

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2)					February 2002				
OPERATIONAL TEST AND EVALUATION, DEFENSE (0460) BUDGET ACTIVITY SIX				DEVELOPMENT TEST AND EVALUATION (DT&E) PROGRAM ELEMENT (PE) 0605804D8Z					
\$'s in Millions	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	COST TO COMPLETE	TOTAL COST
PE 0605804D	52.786	60.525	62.941	64.798	66.269	67.860	69.486	Continuing	Continuing

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 consist of four activities: Threat Systems (TS); Center for Countermeasures (CCM) (formerly known as Precision Guided Weapons Countermeasures); Joint Technical Coordinating Groups on Aircraft Survivability (JTTCG/AS) and Munitions Effectiveness (JTTCG/ME). Program Decision Memorandum I increased the JTTCG/ME FY 2002 budget by \$5.1 to provide Joint Munitions Effectiveness Manual (JMEM) for the most critical CINC identified weapon systems and to reduce the JMEM distribution cycle.

The T&E programs are continuing efforts that provide management and oversight of Department of Defense (DoD) T&E functions and T&E expertise to the DoD. TS provides Office of the Secretary of Defense (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 Joint Service Countermeasure (CM) T&E Center, conducts analysis, T&E, and assessment of U.S. and Foreign Electro-Optical (EO), Infrared (IR), and Millimeterwave (MMW) precision guided weapons (PGW) and systems, countermeasures (CM), counter-countermeasures, and warning devices for the Services, T&E Agencies, and the Intelligence Community. CCMs staff and the CM knowledge base developed over 30 years provide the DoD acquisition community and Warfighting CINCs with the information and expertise necessary to ensure the survival of U.S. forces on the increasingly hostile modern battlefield. The JTTCG/AS was originally chartered by the Joint Logistics Commanders (JLC) in 1971 to serve as DoD's focal point for the joint service community to enhance the combat survivability of aircraft. This Tri-

UNCLASSIFIED

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 (M&S) methodology, as well as the Executive Agent for the Joint Live Fire Aircraft Program managed by the Live Fire Test office of the Director, Operational Test & Evaluation (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 (JMEMs)) on all US major non-nuclear weapons. The JTCG/ME, under the auspices of the JLCs, authenticates weapons effectiveness data 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). The Defense Test and Evaluation Professional Institute (DTEPI) provides computer-based training and on-line web-based training to the DoD T&E 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 management activities for the DOT&E oversight responsibility for T&E and the MRTFB.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

FY 2001 Accomplishments:

T & E Programs

- Threat Systems:
 - Simulators
 - Provided oversight of Service activities in support of the DoD validation program for Service 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).

UNCLASSIFIED

- 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.
- CCM tested, analyzed, reported, and otherwise supported over 30 US and foreign Precision Guided Weapon (PGW) systems/components in a countermeasure environment, as well as CM and threat-warning systems and other programs, as listed below:

Air Force:

- P-LOCAAS, SFW P3I, ABL, Joint Air-to-Surface Stand-off Missile (JASSM), Enhanced Paveway, ADW, Red Team, ASTE, HH-60SPS, A-10/F-16 Force Development (FDE), and Small Diameter Bomb

Army:

- Army C SII, BAT P3I, SIIRCM/CMWS, Longbow P3I Missile, Unmanned Aerial Vehicle (UAV), XM-982, Tank Extended Range Munition-Kinetic Energy (TERM-KE), Live-Fire Basic HELLFIRE, Comanche, AN/VVR-1, and AN/AVR-2

Navy/Marines:

- EWAT, NRL-LWR, MV-22, TADIRCM, Extended Range Guided Munition (ERGM), Joint Stand Off Weapon (JSOW) Unitary Seeker, F/A-18 Night Attack System (NAS), Standoff Land Attack Missile-Automatic Target Acquisition (SLAM-ATA), AAR-47/LWR, Integrated Electronic Warfare System/Multi-Antiship Missile Tactical Electronic System (IEWS/MATES)

Foreign:

UNCLASSIFIED

- Foreign Rangefinder Exploitation Evaluation-G (FREE-G), Night Attack Vision Exploitation (NAVE-G), Foreign GPS, Foreign Laser Beamrider (FLBR) Phase I, Foreign Active Protection System (FAPS) Phase II, Foreign Integrated Night Sights (FINS), Foreign Laser Adjunct Program-BP (FLAP-B) (code names for classified projects)

