability for a Warfighter organization capable of deploying CM in conflict
      - Establish EO/IR CM training and equipment requirements and objectives for operational exercises and simulations
      - Continue efforts to promote software modifications to warfighting models and simulations to reflect EO/IR countermeasures scenarios at the Joint and Component Service level
- Threat Systems
  - Simulators
    - Execute the DoD validation program for threat simulators and threat digital models.
    - Continue management oversight of Service threat simulators and threat digital models.
    - Continue threat support to T&E by investigations of current scientific and technical developments for insertion in Service threat representation modeling programs (e.g., Standard UV Plume Model, IR SAM Flyout Model Upgrade, Integration of RT SAM Models w/DIADS, Advanced Threat Algorithm Analysis, RF SAM Flyout Model Upgrade, Rotary Wing Modulation Software, and Real-Time Infrared Scene generator.
    - Continue cooperative technical research and test bed projects to facilitate threat representation (e.g., MATLAB/ SIMULINK Air-to-Air Missile Modeling, Laser Beam Rider Missile Fly-out Concept Study, Integration of IFF Functionality into IADS Simulation, and Air-to-Air Miss Missile Distance Correlation).

- Continue to provide the tools to exchange the latest scientific and technological information between test and evaluation and intelligence communities (e.g., Directed Energy & Expendable Countermeasure Test Capability and Directed Energy T&E Systems.
- Update the Automated Threat Systems Handbook to maintain inventory of threat representative assets available for the T&E community.
- Develop initial test cases to implement the process to effectively utilize threat simulators as true distributed test resources in support of multi-Service interoperability testing in a realistic threat environment.
- Develop initial tool set, methodologies, and operational standards for measures of effectiveness and interoperability testing of the initial test cases.
- Continue to manage a collaborative effort to provide support for interoperability testing in a realistic threat environment.

Targets

- Continue management oversight of Service threat representative targets.
- Provide OSD seed funds to prototype solution to highest priority deficiencies in current target systems (e.g., Common Avionics Package, Air Superiority Target Study, Infrared Sensor Stimulator Study, and High Energy Laser Study).
- Support the development of new target modeling and simulation capabilities /tools that meet multi-Service T&E needs within common/DoD standard architectures (e.g., Decoy Countermeasures System, Air Force Subscale Aerial Target (AFSAT), and M&S Acquisition Environment).
- Provide oversight of the Service activities in support of the DoD validation program for Service threat representative targets.
- Develop initial test cases to implement the process to effectively utilize threat representative targets as true distributed test resources in support of multi-Service interoperability testing in a realistic threat environment.
- Develop initial tool set, methodologies, and operational standards for measures of effectiveness and interoperability testing of the initial test cases.
- Continue to manage a collaborative effort to provide support for interoperability testing in a realistic threat environment

- JTCG/AS
  - Continue to support the SURVIAC Model Manager and Model Accreditation.
  - Complete the MANPADS Threat Characterization project.
  - Complete the spacecraft vulnerability analysis.
  - Complete the engine damage detection project.
  - Complete the passive fire mitigation project.
  - Complete the improved air countermeasure with ultra-fine aluminum project.
  - Complete the M&S support for acquisition programs project.
  - Complete the surface-to-air missile credibility assessment project.
  - Complete follow-on modeling requirements for AJEM.
  - Complete the WINFIRE/ULLEX project.
  - Complete the Methodology to assess helicopter susceptibility to mines project.

- Initiate development of requirements for M&S in T&E.
- Initiate development of integrated survivability assessment process.
- Initiate coordinated management of JMASS survivability M&S.
- Initiate development of improved countermeasures M&S.

- JTCG/ME
  - Develop JMEM data for most critical CINC identified systems. Continue conversion/updates of existing JMEMs to CD-ROM format (i.e., JMEM Air-to-Surface Weaponeering System (JAWS) v3.0/v3.1, Joint Anti-air Combat Effectiveness – Air Defense (J-ACE: AD) v3.0, Joint Anti-Air Combat Effectiveness - Air Superiority (J-ACE: AS) v3.0, Joint Anti-Air Combat Effectiveness - Ship Anti-air Warfare (J-ACE: Ship AAW) v2.0, JMEM/Surface-to-Surface Weaponeering Effectiveness System (JWES) v3.0, and Target Vulnerability Manual v3.x on JAWS). Work to reduce CD-ROM update cycles to a maximum of 14 months.
  - Distribute products via the classified internet with the Joint Product and Information Access System (JPIAS) v2.0 (Books-on-line, Automated products, Models, Tri-Service Data, and Support service).
  - Continue expansion of existing databases to incorporate data for newly fielded weapons (i.e., Air-to-Surface Basic Manual – Revision 4, and Surface-to-Surface Direct/Indirect Fire).
  - Continue execution and technical coordination efforts to address Target Vulnerability data generation (e.g., Special Operations) and methodology improvements (e.g., counter proliferation, fragment penetration, blast effects, ORCA extension, and target model generation).
  - Reduce major methodology shortcomings. Develop target visualization tool. Continue the development of standardized models and methodology for Air-to-Surface, Surface-to-Surface and Anti-air effectiveness calculations (i.e., collateral damage, hardened targets, multiple weapon types, real time delivery accuracy/TLE, and dual stage warheads).
  - Conduct Configuration Management/VV&A efforts on specific JTCG/ME models (i.e., JSEM, AJEM, MEVA, MUVES, and ASAP).
  - Together with the JTCG/AS, release Advanced Joint Effectiveness Model (AJEM) v2.x (Generalized Body-to-Body and Internal Blast), and Joint Component Vulnerability Archive.
  - Continue CINC data calls in support of FY03 program build requirements.
  - Continue to work on red on blue effectiveness data and methodology.
  - Continue to develop/sanitize JMEM products for foreign customers.

