Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E Defense Wide BA 06			R-1 Item Nomenclature: Training Transformation 0603757D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	76.677	60.524	38.729	34.555	34.830	35.283	36.061
Joint National Training Capability, P758	43.260	39.668	23.599	24.127	25.014	25.446	25.961
Joint Training Capability Analysis of Alternatives (TCAoA), P759	9.052	10.214	3.686	0.746	0	0	0
Joint Combined Training Centre, P763	4.230	0	1.798	0	0	0	0
Joint Simulation Systems (JSS), P761	10.144	10.642	9.646	9.682	9.816	9.837	10.100
Joint Integrated Information Operations Range/JNTC (JIIOR), P762	9.991	0	0	0	0	0	0

A. **Mission Description and Budget Item Justification:**

These programs are part of a coordinated effort to develop and deploy capabilities for rapidly linking and integrating Live, Virtual, and Constructive (LVC) forces of Services, Combatant Commanders (COCOM), coalition, and other government agencies. These programs will create a realistic battlespace environment in which to train as a Joint Warfighting force to meet emerging mission requirements including the Long War. These investments support the Secretary of Defense's (SECDEF) Training Transformation (T2) initiative to enable and enhance Joint Warfighting readiness by training as we intend to fight. The elements associated with this coordinated effort consist of:

- Joint National Training Capability (JNTC)
- Training Capability Analysis of Alternatives (TCAoA)
- Joint Combined Training Centre (JCTC)
- Joint Simulation Systems (JSS)
- Joint Integration Information Operations Range (JIIOR)

JNTC: Initially established in 2003, JNTC continues to develop and integrate Advanced Training Technologies (ATT) into a seamless Joint training environment. JNTC establishes the overarching Joint framework and context necessary for COCOMs and Services to achieve a Joint training environment through an integrated network of training sites and nodes. JNTC provides the common standards, architecture, and development processes required to link joint training programs. By leveraging existing training programs or initiating specific actions, JNTC is providing credible opposing force capabilities, expanded access to assets typically unavailable to the training audience by integrating virtual or constructive representations of these capabilities, and furthering the integration of Joint Training objectives into Service training events, while capturing the objective data necessary to provide a complete and accurate after action review. These initiatives develop and

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

enhance current and future Joint training capabilities.

TCAoA: The TCAoA effort focuses on comparing current training capabilities with training requirements in order to identify gaps in our current joint training capability, to identify alternatives for resolution and to assess the cost and effectiveness of these alternatives. Specifically, the TCAoA focuses on: (1) developing and integrating enhancements to the existing and programmed constructive simulations, (2) pursuing selected alternative training methodologies, (3) developing an innovative acquisition prototype, (4) developing solutions to implement recommendations from the Joint Staff's comprehensive study to re-engineer Joint training and (5) developing a clear management and oversight structure to meet future Joint training requirements. These efforts provide solutions to the 35 gaps and seams in Joint and Service training requirements identified by the COCOM's in the SECDEF 2004 TCAoA study. These efforts increase warfighter Joint training capabilities with improved constructive simulations and streamlined acquisition processes, leveraging industry training methodologies and technologies to provide on-demand Joint training tailorable to COCOM requirements for Joint Task Force headquarters staffs and individuals.

JCTC: At the July 2004 Australia/US Ministerial Consultations (AUSMIN), the SECDEF signed an Australian – United States Joint Statement of Principles of Interoperability and affirmed the development of a JCTC in Australia. This enables the linkage of JCTC to Department of Defense's (DoD) JNTC, leveraging each other's training capabilities and providing the environment to exercise Coalition mission essential tasks.

JSS: This effort provides warfighters with enhanced Joint Live, Virtual, and Constructive (JLVC) based training capabilities resident in the Joint Force Trainer Toolkit (JFTT) and was directed in 2003 with the SECDEF tasking U.S. Joint Forces Command (USJFCOM) with the responsibility for continued development of Joint Simulation Systems software. Investments made under the JSS program complete the transition and integration of selected residual JSS capabilities into the Toolkit. The JFTT is a set of capabilities, and "system certified" technologies that are interoperable and acceptable for usage within the Joint training environment. The JFTT is a one stop shop for Joint Exercise Support, Joint Doctrine, Joint Lessons Learned, Joint Distributed Learning, and Joint Modeling and Simulations for warfighter use.

