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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2)					February 2005			
OPERATIONAL TEST AND EVALUATION, DEFENSE (0460) BUDGET ACTIVITY SIX			DEVELOPMENT TEST AND EVALUATION (DT&E) PROGRAM ELEMENT (PE) 0605804D8Z					
\$ in Millions	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
PE 0605804D	103.712	107.701	114.190	116.672	118.897	122.325	124.945	127.618

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.

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. T&E Programs consist of five activities: Joint Test and Evaluation (JT&E); Threat Systems (TS); Center for Countermeasures (CCM); Joint Technical Coordinating Group for Munitions Effectiveness (JTTCG/ME); and Joint Aircraft Survivability Program (JASP).

JT&E projects are T&E activities conducted in a joint military environment that are process, rather than product, focused. These multi-Service projects, chartered by the Office of the Secretary of Defense (OSD) and coordinated with the Joint Staff and Services, provide improvements in interoperability of Service systems, improvements in technical and operational concepts, solutions to joint operational issues, development and validation of joint test methodologies, and data for validating models, simulations, and test beds. JT&E projects solve relevant warfighter issues in a joint T&E environment and develop and improve joint test capabilities and methodologies.

TS provides OSD policy and oversight to Component threat systems and target developments to ensure increased commonality, minimized 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 technical investigations of new approaches and methods for providing a realistic threat environment for operational testing of United States (U.S.) weapon systems.

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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 Millimeter Wave (MMW) precision guided weapons (PGW) and systems, countermeasures, counter-countermeasures, and warning devices for the Services, T&E Agencies, the Intelligence Community, and Homeland Defense. CCM's staff and CM knowledge base developed over 30 years provide the DoD acquisition community and the warfighting Combatant Commanders with the information and expertise necessary to ensure the survival of U.S. forces on the increasingly hostile modern battlefield.

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 major non-nuclear U.S. weapons. 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 U.S., NATO, and other allies to plan operational missions, support training and tactics development, and support force-level analyses. JTCG/ME also develops and standardizes methodologies for evaluation of munitions effectiveness and maintains databases for target vulnerability, munitions lethality, and weapon system accuracy. Based on operational lessons learned (Southern/Northern Watch, Enduring Freedom, Iraqi Freedom), Combatant Commands (COCOMs) and Service input, specific weapon-target pairings and methodology voids were identified. These voids were created by the fielding of new weapon systems, evolving threat target sets, and a more stringent operating environment (specifically, the focus on reduced collateral damage). As a result of Joint Staff J8's review and endorsement, the DoD increased the JTCG/ME budget to correct these deficiencies. The FY 2005-2011 funding will develop target geometry models (e.g., surface mobile/fixed, air, hard/deeply buried, and ship targets) and vulnerability data. This data will be combined with weapons characteristics, delivery accuracies, and methodology enhancements to produce effectiveness indices for the specific weapon-target pairings identified by the COCOMs and Services.

The JLC originally chartered JASP in 1971 to serve as DoD's focal point for the joint service community to enhance the non-nuclear combat survivability of aircraft. The Tri-Service Joint Aeronautical Commanders Group (JACG) re-chartered this program, which acts as the DoD focal point for aircraft susceptibility and vulnerability reduction research as well as survivability modeling and simulation (M&S) methodology. JASP is 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). JASP also develops and standardizes methodologies for the evaluation of aircraft survivability (susceptibility and vulnerability) to threat weapons.

T&E Independent Activities are the only source of funding for DOT&E studies; analyses; management; and continuing technical support of policy development, decision-making, management, and oversight of the DoD test and evaluation policies, infrastructure and resources; and transformation of test methods and infrastructure to ensure future defense systems provide necessary joint warfighting capabilities. Studies and

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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 the DOT&E mission. This PE funds travel in support of its activities.

This Research Category 6.5 PE supports management activities for the DOT&E oversight responsibility for T&E and T&E resources.

Program Accomplishments and Plans:

FY 2004 Accomplishments:

T & E Programs:

JT&E:

- Completed the Joint GPS Combat Effectiveness (JGPSCE) test, delivered test products, conducted out briefings, distributed the final reports, and transitioned capabilities.
- Completed the Joint Battle Damage Assessment (JBDA) test, delivered test products, conducted out briefings, distributed the final reports, and transitioned capabilities.
- Completed the Joint Survivability (JSURV) Quick Reaction Test (QRT), conducted out briefings, distributed the final reports, and transitioned test products.
- Continued the Joint Cruise Missile Defense (JCMD) test.
- Continued the Joint Command, Control, Intelligence, Surveillance, and Reconnaissance (JC2ISR) test.
- Continued the Joint UAVs in Time Sensitive Operations (JUAV-TSO) test.
- Continued the Joint Methodology to Assess C4ISR Architecture (JMACA) test.
- Continued the Joint Logistics Planning Enhancement (JLOG-PE) test.
- Continued the Joint Data Link Information Combat Execution (JDICE) test.
- Continued the Joint Urban Fire and Effects (JUFE) Joint Feasibility Study.
- Initiated the Joint Integration and Interoperability of Special Operations (JIISO) test.
- Initiated the Joint Space Control Operations (Negation) (JSCO-(N)) test.
- Initiated the Joint Fires Coordination Measures (JFCM) Joint Feasibility Study.
- Initiated the Joint Shipboard Weapons and Ordnance (JSWORD) Quick Reaction Test (QRT).
- Initiated the Joint Low Altitude Aircraft Survivability (JLAAS) Quick Reaction Test (QRT).
- Initiated JT&E quarterly review of nominations for potential quick reaction tests for conduct from FY 2004 to FY 2005.

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Threat Systems:

- Simulators:
 - Continued to provide the tools to exchange the latest scientific and technological information between T&E and intelligence communities (e.g., Joint Service Surrogate and Advanced Threat Systems Analysis).
 - Continued oversight of Service threat simulator and digital threat model development and validation efforts.
 - Continued technical investigations to identify solutions for effectively representing asymmetric threats to include Chemical, Biological, Radiological, and Nuclear (CBRN); Information Warfare (IW); and terrorism-related threats to Homeland Defense in testing of U.S. weapons systems.
 - Continued threat support to T&E through investigations of current scientific and technical intelligence information for insertion in Service threat representation modeling programs (e.g., IR Surface-to-Air Missile (SAM) Design of Experiments, IR Air-to-Air Missile Engineering Analysis, Infrared Missile Plume Signature, Hybrid Simulator, and Threat 3D Assessment Tool).
 - Continued the cooperative technical research and test bed projects to ensure threat representation (e.g., Seeker Aided Ground Guidance (SAGG) SAM ECM Operational Testing Capability, End-to-End Requirements Study (E2E), Multi-Camera Systems, Threat IR Imagery Commutative Multiplex, and Test Events Model Analysis) adequacy for T&E.
 - Updated the Automated Joint Threat Systems Handbook to maintain inventory of threat representative assets available for the T&E community and distributed CD ROM version 10.1 and 10.1.1 to over 400 users.
 - Updated and maintained the Automated Joint Threat Simulator Handbook — SIPRNET version.
 - Provided 270 threat assessments for DOT&E analysis of programs on OSD's T&E Oversight List.
 - Chaired the DOT&E Threat Representation Validation Report Review Committee (TRVRRRC) and reviewed or approved 18 Service-developed threat simulator and digital threat model validation reports on simulated foreign materiel used in T&E.
- Targets:
 - Provided oversight of the Service activities in support of DoD.
 - Conducted studies that will dramatically reduce the cost of targets and/or target presentation cost (e.g., Maximum Efficiency Non-rated Aircraft Engine (MENACE), Alternative Aerial Target Launcher Design, ECM Miniaturization, Advanced Offboard Countermeasures, and Derived Radar Airborne Penetration Enhancement (DRAPE)).
 - Initiated mobile threat representative ground target investment projects. (e.g., Low Cost Lightweight Programmable Target Mover).
 - Conducted studies for improvement on the threat representation and improved scoring capabilities of targets (e.g., Subscale Aerial Target IR Signature Validation, IR Signature Coatings, Asymmetric Threats, Matrix Round Locator, Advanced Antenna, and Torpedo Threat Emulation).
 - Supported year-long OSD Industrial Policy assessment of the domestic industrial base to produce targets.
 - Supported the Defense Science Board Study on Aerial Targets for Service Targets replacement programs.