M&S:

- MV-22 & CV-22 Tilt-rotor DT/OT, VTUAV, ATFLIR, IEWS/MATES, ERGM, DVO tests, JSOW

Other:

- TTCP, NATO Panels G-17 and SWG-4, NATO EMBOW Trials, CINC/Joint Training: JTFEX, Unified Endeavor, Roving Sands 2001 (RS01), NTC Rotation 01-1, and Marine Aviation and Weapons Tactics exercises
- 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

- JTCG/AS:

- Completed revision of the second edition of the aircraft survivability textbook to be published in FY 2002 by AIAA.
- Completed the acquisition deskbook survivability project.
- Completed the advanced survivable Rotorcraft project.
- Completed the advanced ullage protection system project.
- Completed the dual mode seeker countermeasures project.
- Completed the Man Portable Air Defense System (MANPADS) Vulnerability of Thermo-plastic Tailboom project.
- Completed the Monobit Multisignal Instantaneous Frequency project.
- Completed the network-centric stand-in jammer project.
- Completed the survivable engine control algorithm project.
- Completed work on the advanced ullage protection project.
- Completed work on the advanced wideband mode 'former' technology project
- Completed work on the dual mode seeker countermeasures project.
- Completed work on the MANPADS penetration methodology project.
- Completed work on the mono-bit multi-signal IFM development project.
- Continued follow-on modeling requirements for AJEM
- Continued MANPADS Impact Point Assessment.
- Continued MANPADS Threat Characterization project
- Continued participation on the COVART/FASTGEN and air-to-air (BRAWLER) configuration control boards.
- Continued the engine Damage Detection project
- Continued the Improved Air-Countermeasure with Ultra-fine Aluminum
- Continued the Joint Service Surrogate seeker project.
- Continued the M&S support for acquisitions program project

UNCLASSIFIED

- Continued the methodology to assess helicopter susceptibility to mines project.
- Continued the surface-to-Air missile credibility assessment project.
- Continued the very wideband accurate direction finding project.
- Continued the WINFIRE/ULLEX project.
- Continued to support the SURVIAC Model Manager and Model Accreditation.
- Continued work on the advanced survivable Rotorcraft project.
- Continued work on the weapons bay ablative characterization project.
- Initiated Advanced Joint Effectiveness Model (AJEM) Configuration Management Support.
- Initiated the Aerogels for retrofitted increases in aircraft survivability project.
- Initiated the Air Countermeasure with Ultra-fine Aluminum project.
- Initiated the bonded wing survivability project.
- Initiated the dynamic loading methodology project.
- Initiated the miniaturized countermeasures for Unmanned Aerial Vehicles (UAVs).
- Initiated the passive fire mitigation project.
- Initiated the proof of concept for weapons bay project.
- Initiated the surface to Air missile credibility assessment project.
- Initiated the survivability in higher level analyses and return on investment for aircraft survivability.
- Initiated the Tier II/III laser susceptibility project.
- JTCG/ME:
 - Converted and updated existing JMEMs to CD-ROM format (i.e., JMEM Air-to-Surface Weaponing System (JAWS) v2.2/v2.3, Joint Anti-air Combat Effectiveness – Air Defense (J-ACE: AD) v2.0, Joint Anti-air Combat Effectiveness - Air Superiority (J-ACE: AS) v2.0, JMEM/Surface-to-Surface Weaponing Effectiveness System (JWES) v2.0, and Target Vulnerability Manual v2.2 on JAWS).
 - Released JAWS 2.2 Attack version in support of counter-terrorism planning and operations (Operation Enduring Freedom).
 - 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).
 - Expanded existing databases to incorporate effectiveness data for newly fielded weapons (i.e., Air-to-Surface Basic Manual – Revision, and Surface-to-Surface Direct/Indirect Fire).
 - Executed 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 expansion of existing databases to incorporate effectiveness data for newly fielded weapons (i.e., Air-to-Surface Basic Manual – Revision, and Surface-to-Surface Direct/Indirect Fire).