JIIOR: Provides a secure, flexible, and seamless environment for the Services and Joint warfighters to test, train, develop tactics, and exercise simulated computer network attack using selected offensive electronic warfare capabilities. This environment enables the COCOM's warfighters to visualize non-kinetic weapons effects, understand the intricate and interactive effects generated by kinetic and non-kinetic weapons and achieve the same level of confidence and expertise in employing Information Operation weapons that they have with kinetic weapons. Funding for this effort transferred to Office of the Under Secretary of Defense (Intelligence) beginning in FY08.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

B. **Program Change Summary:**

	FY 2007	FY 2008	FY 2009
Previous Budget Estimates Submission	70.824	51.752	45.204
Current Budget Estimates Submission	76.677	60.524	38.728
Total Adjustments			
Congressional program reductions	0	-0.528	0
Congressional increases	0	9.300	0
Reprogrammings	7.600		-6.476
SBIR/STTR Transfer	-1.761		
Other	0.014		

FY 2007 Congressional Add of $7.6 for T2 Eglin Range.

T2 Eglin Range funding to developed a Live, Virtual, and Constructive Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) Environment to allow realistic and repeatable Joint Training, Testing, and Experimentation for combating Weapons of Mass Destruction. Funding was incorrectly issued to the Navy and was not reprogrammed to Defense for execution until August 07. Funds were initially in a Navy funding line and reprogrammed to a Defense Wide account.

FY 2008 Congressional Adds $9.300

1. Agile Software Capability Intervention $1.600
2. JWFC Joint Training Blended Learning Initiative $2.000
3. Playas Mobile Command, Control and Communications Shelter $2.500
4. Playas Training and Research Center Joint Training Experiment $3.200

FY2009 Reprogramming of $6.397 to Operation and Maintenance to support Joint Training initiatives.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

C. **Other Program Funding Summary:**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
P-1 Procurement Line Item No., Name: JNTC	9.282	15.990	16.322	16.611	17.062	17.505	17.857		110.629
C-1 MilCon Project No., Name									
Related RDT&E:									

D. Acquisition Strategy: Not Applicable

E. Performance Metrics:

The USJFCOM Joint WarFighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the Joint Force Trainer to prepare and execute training faster than current capabilities allow?
- Money – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Program area owners have developed measures of effectiveness, identified near, and long term performance targets. Performance against the targets will be assessed and reported monthly and briefed quarterly to the ERPB board. To ensure transparency and credibility, performance measurement will also facilitate the formulation of a JWFC Joint Training End-of-Fiscal Year Performance Report.

Measures of effectiveness by project:

JNTC:

Short Term MOEs:

- Two capabilities are integrated into the Joint Trainer Toolkit per year that meets 60% of the Services' and COCOM's joint training objectives in JNTC-supported exercises.
- Costs using new capabilities are 85% of current training costs (# of deployed personnel and TDY travel costs, participating unit O&M cost, etc.) to achieve the same training and mission rehearsal objectives in JNTC-supported exercises.

Long Term MOEs:

- Fourteen capabilities are integrated into the Joint Trainer Toolkit that meets 90% of the Services' and COCOM's joint training objectives in JNTC-supported exercises.
- Costs using new capabilities are 75% of current training costs (# of deployed personnel and TDY travel costs, participating unit O&M cost, etc.) to achieve the same training and mission rehearsal objectives in JNTC-supported exercises.

TCAoA:

Short Term MOE's:

- One innovative acquisition strategy is developed that provides effective team training events at 85% of current training costs to achieve the same training and mission rehearsal objectives.
- Two innovative training prototypes are developed per year that allows training audiences to master 80% of training objectives.

Long Term MOEs:

- Four innovative acquisition strategies are developed that provide effective team training events at 65% of current training costs to

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

achieve the same training and mission rehearsal objectives.

- Fourteen innovative training prototypes are developed that allows training audiences to master 90% of training objectives.

JSS:

Short Term MOE:

- Joint Rapid Scenario Generation provides capability in two years to reduce time to prepare Joint Simulation databases from a period measured in months to one measured in days.

Long Term MOE:

- Eliminate one of three Joint Simulation database tests.

Exhibit R-2a, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E Defense Wide BA 06			R-1 Item Nomenclature: Training Transformation 0603757D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Joint National Training Capability, P758	43.260	39.668	23.599	24.127	25.014	25. 446	25.961

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: DoD directed USJFCOM to establish the JNTC Advanced Training Technology (JNTC/ATT) to develop future training concepts and capabilities. The mission is to develop the robust RDT&E capabilities that integrate Live, Virtual, and Constructive (LVC) elements into a seamless Joint training environment. JNTC creates Joint warfighting conditions through a networked collection of interoperable training sites, ranges, and nodes that synthesize personnel, doctrine, and technology to deliver and achieve "Joint Context" for COCOM and Service training requirements. JNTC provides research and development (R&D) within an LVC distributed test-bed supporting the advancement of training technologies in the context of a Joint integrated battle space. The test bed operates as a continuous training R&D environment, providing the foundation for a distributed and deployable Mission Rehearsal System, integrating live Intelligence, Surveillance and Reconnaissance feeding the Common Operational Picture. These funds provide critical Joint/Coalition Service members and interagency partner's enhanced training to allow requisite enhancements to existing training systems, capabilities, and technologies. These enhancements improve training efficiencies and provide an integrated LVC environment. This capability precludes the necessity for conducting large-scale live exercises to achieve the SECDEF's T2 vision.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