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- Developed and launched the Target Management Office web based initiative.

CCM:

- CCM tested, analyzed, reported, assessed, and/or otherwise supported over 30 U.S. and foreign PGW systems/components, countermeasures, threat-warning systems, and other activities and programs, as listed below:
 - Air Force:
 - Joint Precision Approach and Landing System (JPALS), Air Force Reserve Air National Guard Training Center (AATC) Comet, Advanced Strategic and Tactical Expendables (ASTE), CV-22, Battlefield Laser Acquisition and Detection System (BLADES), LITENING AT Pod, Sniper XR, and the F-117 Sensor Suite.
 - Army:
 - Joint Common Missile.
 - Navy/Marines:
 - Vertical Takeoff Unmanned Aerial Vehicle (VTUAV), SHIELDS, Expeditionary Fighting Vehicle (EFV), MV-22, Joint Standoff Weapon (JSOW), Shipboard Laser Acquisition System (SBLAS), AH-1W Cobra Signature Reduction, KC-130J, Laser Beam Rider Countermeasure (Starlight) U.S. Navy Airship Program, and Electronic Warfare Integrated System for Small Platforms (EWISSP).
 - Foreign:
 - Foreign Laser System Test (FLST), Night Attack Vision Exploitation (NAVE) -G, Foreign Rangefinder Exploitation and Evaluation (FREE) -G, Foreign Global Positioning System (FGPS), GD-1 Smoke Grenade, Foreign False Target Generator (FFTG), Foreign Laser Guided Missile (FLGM), Foreign Laser Beam Rider - Live Fire (FLBR-LF).
 - M&S:
 - Incorporated IR flare and IR threat missiles into MV-22 and CV-22 models.
 - Developed Laser Beam Rider model.
 - Provided M&S support for several countermeasures field tests.
 - Other:
 - Technical Cooperation Program (TTCP) (Trial KANTO).
 - NATO Trial EMBOW.
 - Continued providing technical and analytical expertise in support of DOT&E assessment tasks.
 - Provided CM inputs for evolving programs, identified by the Service Acquisition PEOs/PMs including:
 - Air Transport Measurements.
 - Aerial Platforms Study.
 - Joint Mobile Infrared Test System (JMITS).

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- CM Warfare Initiative:
 - Coordinated CM Warfare support at the Combatant Command and MAJCOM levels.
 - Participated in operational warfighting exercises and simulations (National Training Center (NTC)), Joint Readiness Training Center (JRTC) Rotations, Desert Talon-1&2, and Combined Joint Task Force Exercise (CJTFEX) 2004.
 - Continued to provide inputs to Joint Interoperability Tasks and operational exercises and simulations.
 - Continued development of software modifications to warfighting models and simulations to reflect EO/IR countermeasures scenarios at the Joint and Component Service level, Joint Conflict and Tactical Simulation (JCATS), and Joint Simulation System (JSIMS).
- Provided support to the Defense Advanced Research Projects Agency (DARPA) Exploitation 3-Dimensional (E3D) Laser Radar (LADAR) program.
- Sensor Week Joint Test Support.
- Man Portable Air Defense System (MANPADS) Operational Test Capability.

JTCG/ME:

- Conducted Configuration Management/VV&A efforts on specific JTCG/ME models (i.e., Joint Service Endgame Model (JSEM), Advanced Joint Effectiveness Model (AJEM), Joint Mean Area of Effectiveness (JMAE), Advanced Ship Analysis Program (ASAP), Penetration Curvilinear 3D Model (PENCRV3D), Smart Target Model Generator (STMG) and Modular Effectiveness/Vulnerability Assessment (MEVA)).
- Reviewed and prioritized Combatant Commander data requirements in support of FY 2005 program build requirements.
- Continued updates of existing JMEM CD-ROMs: JMEM Air-to-Surface Weaponing System (JAWS) v2.3.1, Joint Anti-air Combat Effectiveness – Air Defense (J-ACE-AD) v2.0, Joint Anti-Air Combat Effectiveness - Air Superiority (J-ACE: AS) v3.1, JMEM/Surface-to-Surface Weaponing Effectiveness System (JWES) v3.1, and Target Vulnerability Data Management System (TVDMS) v2.3.
- Continued execution and technical coordination efforts to address Target Vulnerability data generation (e.g., Special Operations) and methodology improvements (e.g., fragment penetration, and target model generation).
- Continued expansion of existing databases to incorporate data for newly fielded weapons (weapon characteristics and delivery accuracies).
- Continued the development of standardized models and methodology for Air-to-Surface, Surface-to-Surface and Anti-air effectiveness calculations (i.e., Windows Version of JMEM Program (WinJMEM)/Compute Module, Target Complex Model (TARCOM), Guided Weapons Trajectory Software (GWTS), Paveway Munitions Planning Tool (PMPT), JMEM Air-to-Surface Trajectory Program (JAT), Ship Target Analysis Tool (STAT), Building Analysis Module (BAM), Hardened Target Module (HTM), Joint Gun Effectiveness Model (JGEM), Joint Anti-Air Model (JAAM) and Joint Smart Weapons Module (JSWM)).
- Continued to reduce CD-ROM update cycles via incremental updates.

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- Continued to work National Disclosure Policy issues relative to JMEM product release for foreign customers and coalition operations - developed/sanitized JMEM products as requested.
- Developed JMEM data for critical Combatant Commander identified systems. Implemented multi-phase approach to develop surrogation mappings, data approximation techniques and detailed vulnerability analyses. Began to ramp up to support the increased rate of data production that will be possible as a result of increased FY 2005 funding.
- Distributed product incremental updates via the classified internet with the Joint Product and Information Access System (JPIAS) (Books-on-line, Automated products, Models, Tri-Service Data, and Support Services to implement Combatant Command Requirements, Joint Service Target Data Standardization Group (JSTDSG) review/approval process and Combatant Command Targets Execution Group (CTEG) management).
- Investigated tri-Service data, methodology and evaluate standards required to assess Information Operations/Computer Network Attack (IO/CNA).
- Released AJEM v2.2 (Integration of improved Fast Air Target Encounter Penetration (FATEPEN), Supporting ASP documentation on CD, Common AJEM/MUVES GUI). Leveraged Joint Live Fire (JLF) test activities to support validation of FATEPEN.

JASP:

- Completed UAV Active Acoustic Cancellation project.
- Completed Imaging Seeker Aim Point project.
- Completed Dry Bay Fire Model Ignition Phase Validation Data Assessment project.
- Continued Development of the Special Material Urban Decoy.
- Continued High Power Wideband Array project.
- Continued Laser Focal Plane Array Effects Modeling for Laser Countermeasures Optimization.
- Continued MANPADS Impact Point Assessment project.
- Continued Bonded Wing Survivability Demonstration project.
- Continued Advanced Survivable Rotorcraft Validation project.
- Continued Rotary Wing Battle Damage Assessment and Repair (BDAR) project.
- Continued MANPADS Damage Effects Modeling project.
- Continued Survivability/Vulnerability Information Analysis Center (SURVIAC) Modeling and Simulation Accreditation Support.
- Continued SURVIAC Model Manager support.
- Continued COVART/FASTGEN Configuration Control Board (CCB) support.
- Continued Dry Bay Fire Model (DBFM)/ Windows Based Fire Model (WINFIRE) enhancements.
- Continued Integrated Survivability Assessment (ISA) Process Development.
- Continued Directed Radar Energy Assessment Model (DREAM) upgrade, verification and validation.
- Continued Imaging Infrared (IIR) Sensor and Laser Effects Model Development.