UNCLASSIFIED

- 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, Joint Anti-Air Model (JAAM), JAWS target acquisition, Joint Smart Weapons Module (JSWM), 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, MAE, and ASAP).
- Together with the JTCG/AS, released Advanced Joint Effectiveness Model (AJEM) v1.2 (COVART HEI Fireball, HEI Deterministic Method, and LINUX Capability), and Joint Component Vulnerability Archive v1.0.
- Developed consolidated CINC priority list and continued CINC data calls in support of FY02 program build requirements.
- Finalized development of National Disclosure Policy and classification review for the JAWS CD-ROM to address requirements for coalition operations.
- Initiated pilot programs for compliance with near-term acquisition programs to facilitate compliance with DOD 5000.2R (BAT/P3I, Patriot PAC III, TACTOM, Evolved Sea Sparrow, JSOW SFW/SFW P3I, JASSM, and AIM-9X).

T&E Independent Activities

- 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.

UNCLASSIFIED

- 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.
 - Reviewed legislative proposal reciprocal international use of T&E facilities.
 - Evaluated and assessed the potential implementation of the Defense Science Board recommendations for improvement of T&E and the T&E infrastructure.
- Automated Test Planning System (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 relational database driven expert system. Beta testing by 193 users.
 - Initiated and completed capability to extract data from documents and Internet.
 - Incorporated new operational test and evaluation policy in the database "rules".
 - Database has been finalized and the program is complete.
- 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 WEB-based Just-in-Time Information on:
 - Environmental Issues For Test and Evaluation
 - Modeling and Simulation
 - Central Test and Evaluation Investment Program (CTEIP)
- 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):
 - Continued the design and development of a Knowledge Management System (KMS), adding robust functionality to enable rapid decision-making on time critical events. The system was extended to the majority of the DOT&E enterprise and included T&E templates, guidelines and best practices for DoD personnel. This effort fully supported the Department's goal and vision.

UNCLASSIFIED

- Official Travel and Administrative Support:
 - Performed official travel in support of the DOT&E oversight of T&E infrastructure.
 - Procured 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:

- Threat Systems:
 - Simulators
 - Provide oversight of Service activities in support of the DoD validation program for Service 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, Integration of Laser Beam Rider Simulator Integration, Advanced Threat Algorithm Analysis, Testing of EO/IR SAM HWITL Flyout Models, PC Based Infrared Scene Generator, and Tactical Training Range Threat Augmentation).
 - Continue cooperative technical research and test bed projects to facilitate threat representation (e.g., Seeker Aided Ground Guidance (SAGG) SAM ECM Operational Testing Capability, RT SAM Models w/DIADS, UV Calibration and Verification System Distribution Study, and 4 Dimensional Portable and Reconfigurable Holographic System Study).
 - Continue to provide the tools to exchange the latest scientific and technological information between test and evaluation and intelligence communities (e.g., Playback of WTR Data into TSAF, Distributed Threat Environment Operational Testing Capability Study).
 - 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.

UNCLASSIFIED

- Provide OSD seed funds to prototype solution to highest priority deficiencies in current target systems (e.g., Low Earth Orbit Satellite Command & Control System (LEOTCS), Urban Target Complex, RATO Technology, Smokey SAM Missile Warning Stimulator, and Reusable & Recoverable Submarine Target).
- Support the development of new target M&S capabilities /tools that meet multi-Service T&E needs within common/DoD standard architectures (e.g., Decoy Countermeasures System, Subscale IR Signature Augmentation, Advanced Off-Board Countermeasures, Decoy and Countermeasures II, ECM Miniaturization – Cooperative Countermeasures and Radar Variations)
- 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
- CCM will test, analyze, report, and otherwise support over 30 US and foreign PGW systems/components in a countermeasure environment, as well as CM and threat-warning systems and other activities and programs, as listed below:
 - Air Force:
 - JASSM, Enhanced Paveway, JDAM, C-17, Litening, Red Team, AGM-65 Maverick, HH-60G SPS, SFW-P3I, AATC Comet, ASTE, A-10/F-16 FDE, ADW, Small Diameter Bomb, CV-22
 - Army:
 - Comanche, Modernized HELLFIRE, Future Scout Vehicle, XM-982 Excalibur, TOW Fire & Forget, AN/AVR-2A ECP, AN/VVR-1, TERM-KE, Longbow Hellfire, Longbow Apache, SIIRCM, and Bat P3I
 - Navy/Marines:
 - Ship-Based Laser Acquisition System (SBLAS), ERGM, IEWS/MATES, JSOW, SLAM-ATA, ATFLIR, and VTUAV
 - Foreign:
 - Foreign Rangefinder Exploitation Evaluation-G (FREE-G), Night Attack Vision Exploitation (NAVE-G), Foreign GPS, Foreign Laser Adjunct Program-B (FLAP-B), Foreign Integrated Night Sights (FINS), and Foreign Active Protection System (FAPS) Phase II
 - M&S:
 - CV-22 Tiltrotor DT/OT, VTUAV, Broadband Infrared Device (BIRD), DVO tests, JSOW, FLBR
 - 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:

UNCLASSIFIED

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

- 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

- JTCG/AS:

- Complete follow-on modeling requirements for AJEM.
- Complete the Improved Air Countermeasure with Ultra-fine Aluminum project.
- Complete the Improved Air-Countermeasure with Ultra-fine Aluminum
- Complete the M&S support for acquisition programs project.
- Complete the MANPADS Threat characterization project.
- Complete the methodology to assess helicopter susceptibility to mines project.
- Complete the passive fire mitigation project.
- Complete the surface to Air missile credibility assessment project.
- Complete the surface-to-Air missile credibility assessment project.
- Complete the very wideband accurate direction finding project.
- Complete the WINFIRE/ULLEX project.
- Complete work on the weapons bay ablative characterization project.
- Complete work on the advanced survivable Rotorcraft project.
- Continue MANPADS Impact Point assessment project.
- Continue the AJEM Configuration Management Support.
- Continue the Aerogels for retrofitted increases in aircraft survivability project.
- Continue the bonded wing survivability project.
- Continue the dynamic loading methodology project.
- Continue the engine Damage Detection project.
- Continue the Joint Service Surrogate seeker project.
- Continue the miniaturized countermeasures for UAVs.
- Continue the proof of concept for weapons bay process.
- Continue the survivability in higher level analyses and return on investment for aircraft survivability.
- Continue the Tier II/III laser susceptibility project.

UNCLASSIFIED

- Continue to support the SURVIAC Model Manager and Model Accreditation.
- Continued participation on the COVART/FASTGEN and air-to-air (BRAWLER) configuration control boards.
- Initiate and Complete the solid state laser pointer project.
- Initiate the advanced survivable Rotorcraft Validation project
- Initiate the AJEM test Cases project.
- Initiate the DBFM Ignition Phase Validation Data Assessment.
- Initiate the Imaging seeker Aim Point project.
- Initiate the Instant Firewalls project.
- Initiate the Ionomer Fuel Containment project.
- Initiate the JMASS Simulation Integration project.
- Initiate the RADGUNS Maintenance project.
- Initiate the TRACES Model Enhancement project.
- Initiate the UAV Active Acoustic Cancellation project.
- 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) v2.3, Joint Anti-air Combat Effectiveness – Air Defense (J-ACE: AD) v2.0/3.0, Joint Anti-Air Combat Effectiveness - Air Superiority (J-ACE: AS) v3.0, JMEM/Surface-to-Surface Weaponeering Effectiveness System (JWES) v3.0, and Target Vulnerability Data Management System (TVDMS) v1.0. Work to reduce CD-ROM update cycles to a maximum of 14 months, and develop strategy for target-oriented JMEMs.
 - 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, personnel casualty/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, helicopter-delivered munitions, and small boat weaponeering).
 - Conduct Configuration Management/VV&A efforts on specific JTCG/ME models (i.e., JSEM, AJEM, MEVA, MUVES, and ASAP).

UNCLASSIFIED

- Together with the JTCG/AS, release Advanced Joint Effectiveness Model (AJEM) v2.0 (BRL-CAD 6.0, Updated GUI, Multiple Occurrences Improvements); v2.1 (New Encounter-V/L Interface, Improved MANPADS, and LINUX port), and Joint Component Vulnerability Archive.
- Continue CINC data calls in support of FY03 program build requirements.
- Continue to expand pilot programs for compliance with near-term acquisition programs to facilitate compliance with DOD 5000.2R (BAT/P3I, Patriot PAC III, TACTOM, Evolved Sea Sparrow, JSOW SFW/SFW P3I, JASSM, and AIM-9X).
- Establish intelligence requirements account (COLISEUM) for JTCG/ME through the Defense Intelligence Agency.
- Continue to work on red-on-blue effectiveness data and methodology with focus on STRATCOM requirements.
- Continue to develop/sanitize JMEM products for foreign customers and coalition operations.
- Develop JMEM strategy/plan in support of the DoD High Energy Laser (HEL) program and the Joint Technology Office (JTO).