Cost ($ in millions)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal cost	43.260	39.668	23.599
RDT&E Articles Quantity	0	0	0

FY2007 Accomplishments:

- Developed the Initial Capabilities Document for the Joint Rapid Scenario Generator (JRSG) by implementing, JRSG into the Joint Capability Integration Document System process.
- Designed, developed, tested and evaluated JRSG proof of concept.
- Prototyped a knowledge management framework by providing access to digital libraries and distributing to centers of excellence in support of Standing Joint Force Headquarters training and mission rehearsal.
- Developed a real world database and distribution system for geospatial intelligence data and force data sharing to facilitate training and mission rehearsal capability.
- Developed Opposing Forces (OPFOR) Threat Systems to include service instrumentation, interoperability standards, weapons models,

Exhibit R-2a, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

simulated terrain, and virtual training capabilities.

- Established the JNTC/ATT Laboratory's initial infrastructure support to operate and maintain the robust RDT&E lab environment in support of the JNTC certification program. This certification program provides the "to be" standards and architecture identification, development, and support for multiple R&D projects in technical focus areas such as: networking, Joint Command and Control, instrumentation, data collection, after action review, opposing forces technologies, Live, Virtual, and Constructive technologies, knowledge management, information management, and training systems operations research.
- Prototyped, demonstrated, and began Initial Fielding of Joint After Action Review tool set.
- Established Joint Live, Virtual, and Constructive Testbed in the ATT Laboratory to support distributed simulation development with the Services.
- Agile Software Capability Intervention - Agile Software provided additional infrastructure and services necessary to reduce costs and increase responsiveness of software system and integration testing of the United States Joint Forces Command (USJFCOM) Joint Live Virtual Constructive (JLVC) training federation. This included program management, acquisition, certification and testing, and system engineering elements.
- Joint Warfare System (JWARS) provided a world-class core team of developers and knowledge brokers that develop, maintain, and field a joint campaign warfare model and simulation tool with the capacity to keep pace with the emerging challenges of the 21st century while retaining the analytical rigor originally implemented by Office of the Secretary of Defense.
- Playas Training and Research Center Joint Training Experiment developed and demonstrated a wireless instrumentation capability suitable for use in an urban training environment.
- Introduced the Joint Terrain Data Service, which provides the underlying simulated terrain data used by multiple Joint and Service simulations systems as part of the Joint Trainer Toolkit. This activity reduced training event support costs to Joint Forces Command, Combatant Commands and Service training elements by reducing or eliminating the need for duplicative terrain data producing services.
- Released enhancements to medical and logistics simulation capabilities within the Joint Live Virtual Constructive federation, enabling more robust and realistic training to Combatant Commands and Service training programs as part of the Joint Trainer Toolkit.

FY 2008 Accomplishments:

- Create new Modified Universal Joint Task architectures as based on lessons learned from Operation Enduring Freedom and Operation Iraqi Freedom focusing on intelligence task requirements. Maintain existing Joint Task Articles/Modified Universal Joint Task

Exhibit R-2a, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

architectures as changes occur.

- Certify Mitigation Solutions to be implemented in FY08 and Service-nominated Joint-Live Virtual Construction systems in accordance with Operation Management Process Action Team approved plan.
- Identify and recommend courses of action for achieving greater levels of Joint Service interoperability in support of Mission Rehearsals and an integrated joint training Live, Virtual, and Constructive environment.
- Integrate instrumentation capabilities into Joint training environment.
- Enhance and integrate space domain representations into Joint training environment.
- Develop and integrate Chemical, Biological, Radiological, Nuclear, and Explosive capabilities into the Joint training environment.
- Perform RDT&E in new and emerging technologies such as immersive virtual technologies, story driven training, light simulation/federations, massive-multiplayer online games, training objective driven simulations, embedded training, and Joint community unique simulations.
- Perform migration testing of training applications to the Global Information Grid infrastructure.
- Development of Opposing Forces (OPFOR) Capabilities: Continue development of Multi-Spectral Threat Emitter and Man Portable Air Defense Systems. Transition initial variants into production and training events. Initiate development support to the Joint Threat Emitter Block II upgrade. Develop Battlefield Communications Simulation system upgrades that address threats in the Maritime environment. Transition procured systems into training events. Continue Virtual Joint Suppression of Enemy Air Defenses development, transition the capability onto the Information Operations (IO) Range network and participate in appropriate exercises. Provide operability enhancements, expanded traffic simulation and detailed behavioral models for the Information Operations Traffic Generator. Expand use throughout the IO Range Network. Continue to develop concealment, countermeasures and decoy (CCD) equipment capabilities and technologies. Transition these CCD technologies to procurement and training events.
- Joint Instrumentation Capabilities: Develop air – ground interoperability functional requirements and initial Joint Multiple Independent Level of Security roadmap.
- Live, Virtual, and Constructive (and their integration) Capabilities: Begin development of net centric service oriented architecture for joint training in collaboration with the test community.
- Information/Knowledge Management Capabilities: Continue the development of the collaborative information environment tools, ensuring transition to the Net Centric Enterprise Solution, when available.
- Training System Capabilities: Field prototypes of Joint Terminal Control Training and Rehearsal System Virtual Trainer.