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- Continued Advanced Low Altitude Radar Model (ALARM) simulation upgrades.
- Continued Joint Survivability Analysis Requirements project.
- Continued Joint Aircraft Survivability Program (JASP) Internet site.
- Continued Joint Combat Assessment Team (JCAT) efforts.
- Continued Publishing the Aircraft Survivability Journal.
- Initiated Common Service Exciter project.
- Initiated Countermeasures Susceptibility of Several New Foreign Threat Infrared (IR) Seekers.
- Initiated Reactive Infrared Suppressor project.
- Initiated Impact of Electronic Limiting on Imaging Seeker Countermeasures project.
- Initiated Low Cost Helicopter Infrared Countermeasures (IRCM) Components for Advanced Threats.
- Initiated Affordable Visible Missile Warning System project.
- Initiated and completed Derivative Soviet MAN-Portable Air Defense System (MANPADS) IRCM project.
- Initiated High-resolution IRCM Measurements project.
- Initiated Millimeter Wave (MMW) Electronic Warfare (EW) Receiver for Stand-in Jammer project.
- Initiated MMW Radar Warning Receiver (RWR) for Unmanned Aerial Vehicles (UAV) project.
- Initiated Strategic Planning for Susceptibility Reduction.
- Initiated and completed Hostile Fire Indication project.
- Initiated Test Plan and Final Report Guide project.
- Initiated Enhanced Powder Panels project.
- Initiated Automatic Engine Fire Suppression System project.
- Initiated Rocket-Propelled Grenade (RPG) Damage Effects Modeling project.
- Initiated Joint Resistance to Hydrodynamic Ram project.
- Initiated Intumescent “Instant Firewall” project.
- Initiated Assessment of Tank Wall Pressures for Enhanced Ram (ERAM) Validation.
- Initiated Investigation of MANPADS Damage Effects on Large Aircraft Engines project.
- Initiated Complex Composite Rotorcraft Structures Survivability project.
- Initiated Follow-on Issues for Weapons Bay Vulnerability Reduction.
- Initiated Aircraft Structure/Flare Bucket Vulnerability project.
- Initiated UAV Vulnerability Reduction Design Guide project.
- Initiated and completed RPG Launch and Detonation Visualization projects.
- Initiated and completed update of Pedigree Gun and Missile Books.
- Initiated Simulink Environment and Tools for Advanced Infrared Seeker Susceptibility Analysis.
- Initiated Computation of Vulnerable Area and Repair Time (COVART)/Fast Generation (FASTGEN) Model Configuration.
- Initiated ISA Demonstration for Multi-Mission Maritime Aircraft (MMA) project.

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- Initiated Enhanced Surface-to-Air Missile Model (ESAMS) Migration project.
- Initiated and completed Fault Tree Visualization and Integration project.
- Initiated and completed Large Aircraft IR Signature Measurements under the Large Aircraft Survivability Initiative (LASI).

T&E Independent Activities:

- Provided analytical support for the Director's role as the principal adviser to the Secretary of Defense and the Under Secretary of Defense for Acquisition, Technology, and Logistics on operational test and evaluation and the principal operational test and evaluation official within the senior management of the Department of Defense.
 - Continued analysis to support promulgation of policies and procedures for the conduct of operational test and evaluation and live fire test and evaluation in the Department of Defense, and analysis relating to the composition of the Major Range and Test Facility Base.
 - Continued analysis to support the provision of guidance to, and consultation with, senior Department of Defense officials with respect to operational test and evaluation resources and facilities in the Department.
 - Continued analysis to support review and recommendations to the Secretary of Defense on all budgetary and financial matters relating to operational test and evaluation, including operational test facilities and equipment.
- Continued analysis to support statutory annual reporting to the Secretary of Defense and the Congress on operational test and evaluation, including comments and recommendations on resources and facilities available for operational test and evaluation and levels of funding made available for operational test and evaluation activities.
- Continued analysis to support compliance with requests from Congress for information relating to operational test and evaluation in the Department of Defense.
- Continued analysis to support the Director's operational test resource requirements for the statutory biennial strategic plan reflecting the needs of the Department with respect to T&E facilities and resources.
- Administrative Support:
 - Procured administrative support to carry out oversight of DOT&E programs.
- Accounting and Financial Management Support:
 - Provided accounting and financial management support to the DOT&E.

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FY 2005 Accomplishments:

T & E Programs:

JT&E:

- Completed JCMD, JC2ISR, and JUAUV-TSO joint tests, delivered test products, conducted out briefings, distributed the final reports, and transitioned capabilities.
- Completed JSWORD and JLAAS Quick Reaction Test, delivered test products, conducted out briefings, distributed the final reports, and transitioned capabilities.
- Continued JLOG-PE, JDICE, JIISO, JSCO(N), and JMACA joint tests.
- Continued quick reaction tests directed in FY 2004.
- Reviewed feasibility study results on JUFE and JFCM to determine if projects should be chartered as Joint Tests.
- Conducted JT&E annual review of nominations for potential feasibility studies for conduct in FY 2005 to FY 2006.
- Conducted JT&E quarterly review of nominations for potential quick reaction tests for conduct from FY 2005 to FY 2006.

Threat Systems:

- Simulators:
 - Continued to chair DOT&E Threat Representation Validation Report Review Committee (TRVRRC) to review or approve 12 Service-developed threat simulator and digital threat model validation reports on simulated foreign materiel used in T&E.
 - Continued technical investigations to identify solutions for effectively representing asymmetric threats, to include Chemical, Biological, Radiological, and Nuclear (CBRN); Information Warfare (IW); and terrorism-related threats to Homeland Defense in testing of U.S. weapons systems.
 - Continued the cooperative technical research and test bed projects to ensure threat representation (e.g., Reactive Plume Simulator Study) adequacy for T&E.
 - Continued improvements to threat missile representations used in end-to-end testing of missile warning and countermeasures effectiveness (e.g., Threat Electronic Warfare (EW) Simulation Study).
 - Continued to provide the tools to exchange the latest scientific and technological information between T&E and intelligence communities (e.g., Directed Energy Threat Study, and Advanced Threat Systems Analysis).
 - Conducted technical investigations and identified improvements to threat representations to ensure threat adequacy for multi-spectral sensor fusion T&E environments (Threat Integration into Real Time Casualty Assessment (RTCA)) Study, and Anti-Aircraft Artillery (AAA) J-Band Advanced Technology Simulator ((JBATS) study).

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- Continued threat support to T&E through investigations of current scientific and technical intelligence information for insertion in Service threat representation modeling programs (e.g., IR Air-to-Air Missile Engineering Analysis, Hybrid Simulator, and Threat 3D Assessment Tool).
- Continued oversight of Service threat simulator and digital threat model development and validation efforts (e.g., Threat Simulator Shortfalls Study).
- Updated the Automated Joint Threat Systems Handbook, produced and distributed CD-ROM version 10.2 to over 400 users, and updated and maintained the SIPRNET version.
- Provided 250 threat assessments for DOT&E analysis of programs on OSD's T&E Oversight List.
- Targets:
 - Conducted studies that will reduce the cost of targets and/or target presentation cost (e.g., 3D Enhancement Range Data Studies, Advanced Offboard Countermeasures, and Low-cost Lightweight Programmable Target Mover).
 - Continued technical studies that will lead to improved threat representation of targets (e.g., IR Signature Coating Improvement, Advanced Ground Target Threat System, Low-cost Lightweight Programmable Target Mover, Advanced Antenna, and Torpedo Threat Emulation).
 - Continued ongoing support to the Defense Science Board study of aerial targets.
 - Continued oversight of Service threat representative targets.
 - Updated the Target Management Office Web to include additional program and study information.
 - Conducted research study on foreign target procurement.
 - Conducted studies that will lead to improved scoring capabilities (e.g., Matrix Round Location).
 - Conducted studies that lead to new target capabilities to represent asymmetric threats (e.g., UAV Cessna-like aircraft).