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.
- DTEPI:

UNCLASSIFIED

- Develop 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 WEB-based Just-in-Time Information on:
 - Interoperability Test & Evaluation
 - Communication Theory Basics and Testing
 - 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):
 - Completed and delivered the DEKMS. The system has been extended to the majority of the DOT&E enterprise and includes Test and Evaluation templates, guidelines and best practices for DoD personnel. This completes this effort.
- 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:
 - Provide accounting and financial management support to the Office of the Director.

FY 2003 Plans:

T & E Programs:

- Threat Systems:
 - Simulators
 - Continue to provide the tools to exchange the latest scientific and technological information between T&E and intelligence communities (e.g., Develop Threat Signals/Models for Double Digit SAM Communication Signals, SIMULINK Tools for Intelligence Production Centers and Chemical Source Term Determination).
 - Update the Automated Threat Systems Handbook to maintain inventory of threat representative assets available for the T&E community.
 - Provide oversight of Service activities in support of the DoD validation program for Service threat simulators and threat digital models.
 - Execute the DoD validation program for threat simulators and threat digital models.

UNCLASSIFIED

- Continue to 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.
- 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., XM11 Radar Signal Injection, RF Threat Simulator Verification Asset for ECM T&E, JIMM – EW/EA Modeling, Flyout Model Integration, Tactical Training Range Threat Augmentation, and JSF Intelligent Modeling).
- Continue the cooperative technical research and test bed projects to facilitate threat representation (e.g., UV Calibration and Verification System Distribution Study, Threat Engagement Visualization, Development of Threat Vulnerability Data for Military Helicopters, Missile Warning System Plume Model Study, and Enhanced Sensor Data Fusion).

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., High Energy Laser Study, Smokey SAM Missile Warning Stimulator, and Urban Target Complex).
- 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., Reusable and Recoverable Submarine Target Study, Engine Enhancement Demonstration, Subscale IR Signature Augmentation, Decoy and Countermeasures II, and Radar Variations).
- Provide oversight of the Service activities in support of the DoD validation program for Service threat representative targets.
- Continue the development of 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.
- Continue the development of tool sets, 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.
- CCM will test, analyze, report, and otherwise support over 30 US and foreign PGW systems/components in a countermeasure environment, as well as CM and threat-warning systems and other activities and programs, as listed below:

Air Force:

- JASSM, Enhanced Paveway, Litening, Red Team, AGM-65G and H Maverick, HH-60G SPS, SFW-P3I, AATC Comet, ASTE, A-10/F-16 FDE, ADW, Small Diameter Bomb, CV-22

Army:

UNCLASSIFIED

- Comanche, Modernized HELLFIRE, Future Scout Vehicle, XM-982 Excalibur, TOW Fire & Forget, AN/AVR-2A ECP, AN/VVR-1, TERM-KE, Longbow Hellfire, Longbow Apache, SIIRCM, and Bat P3I

Navy/Marines:

- Vertical Takeoff/Landing Tactical Unmanned Aerial Vehicle (VTUAV), AT FLIR, IEWS/MATES, ERGM, TADIRCM, and F/A-18 Kinematic Flare development

Foreign:

- Foreign Rangefinder Exploitation Evaluation-H (FREE-H), Night Attack Vision Exploitation (NAVE-H), Foreign Sensor Fuzed Weapon (FSFW), Foreign Laser Beamrider, Foreign Laser Guided Projectiles

M&S:

- CV-22 Tiltrotor, VTUAV and DVO tests. Incorporate multimode sensor guidance technology.

Other:

- TTCP, NATO Panels G-17 and SWG-4
- 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 (Ulchi Focus Lens, Roving Sands 2003, and NTC Rotations)
 - Continue efforts establishing 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
 - Develop software modifications to warfighting models and simulations to reflect EO/IR countermeasures scenarios at the Joint and Component Service level (JCATS, JSIMS, and CASTFOREM)
- 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

JTCG/AS:

- Complete the engine Damage Detection project.
- Complete the Aerogels for retrofitted increases in aircraft survivability project.
- Complete the bonded wing survivability project.
- Complete the dynamic loading methodology project.
- Complete the Joint Service Surrogate seeker project.
- Complete the MANPADS Impact Point Assessment.
- Complete the miniaturized countermeasures for UAVs.
- Complete the proof of concept for weapons bay process.
- Complete the survivability in higher-level analyses and return on investment for a/c survivability.