T&E Independent Activities

- Major Range and Test Facility Base (MRTFB) Support:
  - Analyze MRTFB institutional and customer data in support of policy decisions regarding the composition and management of the MRTFBs.
  - Monitor and evaluate the MRTFB to ensure adequacy to meet requirements and to prevent unnecessary duplication of capabilities.
  - Develop and issue a summary and database of MRTFB capabilities in coordination with the Military Departments for use in assessing future capability requirements.

- Analyze MRTFB data and propose issues for the Annual MRTFB Review. Prepare a Summary Report and follow-up to ensure implementation of DOT&E solutions to issues.
- Analyze T&E PPBS information for identification and resolution of potential shortfalls during POM and budget reviews.
- Spectrum Support:
  - Analyze and report on alternative options for telemetry operations in higher frequency bands
  - Develop technical alternatives on issues affecting T&E infrastructure.
  - Provide technical support to Range Spectrum Requirements Working Group on spectrum issues.
- Telemetry Support:
  - Continue to support DOT&E participation in International Consortium for Telemetry Secretary
  - Develop technical approach for Real Time Telemetry Network (RTTN)
  - Perform and conduct special studies on MRTFB radio spectrum issues.
- Special Studies (Examples):
  - Assess the requirements for space range test capability.
  - Expand T&E Assets Identification and Monitoring Process data to include all DoD assets.

- ATPS:
  - Provides an automated Defense-Wide system to plan, produce and coordinate Test and Evaluation Master Plans (TEMPs) and test plans.
  - Management and upkeep of the system to include compliance with new Windows XP operating system.
  - Initiate and complete conversion Web tool to search and exchange data with requirements management programs and database.
  - Develop a built-in configuration management system to permit co-producing TEMPs and Test Plans among multiple individuals.
- DTEPI:
  - Develops and updates T&E course and training materials for the DoD T&E community to include computer based and WEB based training. Following are examples of projects:
    - Develop computer based training course for the following topics:
      - Test and Evaluation
      - A Guide to Targets and their Capabilities
    - Develop WEB-based Just-in-Time Information on:
      - Communication Theory Basics and Testing
      - Software Test and Evaluation
- T&E M&S
  - Provide technical and analytical expertise in support of DOT&E M&S efforts.
  - Initiate support of the Test Simulation Program, which will provide tools for better test planning and post test analysis.
  - Review and analyze technical M&S software for use in DOT&E testing environment.
  - Provide M&S assessments on key programs such as: Joint Modeling and Simulation System (JMASS), Joint Analytical Model and Instrumentation Program (JAMIP), Joint Distribution & Engineering Plan (JDEP) and Joint Warfare System (JWARS).
  - Prepare final report on the study of military technology trends, and their impact on future M&S requirement, in support of T&E.

- Director, Operational Test and Evaluation Enterprise Knowledge Management System (DEKMS):
  - Continue the design and development of a Knowledge Management System, adding robust functionality to enable rapid decision-making on time critical events. The system will be extended to the majority of the DOT&E enterprise and will include Test and Evaluation templates, guidelines and best practices for DOD personnel. This effort will fully support the Department's goal and vision.
- Official Travel and Administrative Support:
  - Perform official travel in support of the DOT&E oversight of T&E infrastructure.
  - Procure administrative support to carry out oversight of DOT&E programs.
- Accounting and Financial Management Support
  - Provided accounting and financial management support to the Office of the Director.

B. (U) PROGRAM CHANGE SUMMARY

($ in Millions)	FY 2000[1]	FY 2001[2]	FY 2002
FY 2001 President's Budget	99.840	53.275	53.273
Section 8086 Reduction		(.373)	
P.L. 106-554 Reduction		(.116)	
Appropriated Value	99.840	52.902	
Adjustments to Appropriated Value			
Transfer to Military Court of Appeals			(.026)
JMEM Update (PDM I Adjustment)			5.100
Nonpay Inflation Adjustment			1.100
Current Budget Submit	0.000	52.786	59.447

Notes:

C. (U) OTHER PROGRAM FUNDING SUMMARY: NA

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2)			July 2001		
OPERATIONAL TEST AND EVALUATION, DEFENSE (0460) BUDGET ACTIVITY SIX			IMPLEMENTING DEFENSE SCIENCE BOARD RECOMMENDATIONS PE 0605806D8Z		
$'s in Millions	FY 2000	FY 2001	FY 2002	COST TO COMPLETE	TOTAL COST
PE 0605806D			1.000	NA	NA

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Defense Science Board and the National Academies made recommendations to improve test and evaluation and the test and evaluation infrastructure. Funds will be applied to implement the identified recommendations. Results may require additional funds to implement further recommendations. This Program Element also includes funds to perform official travel in support of its activities.

This program is Budget Activity 6, RDT&E Management Support.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

FY 2002 Plans:

- Identify a common financial management methodology for all T&E facilities.
- Create a T&E Resource Enterprise, which should track the total cost of Test and Evaluation to the taxpayer.
- Develop technologies and techniques to meet near term test requirements.
- Develop a centralized testing and operational evaluation data archive to support test design.

B. (U) PROGRAM CHANGE SUMMARY

($ in Millions)	FY 2000	FY 2001	FY 2002
FY 2001 President's Budget	0	0	0
Appropriated Value	0	0	0
Adjustments to Appropriated Value			
Current Budget Submit			1.000

C. (U) OTHER PROGRAM FUNDING NA