CCM:

- CCM tested, analyzed, reported, or otherwise supported over 30 U.S. 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:
 - AAR-47 Live Fire, Directed Infrared Countermeasure (DIRCM), AATC A-10/F-16 Force Development Evaluation (FDE), Small Diameter Bomb, CV-22, LITENING-AT Pod, SNIPER XR, F-117 Sensor Suite, Lazarus Operational Assessment, Low Cost Missile Warning, Medusa, and Powered-Low Cost Autonomous Acquisition System (P-LOCAAS).
 - Army:
 - Suite of Integrated Infrared Countermeasures (SIIRCM), C-12 Aircraft Survivability Equipment (ASE), Army Theater Support Vessel (TSV), Future Combat System (FCS), Tactical UAV, Wide Area Munition, Joint Common Missile, Advanced Precision Kill Weapon System (APKWS), and the Armed Reconnaissance Helicopter (ARH).

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- Navy/Marines:
 - Low Altitude Surface-to-Air Missile Countermeasure (LOWALT), VX-9 IR Surface-to-Air Missile (SAM) Tactical Development and Evaluation (TAC D&E), AH-1Z Cobra Night Targeting System (NTS), Vertical Takeoff Unmanned Aerial Vehicle (VTUAV), SHIELDS, Extended Range Guided Munition (ERGM), Tactical Aircraft Directed Infrared Countermeasure (TADIRCM), AH-1W Cobra Signature Reduction, Expeditionary Fighting Vehicle (EFV), AN/AAR-47 Missile/Laser Warning, Starlight, Shipboard Laser Acquisition System/Landing Craft Air Cushion (SBLAS/LCAC), MV-22, Electronic Warfare Integrated System for Small Platforms (EWISSP), and Raven laser warning sensor.
- Foreign:
 - Foreign Laser System Test (FLST), Night Attack Vision Exploitation (NAVE) -G, Foreign Rangefinder Exploitation and Evaluation (FREE) -G, GD-1 smoke grenade, Foreign False Target Generator (FFTG), Foreign Laser Guided Missile (FLGM), Foreign Laser Beam Rider - Live Fire (FLBR-LF).
- M&S:
 - Incorporated IR flare and IR threat missiles into MV-22 and CV-22 models.
- Other:
 - Panels:
 - The Technical Coordination Panel (TTCP).
 - Foreign Material Exploitation Working Group.
 - Precision Strike Association.
 - Threat Simulation Investment Working Group.
 - Joint Aircraft Survivability Program.
 - Air Force Directed Energy Task Force – Laser.
 - Air Force Directed Energy Task Force – High Powered Microwaves.
 - Department of Homeland Security (DHS) Man-Portable Air Defense Systems (MANPADS).
 - Provided CM inputs for evolving programs, identified by the Service Acquisition PEOs/PMs.
 - CM Warfare Initiative:
 - Coordinated CM Warfare support at the Combatant Command and MAJCOM levels.
 - Participated in T&E Task list operational warfighting exercises and simulations.
 - Joint Forces Command/Marine Aviation Weapons and Tactics Squadron-1 (JFCOM/MAWTS-02-05).
 - Marine Aviation Weapons and Tactics Squadron-1 (MAWTS-01-06).
 - Desert Talon 01-05 & 02-05.
 - Continued to provide inputs for EO/IR CM training, equipment, and Joint Interoperability.
 - Continued to develop software modifications to Joint and Component Service level simulations (JCATS, and JSIMS).

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- Prepared draft Joint Precision Guided Weapons Countermeasures Publication.
- Incorporated CM/CCM into Joint Munitions Effectiveness Manuals (JMEM).
- Continued to provide technical and analytical expertise to DOT&E assessment tasks.
- Provided DARPA test, analysis, and assessment support.
- Provided test support to Joint Low Altitude Aircraft Survivability (JLAAS) Quick Reaction Test (QRT) JT&E program.
- Developed the Joint Mobile Infrared Test System (JMITS) missile simulator.

JTCG/ME:

- Developed JMEM data for most critical Combatant Commander identified systems. Continued updates of existing JMEMs CD-ROMs (i.e., JAWS v2.3.2 and v2.4, Joint Anti-Air Combat Effectiveness - Air Superiority (J-ACE: AS) v3.1 and v3.2, JMEM/Surface-to-Surface Weaponing Effectiveness System (JWES) v4.0, and Target Vulnerability Data Management System (TVDMS) v3.0). Continued to reduce CD-ROM update cycles through incremental updates. Continued transition to a Target Oriented JMEM (JMEM Weaponing System (JWS) v1.0).
- Released AJEM Standard Usage Guide (ASUG) for v2.2 and prepared tri-Service approved input files for vulnerability data generation.
- Developed tri-Service vulnerability/lethality methodology for the IO program.
- Developed tri-Service vulnerability/lethality methodology for the Directed Energy Weapons (DEW) program.
- Distributed 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 services – Combatant Command Requirements, JSTDSG and CTEG).
- Continued the development of standardized models/operational tools and methodology for Air-to-Surface, Surface-to-Surface and Anti-Air effectiveness calculations and conducted Configuration Management (i.e., JSEM, AJEM, JMAE, ASAP, PENCVR3D, MEVA, WinJMEM, TARCOM, GWTS, PMPT, JAT, STAT, BAM, HTM, JGEM, JAAM, Bridge Analysis System (BAS), Joint Gun Effectiveness Model (JGEM), and JSWM).
- Continued expansion of existing databases to incorporate data for newly fielded weapons (i.e., Air-to-Surface, Surface-to-Surface Direct/Indirect Fire, and Anti-Air).
- Continued execution and technical coordination efforts to address CTEG data generation and methodology improvements to include Special Operations Gun Ship, Military Operations in Urban Terrain (MOUT) environment and Rotary Wing Aircraft.
- Continued Combatant Commander data calls in support of FY2006 program build requirements.
- Coordinated with intelligence community (i.e., NGIC, NASIC, MSIC, ONI and DIA) to improve intelligence data collection efforts for Target Geometry Model (TGM) development.
- Continued to engage near-term acquisition programs to support JMEM production at system Initial Operations Capability (IOC) (i.e., bring critical developmental systems into the JMEM process).

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- Continued to work National Disclosure Policy issues relative to JMEM product release for foreign customers and coalition operations.
- The DoD increase (see page 2 of this Descriptive Summary) to the JTCG/ME budget funded the following projects to address critical COCOM and Service requirements:
 - Developed the target geometry model (TGM), generate vulnerability data, and produced JMEM data for approximately 50 high-priority Combatant Command targets (e.g., surface mobile/fixed, air, hard/deeply buried, and ship targets) producing approximately 3000 weapon-target pairings.
 - Continued developing target surrogation techniques.
 - Enhanced collateral damage and above/below ground hardened target methodologies (Fast Assessment Strike Tool-Collateral Damage (FAST-CD), BAM, HTM, and Integrated Munitions Effectiveness Assessment (IMEA)). Leveraging JWAC and DTRA cooperative efforts.
 - Accelerated the move to a capabilities based JMEM, accounting for newly fielded systems employing other than traditional kinetic damage mechanisms.
 - Advanced efforts to provide connectivity to real time planning systems assessing time sensitive targets (i.e., Joint Targeting Toolbox (JTT), Joint Mission Planning System (JMPS), etc.).
 - Developed JMEM training materials to support Service/Joint schools.
 - Monitored technical and funding execution on all FY 2005 projects. Implemented performance measures on all FY 2005 JTCG/ME projects based on the delivery of the final product.