UNCLASSIFIED

- Complete the Tier II/III laser susceptibility project.
 - Continue the AJEM Configuration Management Support.
 - Continue the advanced survivable Rotorcraft Validation project
 - Continue the AJEM test Cases project.
 - Continue the DBFM Ignition Phase Validation Data Assessment.
 - Continue the Imaging seeker Aim Point project.
 - Continue the Instant Firewalls project.
 - Continue the Ionomer Fuel Containment project.
 - Continue the JMASS Simulation Integration project.
 - Continue the RADGUNS Maintenance project.
 - Continue the TRACES Model Enhancement project.
 - Continue the UAV Active Acoustic Cancellation project.
 - Continue to support the SURVIAC Model Manager and Model Accreditation.
 - Continue to participate on the COVART/FASTGEN and air-to-air (BRAWLER) CCBs.
 - Initiate projects to advance Aerospace survivability of spacecraft.
 - Initiate projects to counter advanced threats.
 - Initiate projects to develop survivability enhancements in fire & explosion protection.
 - Initiate projects to develop survivability enhancements in flight systems.
 - Initiate projects to develop survivability enhancements in platform & crew protection.
 - Initiate projects to develop survivability enhancements in propulsion systems.
 - Initiate projects to develop survivability enhancements in structural design.
 - Initiate projects to improve survivability analysis and design tools for Model management.
 - Initiate projects to improve survivability analysis and design tools for transitioning to joint models.
 - Initiate projects to improve survivability analysis and design tools for M&S credibility.
 - Initiate projects to reduce the MANPADS threat to aircraft.
- 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 Weaponing System (JAWS) v3.0, Joint Anti-air Combat Effectiveness – Air Defense (J-ACE-AD) v3.0, Joint Anti-Air Combat Effectiveness - Air Superiority (J-ACE: AS) v3.0, JMEM/Surface-to-Surface Weaponing Effectiveness System (JWES) v3.0/4.0, and Target Vulnerability Data Management System (TVDMS) v2.0). CD-ROM update cycles will be reduced.
 - Distribute products via the classified internet with the Joint Product and Information Access System (JPIAS) (Books-on-line, Automated products, Models, Tri-Service Data, and Support service).

UNCLASSIFIED

UNCLASSIFIED

- 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, ORCA extension, and target model generation).
- Reduce major methodology shortcomings. 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, mean area of effectiveness (MAE) 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 AJEM v2.x (Fire/Dry Bay Fire Module, TBM body-to-body, ullage explosion, Ground-mobile documentation, Supporting ASP documentation on CD, Fault Tree and Damage Assessment List, Common AJEM/MUVES GUI, ORCA Integration, Fire Prediction Model Integration, and BEAMS/ABEL Integration – Blast Load), and Joint Component Vulnerability Archive.
- Continue CINC data calls in support of FY04 program build requirements.
- Continue to expand pilot programs for compliance with near-term acquisition programs to facilitate compliance with DoD 5000.2R (BAT/P3I, Patriot PAC III, TACTOM, Evolved Sea Sparrow, JSOW SFW/SFW P3I, JASSM, and AIM-9X).
- Continue to develop/sanitize JMEM products for foreign customers and coalition operations.
- Develop tri-service vulnerability/lethality methodology for the HEL program.

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:

UNCLASSIFIED

- 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.
- 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:
 - 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.
 - Continue 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.
- 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:
 - Provide accounting and financial management support to the Office of the Director.

UNCLASSIFIED

B. (U) PROGRAM CHANGE SUMMARY

(\$ in Millions)	<u>FY 2001 Appropriation</u>	<u>FY 2002 Amended President's Budget Request</u>	<u>FY 2003 Clinton Budget</u>
FY 2002 President's Budget	52.786	59.447	62.092
Target and Threat Systems Interoperability Testing		1.500	
Appropriated Value	52.786	60.947	
Adjustments to Program Value			
Congressional Reduction		(0.422)	
Inflation Adjustment			(0.080)
Program Adjustment			0.769
Current Budget Submit	52.786	60.525	62.941

C. (U) OTHER PROGRAM FUNDING SUMMARY: NA