JASP:

- Completed High Power Wideband Array project.
- Completed Laser Focal Plane Array Effects Modeling for Laser Countermeasures Optimization.
- Completed High-Resolution IRCM Measurements project.
- Completed Hostile Fire Indication project.
- Completed MANPADS Impact Point Assessment project.
- Completed Bonded Wing Survivability Demonstration project.
- Completed Advanced Survivable Rotorcraft Validation project.
- Completed MANPADS Damage Effects Modeling project.
- Completed Test Plan and Final Report Guide project.
- Completed Joint Resistance to Hydrodynamic RAM (HRAM) project.
- Completed Intumescent “Instant Firewall” project.
- Completed Assessment of Tank Wall Pressures for Enhanced Ram ERAM Validation.
- Completed Complex Composite Rotorcraft Structures Survivability project.
- Completed Follow-on Issues for Weapons Bay Vulnerability Reduction.

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- Completed Aircraft Structure/Flare Buckets project.
- Completed UAV Vulnerability Reduction Design Guide project.
- Completed ISA project.
- Completed DREAM Upgrade, Verification, and Validation.
- Completed IIR Sensor and Laser Effects Model Development.
- Completed ALARM Simulation Upgrades.
- Continued Special Material Urban Decoy project.
- Continued Common Service Exciter project.
- Continued Countermeasures Susceptibility of Several New Foreign Threat Infrared Seekers.
- Continued Reactive Infrared Suppressor project.
- Continued Impact of Electronic Limiting on Imaging Seeker Countermeasures project.
- Continued Low Cost Helicopter IRCM Components for Advanced Threats.
- Continued Affordable Visible Missile Warning System project.
- Continued MMW EW Receiver for Stand-In Jammer project.
- Continued Miniaturized Countermeasures for UAVs project.
- Continued Rotary Wing BDAR project.
- Continued Investigation of MANPADS Damage Effects on Large Aircraft Engines project.
- Continued SURVIAC M&S Accreditation support.
- Continued SURVIAC Model Manager support.
- Continued COVART/FASTGEN Configuration Control Board support.
- Continued Dry Bay Fire Model/WINFIRE enhancements.
- Continued Simulink Environment and Tools for Advanced Infrared Seeker Susceptibility Analysis.
- Continued Integrated Survivability Assessment (ISA) Demonstration for MMA project.
- Continued ESAMS Migration project.
- Continued the JASP Internet site.
- Continued JCAT efforts.
- Continued Publishing the Aircraft Survivability Magazine.
- Continued Automatic Engine Fire Suppression System project.
- Continued RPG Damage Effects Modeling project.
- Initiated IR Hollow Core Photonic Bandgap Fibers project.
- Initiated RPG Characterization Testing and Modeling Support project.
- Initiated Joint Service Battle Damage Assessment and Repair (BDAR) Capability Improvement Program.
- Initiated UAV Wing Hydrodynamic RAM (HRAM) Mitigation project.
- Initiated Fuel Tank Ullage Vulnerability project.

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- Initiated Hardware Accelerator for Reticle Processing for Infrared Missile Simulations project.
- Initiated and completed Fire Initiation Test and Methodology Development project.
- Initiated and completed Radar Directed Gun Simulation (RADGUNS) Configuration Control Board support.
- Initiated and completed ESAMS Cooperation Assessment Team (ECAT) Wrap-Up and Transition.
- Initiated and completed Fire Prediction Model (FPM) Modularization.
- Initiated JASP Secret Internet Protocol Routing Network (SIPRNET) site.

T&E Independent Activities:

- Continued analytical support for the Director's role as the principal adviser to the Secretary of Defense and the Under Secretary of Defense for Acquisition, Technology, and Logistics on operational test and evaluation and the principal operational test and evaluation official within the senior management of the Department of Defense.
 - Continued analysis to support promulgation of policies and procedures for the conduct of operational test and evaluation and live fire test and evaluation in the Department of Defense, and analysis relating to the composition of the Major Range and Test Facility Base.
 - Continued analysis to support the provision of guidance to, and consultation with, senior Department of Defense officials with respect to operational test and evaluation resources and facilities in the Department.
 - Continued analysis to support review and recommendations to the Secretary of Defense on all budgetary and financial matters relating to operational test and evaluation, including operational test facilities and equipment.
- Continued analysis to support statutory annual reporting to the Secretary of Defense and the Congress on operational test and evaluation, including comments and recommendations on resources and facilities available for operational test and evaluation and levels of funding made available for operational test and evaluation activities.
- Continued analysis to support compliance with requests from Congress for information relating to operational test and evaluation in the Department of Defense.
- Continued analysis to support the Director's operational test resource requirements for the statutory biennial strategic plan reflecting the needs of the Department with respect to T&E facilities and resources.
- Administrative Support:
 - Procured administrative support to carry out oversight of DOT&E programs.
- Accounting and Financial Management Support:
 - Provided accounting and financial management support to the DOT&E.

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FY 2006 Plans:

T & E Programs:

JT&E:

- Continue JSCO(N), JIISO, JUFEE, and/or JFCM joint tests.
- Continue quick reaction tests directed in FY 2005 and 2006.
- Determine which FY 2005 Joint Feasibility Studies will be initiated as Joint Tests and commence testing activities.
- Conduct JT&E annual review of nominations for potential feasibility studies for conduct in FY 2006 to FY 2007.
- Conduct JT&E quarterly review of nominations for potential quick reaction tests for conduct in FY 2006 for FY 2007.
- Complete JDICE, JLOG-PE, and JMACA joint tests, deliver test products, conduct out briefings, distribute the final reports, and transition capabilities.
- Complete FY 2005 Quick Reaction Tests, deliver test products, conduct out briefings, distribute the final reports, and transition capabilities.

Threat Systems:

- Simulators:
 - Continue to chair DOT&E Threat Representation Validation Report Review Committee (TRVRRRC) to review or approve 18 Service-developed threat simulator and digital threat model validation reports on simulated foreign materiel used in T&E.
 - Provide 250 threat assessments for DOT&E analysis of programs on OSD's T&E Oversight List.
 - Continue technical investigations to identify solutions for effectively representing asymmetric threats, to include Chemical, Biological, Radiological, and Nuclear (CBRN) threats; Information Warfare (IW); and terrorism-related threats to Homeland Defense in testing of U.S. weapons systems.
 - Continue threat support to T&E through investigations of current scientific and technical intelligence information for insertion in Service threat representation modeling programs.
 - Update the Automated Joint Threat Systems Handbook, produce and distribute CD-ROM version 10.3 to over 425 users, and update and maintain SIPRNET version.
 - Implement common threat missile fly-out models used for T&E (Electronic Warfare (EW) Simulation Module).
 - Conduct technical investigations and identify improvements to threat representations to ensure threat adequacy for multi-spectral sensor fusion T&E environments (e.g., Threat Integration into Real Time Casualty Assessment (RTCA) Study).
 - Continue improvements to threat missile representations used in end-to-end testing of missile warning and countermeasures effectiveness (e.g., IR Stimulator Effectiveness Study versus Imaging Infrared Missile Warning Systems (IR MWS), and Infrared Missile Countermeasure Simulation (IR MCS)).

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- Continue oversight of Service threat simulator and digital threat model development and validation efforts (e.g., Threat Simulator Shortfalls Study).
- Continue the cooperative technical research and test bed projects to ensure threat representation (e.g., Reactive Plume Simulator Study and Improved Advanced Threat Simulator) adequacy in T&E.
- Continue to provide the tools to exchange the latest scientific and technological information between T&E and intelligence communities (e.g., Directed Energy Threat Study).
- Examine the need to provide a threat representative electronic warfare environment (RF&IR) that will support network centric program T&E (e.g., Radio Frequency (RF) Fusing Simulation Study).
- Examine the capabilities needed to execute robust and combined test events in a realistic threat environment with multiple and simultaneous threats for programs (e.g., Integrated Threat Information Operations Laboratory, and Constructive Verification and Validation (V&V) Threat Demonstration).
- Characterize threat simulation capabilities (e.g., System Integration Laboratory/Hardware In The Loop/Installed Systems Test Facility/Open Air Range (SIL/HITL/ISTF/OAR)) needed to test advanced technology Infrared Countermeasures (IRCM) systems and advanced missile systems (e.g., IR Model Converter, Pre-Emptive Infrared IRCM Functionality, and Free-Play Plume Simulator Study).
- Targets:
 - Provide OSD seed funds to prototype solution to highest priority deficiencies in current target systems.
 - Provide oversight of the Service activities in support of DoD.
 - Conduct studies that will reduce the cost of targets and/or target presentation cost (e.g., 3D Enhancement Range Data Study, Mobile Ground Targets, Target Control, Air Superiority Target, MOUT Target Structures, and Low-cost Lightweight Programmable Target Mover).
 - Continue technical studies that will lead to improved threat representation of targets or address operational test target resource issues that were reported within the FY 2005 Defense Science Board report on Aerial Targets (e.g., Threat “D”, Air Superiority Target, and Target Control).
 - Examine ongoing integration of electronic warfare and computer network operations. Examine the use of hardware replica prototypes, actuals and/or simulators along with associated software and electronic systems to facilitate testing capabilities within integrated IO facilities and ranges requiring target support.
 - Continue developments that lead to improved threat representative ground targets (including digital simulations of ground targets) suitable for testing of weapons (air and ground) with multi-mode seekers and/or aerial surveillance/reconnaissance systems used for precision targeting.
 - Continue ongoing examination of improved threat aircraft signature representation (using augmented subscale or full scale aerial targets) for end-to-end testing of advanced air defense missiles.

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- Conduct research to characterize the threat environment needed for testing of large footprint and extended-range weapons and sensors, including beyond-line-of sight targeting, improved methods of hazard area calculations, and remote control/operation of threat lay down.
- Provide portable and in-situ test, threat simulation and stimulation capabilities independent of fixed ranges, to include: range independent over-the-horizon target control and data transfer, embedded instrumentation, new methods for hazard pattern development and IRCM testing in an urban clutter environment.
- Conduct technical studies to address the future target requirements of Directed Energy Weapons.
- Conduct technical Studies that examine potential target solutions to recent changes in intelligence assessments.

CCM:

- CCM will test, analyze, report, and otherwise support over 30 U.S. 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:
 - AATC A-10/F-16 FDE, Small Diameter Bomb, Large Aircraft Infrared Countermeasure (LAIRCM) Next Generation, Low Cost Missile Warning System, F-117 Sensor Suite, CV-22, LITENING-AT Pod, and Powered-Low Cost Autonomous Acquisition System (P-LOCAAS).
 - Army:
 - Future Combat System (FCS), Tactical UAV, Wide Area Munition, Advanced Precision Kill Weapon System (APKWS), and the Armed Reconnaissance Helicopter (ARH).
 - Navy/Marines:
 - Vertical Takeoff Unmanned Aerial Vehicle (VTUAV), SHIELDS, AH-1W Cobra Night Targeting System (NTS), Tactical Aircraft Directed Infrared Countermeasure (TADIRCM), Expeditionary Fighting Vehicle (EFV), Gunfire and Ordnance Detection System (GODS), AN/AAR-47 v2 Missile/Laser Warning, Laser Beam Rider Missile Countermeasure (Starlight), Shipboard Laser Acquisition System (SBLAS), MV-22, Electronic Warfare Integrated System for Small Surface Platforms (EWISSP), Low Altitude Surface-to-Air Missile Countermeasure (LOWALT), and Rocket Propelled Grenade Countermeasure (RPGCM).
 - Foreign:
 - Foreign False Target Generator, Foreign Laser Guided Munitions, GALIX smoke grenade, MASKE smoke grenade, and FGPS.
 - M&S:
 - CV-22 Test support.
 - Other:
 - Panels:
 - The Technical Coordination Panel (TTCP).

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- Foreign Material Exploitation Working Group.
- Precision Strike Association.
- Threat Simulation Investment Working Group.
- Air Force Directed Energy Task Force – Laser.
- Air Force Directed Energy Task Force – High Powered Microwaves.
- Joint Aircraft Survivability Program.
- Department of Homeland Security (DHS) MANPADS.
- Provide CM inputs for evolving programs, identified by the Service Acquisition PEOs/PMs.
- CM Warfare Initiative:
 - Coordinate CM Warfare support at the Combatant Command and MAJCOM levels.
 - Participate in T&E Task list operational warfighting exercises and simulations.
 - Support MAWTS-1 (2 exercises), JTFEX-06, JNTC CJTFEX, and Victory Strike.
- Continue to provide inputs for EO/IR CM training, equipment, and Joint Interoperability.
- Continue to develop software modifications to Joint and Component Service level simulations (JCATS).
- Subject Matter Organization for selected JCS Universal Joint Task Lists (UJTLs).
- Coordinate Joint PGM Countermeasures Publication.
- Continue to provide technical and analytical expertise to DOT&E assessment tasks.
- Complete development of the Joint Mobile Infrared Test System (JMITS) missile simulator.

JTCG/ME:

- Develop and release JWS v1.x which will contain JMEM/Air-to-Surface, Anti-air, and Surface-to-Surface weapons.
- Develop JMEM data for most critical Combatant Commander identified systems.
- Continue to reduce CD-ROM update cycles through incremental updates.
- Release AJEM v2.x and continue to update AJEM input files for JTCG/ME standard weapons.
- Update and publish 61 JTCG/ME-1-8 “Requirements for Generating, Documenting, Reviewing, and Approving JTCG/ME Vulnerability Data”.
- Continue to develop tri-Service JMEM methodology for the IO program.
- Continue to develop tri-Service JMEM methodology for the Directed Energy Weapons (DEW) program.
- 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 services – Combatant Command Requirements, JSTDSG, and CTEG).
- Continue the development of standardized models/operational tools and methodology for Air-to-Surface, Surface-to-Surface and Anti-Air effectiveness calculations and conduct Configuration Management.

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- Continue expansion of existing databases to incorporate data for newly fielded weapons (i.e., Air-to-Surface, Surface-to-Surface Direct/Indirect Fire, and Anti-Air).
- Continue execution and technical coordination efforts to address CTEG data generation and methodology improvements.
- Continue Combatant Commander data calls in support of FY 2007 program build requirements.
- Continue to work with intelligence community (i.e., NGIC, NASIC, MSIC, ONI and DIA) to collect intelligence data for Target Geometry Model (TGM) development.
- Continue to engage near-term acquisition programs to support JMEM production at system IOC.
- Continue to work National Disclosure Policy issues relative to JMEM product release for foreign customers and coalition operations.
- Develop the target geometry model (TGM), generate vulnerability data, and produce JMEM data for approximately 60 high-priority Combatant Command targets (e.g., surface mobile/fixed, air, hard/deeply buried, and ship targets).
- Review and approve tri-Service target surrogation techniques/methodologies to meet JMEM requirements.
- Enhance collateral damage and above/below ground hardened target.
- Implement a capabilities based JMEM, accounting for newly fielded systems employing other than traditional kinetic damage mechanisms.
- Advance efforts to provide connectivity to real time planning systems assessing time sensitive targets (i.e., Joint Targeting Toolbox (JTT), Joint Mission Planning System (JMPS), Advanced Deep Operations Coordination System (ADOCS), Air – Theater Battle Management Core Systems (TBMCS), and Naval Fires Control System (NFCS), etc.
- Conduct on-site JMEM training to Service/Joint course instructors/trainers.
- Continue to monitor technical and funding execution on all FY 2006 projects. Implement performance measures on all FY 2006 JTCG/ME projects based on the delivery of the final product.

JASP:

- Complete Special Material Urban Decoy project.
- Complete Common Service Exciter project.
- Complete Countermeasures Susceptibility of Several New Foreign Threat Infrared Seekers.
- Complete Reactive IR Suppressor project.
- Complete Low Cost Helicopter IRCM Components for Advanced Threats project.
- Complete Affordable Visible Missile Warning System project.
- Complete MMW EW Receiver for Stand-In Jammer project.
- Complete Automatic Engine Fire Suppression System project.
- Complete RPG Damage Effects Modeling project.
- Complete Investigation of MANPADS Damage Effects on Large Aircraft Engines project.
- Complete Joint Service BDAR Capability Improvement program.

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- Complete UAV Wing HRAM Mitigation project.
- Complete Fuel Tank Ullage Vulnerability project.
- Complete Simulink Environment and Tools for Advanced Infrared Seeker Susceptibility Analysis.
- Complete ISA Demonstration for MMA project.
- Complete ESAMS Migration project.
- Complete Hardware Accelerator for Reticle Processing for IR Missile Simulations project.
- Continue Impact of Electronic Limiting on Imaging Seeker Countermeasures project.
- Continue MMW Radar Warning Receiver for UAVs project.
- Continue IR Hollow Core Photonic Bandgap Fibers project.
- Continue Rotary Wing BDAR project.
- Continue SURVIAC Modeling & Simulation (M&S) Accreditation Support.
- Continue SURVIAC Model Manager support.
- Continue COVART/FASTGEN CCB support.
- Continue DBFM/WINFIRE enhancements.
- Continue JASP Internet site.
- Continue JCAT efforts.
- Continue Publishing the Aircraft Survivability Magazine.
- Continue JASP SIPRNET site.
- Initiate other projects as approved for accomplishment by the principal members and OSD.

T&E Independent Activities:

- Continue analytical support for the Director's role as the principal adviser to the Secretary of Defense and the Under Secretary of Defense for Acquisition, Technology, and Logistics on operational test and evaluation and the principal operational test and evaluation official within the senior management of the Department of Defense.
 - Continue analysis to support promulgation of policies and procedures for the conduct of operational test and evaluation and live fire test and evaluation in the Department of Defense, and analysis relating to the composition of the Major Range and Test Facility Base.
 - Continue analysis to support the provision of guidance to, and consultation with, senior Department of Defense officials with respect to operational test and evaluation resources and facilities in the Department.
 - Continue analysis to support review and recommendations to the Secretary of Defense on all budgetary and financial matters relating to operational test and evaluation, including operational test facilities and equipment.

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- Continue analysis to support statutory annual reporting to the Secretary of Defense and the Congress on operational test and evaluation, including comments and recommendations on resources and facilities available for operational test and evaluation and levels of funding made available for operational test and evaluation activities.
- Continue analysis to support compliance with requests from Congress for information relating to operational test and evaluation in the Department of Defense.
- Continued analysis to support the Director's operational test resource requirements for the statutory biennial strategic plan reflecting the needs of the Department with respect to T&E facilities and resources.
- Administrative Support:
 - Procure administrative support to carry out oversight of DOT&E programs.
- Accounting and Financial Management Support:
 - Provide accounting and financial management support to the DOT&E.

FY 2007 Plans:

T & E Programs:

JT&E:

- Complete JIISO and JSCO(N) Tests, deliver test products, conduct out briefings, distribute the final reports, and transition capabilities.
- Complete FY 2006 Quick Reaction Tests, deliver test products, conduct out briefings, distribute the final reports, and transition capabilities.
- Continue joint tests chartered in FY 2005 and 2006.
- Continue quick reaction tests directed in FY 2006 and 2007.
- Determine which FY 2005 Joint Feasibility Studies will be initiated as Joint Tests and commence testing activities.
- Conduct JT&E annual review of nominations for potential feasibility studies for conduct in FY 2007 to FY 2008.
- Conduct JT&E quarterly review of nominations for potential quick reaction tests for conduct from FY 2007 for FY 2008.

Threat Systems:

- Simulators:
 - Continue to chair DOT&E Threat Representation Validation Report Review Committee (TRVRRRC) to review or approve 18 Service developed threat simulator and digital threat model validation reports on simulated foreign materiel used in T&E.
 - Provide 250 threat assessments for DOT&E analysis of programs on OSD's T&E Oversight List.

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- Continue technical investigations to identify solutions for effectively representing asymmetric threats, to include Chemical, Biological, Radiological, and Nuclear (CBRN); Information Warfare (IW); and terrorism-related threats to Homeland Defense in testing of U.S. weapons systems.
- Continue threat support to T&E through investigations of current scientific and technical intelligence information for insertion in Service threat representation modeling programs.
- Update the Automated Joint Threat Systems Handbook, produce and distribute CD-ROM version 10.4 to over 425 users, and update and maintain the SIPRNET version.
- Implement common threat missile fly-out models used for T&E (Electronic Warfare (EW) Simulation Module).
- Conduct technical investigations and identify improvements to threat representations to ensure threat adequacy for multi-spectral sensor fusion T&E environments (Threat Integration into Real Time Casualty Assessment (RTCA) Study, and Anti-Aircraft Artillery (AAA) J-Band Advanced Technology Simulator (JBATS) study).
- Continue improvements to threat missile representations used in end-to-end testing of missile warning and countermeasures effectiveness (e.g., IR Stimulator Effectiveness Study versus Imaging Infrared Missile Warning Systems (IR MWS), Infrared Missile Countermeasure Simulation (IR MCS), and Electronic Warfare (EW) Simulation Study).
- Continue oversight of Service threat simulator and digital threat model development and validation efforts.
- Continue the cooperative technical research and test bed projects to ensure threat representation adequacy in T&E.
- Continue to provide the tools to exchange the latest scientific and technological information between T&E and intelligence communities (e.g., Advanced Threat Systems Analysis).
- Examine the need to provide a threat representative electronic warfare environment (RF&IR) that will support network centric program T&E (e.g., Radio Frequency (RF) Fusing Simulation Study).
- Examine the capabilities needed to execute robust and combined test events in a realistic threat environment with multiple and simultaneous threats for programs (e.g., Integrated Threat Information Operations Laboratory, and Constructive V&V Threat Demonstration).
- Characterize threat simulation capabilities (e.g., SIL/HITL/ISTF/OAR) needed to test advanced technology Infrared Countermeasures (IRCM) systems and advanced missile systems (e.g., IR Model Converter, Pre-Emptive IRCM Functionality and Free-Play Plume Simulator Study).
- Targets:
 - Provide OSD seed funds to prototype solution to highest priority deficiencies in current target systems.
 - Provide oversight of the Service activities in support of DoD.
 - Continue technical studies that will lead to improved threat representation of targets or address operational test target resource issues that were reported within the FY 2005 Defense Science Board report on Aerial Targets.
 - Conduct technical studies to address the future target requirements of Directed Energy Weapons.

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- Examine the ongoing integration of electronic warfare and computer network operations. Examine the use of hardware replica prototypes, actuals and/or simulators along with associated software and electronic systems to facilitate testing capabilities within integrated IO facilities and ranges requiring target support.
- Conduct developments that lead to improved threat representative ground targets (including digital simulations of ground targets) suitable for testing of weapons (air and ground) with multi-mode seekers and/or aerial surveillance/reconnaissance systems used for precision targeting.
- Continue ongoing examination of improved threat aircraft signature representation (using augmented subscale or full scale aerial targets) for end-to-end testing of advanced air defense missiles.
- Conduct research to characterize the threat environment needed for testing of large footprint and extended-range weapons and sensors, including beyond-line-of sight targeting, improved methods of hazard area calculations, and remote control/operation of threat lay down.
- Provide portable and in-situ test, threat simulation and stimulation capabilities independent of fixed ranges to include: range independent over-the-horizon target control and data transfer, embedded instrumentation, new methods for hazard pattern development and IRCM testing in an urban clutter environment.

CCM:

- CCM will test, analyze, report, and otherwise support over 30 U.S. 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:
 - AATC A-10/F-16 FDE, Small Diameter Bomb, CV-22, LITENING-AT Pod, Low Cost Missile Warning System, and Powered-Low Cost Autonomous Acquisition System (P-LOCAAS).
 - Army:
 - Future Combat System, Tactical UAV, Wide Area Munition, and AN/AVR-2B.
 - Navy/Marines:
 - Vertical Takeoff Unmanned Aerial Vehicle (VTUAV), SHIELDS, Tactical Aircraft Directed Infrared Countermeasure (TADIRCM), Expeditionary Fighting Vehicle (EFV), Gunfire and Ordnance Detection System (GODS), Electronic Warfare Integrated System for Small Surface Platforms (EWISSP), Laser Beam Rider Missile Countermeasure (Starlight), Shipboard Laser Acquisition System (SBLAS), Airport Defense System (ADS), Joint Strike Fighter (F-35), Joint Unmanned Combat Air Vehicle (J-UCAV).
 - Foreign:
 - FGPS, Foreign Laser Guided Projectiles (FLGP), and Foreign Precision Guided Munition B (FPGM-B).
 - M&S:
 - CV-22 test support.

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- Other:
 - Panels:
 - The Technical Coordination Panel (TTCP).
 - Foreign Material Exploitation Working Group.
 - Precision Strike Association.
 - Threat Simulation Investment Working Group.
 - Air Force Directed Energy Task Force – Laser.
 - Air Force Directed Energy Task Force – High Powered Microwaves.
 - Joint Aircraft Survivability Program.
 - Provide CM inputs for evolving programs, identified by the Service Acquisition PEOs/PMs.
 - CM Warfare Initiative:
 - Coordinate CM Warfare support at the Combatant Command and MAJCOM levels.
 - Participate in T&E Task list operational warfighting exercises and simulations.
 - Support MAWTS-1 (2 exercises), and JNTC Integration (overseas & west).
 - Continue to provide inputs for EO/IR CM training, equipment, and Joint Interoperability.
 - Continue to develop software modifications to Joint and Component Service level simulations (JCATS and JSIMS).
- Continue to provide technical and analytical expertise to DOT&E assessment tasks.

JTCG/ME:

- Develop and release JWS v2.0 which will contain JMEM/Air-to-Surface, Anti-air, and Surface-to-Surface weapons.
- Continue to develop JMEM data for most critical Combatant Commander identified systems.
- Continue to reduce CD-ROM update cycles through incremental updates.
- Implement tri-Service JMEM methodology for the IO program.
- Implement tri-Service JMEM methodology for the Directed Energy Weapons (DEW) program.
- 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 services).
- Continue the development of standardized models/operational tools and methodology for Air-to-Surface, Surface-to-Surface and Anti-Air effectiveness calculations and conduct Configuration Management.
- Continue expansion of existing databases to incorporate data for newly fielded weapons (i.e., Air-to-Surface, Surface-to-Surface Direct/Indirect Fire, and Anti-Air).
- Continue execution and technical coordination efforts to address CTEG data generation and methodology improvements.
- Continue Combatant Commander data calls in support of FY 2008 program build requirements.

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- Continue to work with intelligence community (i.e., NGIC, NASIC, MSIC, ONI and DIA) to collect intelligence data for Target Geometry Model (TGM) development.
- Continue to engage near-term acquisition programs to support JMEM production at system IOC.
- Continue to work National Disclosure Policy issues relative to JMEM product release for foreign customers and coalition operations.
- Develop the target geometry model (TGM), generate vulnerability data, and produce JMEM data for high-priority Combatant Command targets (e.g., surface mobile/fixed, air, hard/deeply buried and ship targets).
- Refresh/update existing TGM, generate vulnerability data, and produce JMEM data for high-priority Combatant Command targets.
- Continue to review and approve tri-Service target surrogation techniques/methodologies to meet JMEM requirements.
- Enhance collateral damage and above/below ground hardened target to include MOUT structure.
- Implement a capabilities based JMEM, accounting for newly fielded systems employing other than traditional kinetic damage mechanisms.
- Advance efforts to provide connectivity to real time planning systems assessing time sensitive targets.
- Conduct on-site JMEM training to Service/Joint course instructors/trainers.
- Continue to monitor technical and funding execution on all FY 2007 projects. Implement performance measures on all FY 2007 JTCG/ME projects based on the delivery of the final product.

JASP:

- Complete Impact of Electronic Limiting on Imaging Seeker Countermeasures project.
- Complete MMW Radar Warning Receiver for UAVs project.
- Complete IR Hollow Core Photonic Bandgap Fibers project.
- Complete Rotary Wing BDAR project.
- Complete DBFM/WINFIRE enhancements. Continue SURVIAC M&S Accreditation support.
- Continue SURVIAC Model Manage support.
- Continue COVART/FASTGEN CCB support.
- Continue JASP Internet site.
- Continue JCAT efforts.
- Continue Publishing the Aircraft Survivability Magazine.
- Continue JASP SIPRNET site.
- Initiate, continue, and complete other projects as approved for accomplishment by the principal members and OSD.

Exhibit R-2, RDT&E Budget Item Justification

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T&E Independent Activities:

- Continue analytical support for the Director's role as the principal adviser to the Secretary of Defense and the Under Secretary of Defense for Acquisition, Technology, and Logistics on operational test and evaluation and the principal operational test and evaluation official within the senior management of the Department of Defense.
 - Continue analysis to support promulgation of policies and procedures for the conduct of operational test and evaluation and live fire test and evaluation in the Department of Defense, and analysis relating to the composition of the Major Range and Test Facility Base.
 - Continue analysis to support the provision of guidance to, and consultation with, senior Department of Defense officials with respect to operational test and evaluation resources and facilities in the Department.
 - Continue analysis to support review and recommendations to the Secretary of Defense on all budgetary and financial matters relating to operational test and evaluation, including operational test facilities and equipment.
- Continue analysis to support statutory annual reporting to the Secretary of Defense and the Congress on operational test and evaluation, including comments and recommendations on resources and facilities available for operational test and evaluation and levels of funding made available for operational test and evaluation activities.
- Continue analysis to support compliance with requests from Congress for information relating to operational test and evaluation in the Department of Defense.
- Continued analysis to support the Director's operational test resource requirements for the statutory biennial strategic plan reflecting the needs of the Department with respect to T&E facilities and resources.
- Administrative Support:
 - Procure administrative support to carry out oversight of DOT&E programs.
- Accounting and Financial Management Support:
 - Provide accounting and financial management support to the DOT&E.

UNCLASSIFIED

B. (U) PROGRAM CHANGE SUMMARY

(\$ in Millions)	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
FY 2005 President's Budget	104.381	112.679	114.748	117.325
FY 2006 president's Budget	103.712	107.701	114.190	116.672
Total Adjustments	(0.669)	(4.978)	(0.558)	(0.653)
Congressional program reductions		(3.178)		
Congressional rescissions				
Congressional increases				
Fiscal guidance adjustment			(0.558)	(0.653)
Inflation adjustment				
Reprogramming	(0.669) ¹	(1.800) ¹		

Notes:

1. Reprogramming from PE 0605804D to PE 0605118D.

C. (U) OTHER PROGRAM FUNDING SUMMARY NA

D. (U) ACQUISITION STRATEGY NA

E. (U) PERFORMANCE METRICS

Percentage of required products, such as test planning documents, munitions effectiveness manuals, tactics-techniques-procedures, threat characteristics, assessments, and reports that are developed and delivered to program managers and customers on time.