Exhibit R-2a, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

- After Action Review Capabilities: Demonstrate/Test and transition Joint After Action Review Resource Library spiral 2 Capability to operational use.
- Information/Knowledge Management Capabilities: Integrate the Collaborative Information Environment (CIE) based on the approved Net Centric products. Ensure that Net Centric Enterprise Services and the CIE integrate to provide a global collaborative planning capability for joint training. Develop an Enterprise capability from a Net Centric model providing the capability to track Joint requirements, cradle to grave.
- Continue research, planning and engineering to transition Joint Training and Experimentation Network (JTEN) to NextGen JTEN and complete Global Information Grid (GIG) alignment of the JTEN.
- Continue research to identify Commercial Off-The-Shelf/Government Off-The-Shelf alternative means of extending the JTEN to remote/austere locations and locations where security constraints do not permit persistent installation of JTEN service delivery points.
- Pursue research and development to mitigate or resolve identified Joint Training cross domain information sharing issues/shortfalls/gaps.
- Release version 1.0 of the Joint Multi-Resolution Model Federation / NATO Training Federation in February, 2008 as part of the Joint Training Toolkit. This capability will facilitate seamless training at both the tactical and operational levels of war, enhancing the training experience while reducing event simulation support costs.
- Release version 1.0 of the Joint Low Overhead Driver simulation which, as part of the Joint Training Toolkit, will increase the number of simulation objects within the training synthetic environment while reducing the number of required simulation operators and equipment. This will allow for a more realistic representation of the battle space, to include hostile, friendly and neutral weapon systems, personnel and equipment.

FY 2009 Plans:

- Develop robust observer training portable digital collection capability.
- Integration of additional Service feedback capabilities for joint feedback including missile defense analysis capability.
- Develop a light weight, low cost ground instrumentation expeditionary capability.
- Develop initial assessment for a common joint sensor network capability for the training ranges.
- Continue to enhance and integrate space domain representations into Joint training environment.
- Continue to develop and integrate Chemical, Biological, Radiological, Nuclear, and Explosive capabilities into the Joint training environment.

Exhibit R-2a, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

- Continue to perform RDT&E in new and emerging technologies such as immersive virtual technologies, story driven training, light simulation/federations, massive-multiplayer online games, training objective driven simulations, embedded training, and Joint community unique simulations.
- Continue to perform migration testing of training applications to Global Information Grid infrastructure (GIG).
- Complete transition of Messaging, Collaboration, Discovery, Mediation, and Information Assurance/Security Net Centric Enterprise Service (NCES) for training applications to GIG Infrastructure.
- Continue to perform migration testing and transition of Application, Enterprise Service Management, Storage, and User Assistant NCES for training applications to GIG Infrastructure.
- OPFOR Capabilities: Upgrade Battlefield Communications Simulation System (BCSS) to provide additional BLUFOR intelligence, surveillance & reconnaissance (ISR) training, tactics & procedures (TTPs) opportunities. Transition upgraded systems into training events. Provide Maritime Threat System development for emerging capability in the littoral environment. Fully integrate Virtual Joint Suppression of Enemy Air Defenses development into the IO Range network and participate in an increasing number of exercises. Develop traffic simulation algorithms and detailed behavioral models for the Information Operations Traffic Generator. Expand use throughout the IO Range Network. Initiate Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE) OPFOR Capabilities development. Continue concealment, countermeasures and decoy CCD) equipment capabilities and technologies development. Procure these CCD technologies and transition them to training events. Continue development of Multi-Spectral Threat Emitter full effective radiated power (ERP), reactive response, mobility and remote command & control (C2) capabilities. Transition these upgraded variants into production and training events. Continue development support to the Joint Threat Emitter Block II upgrade.
- Continue the development of the collaborative information environment tools, ensuring transition to the Net Centric Enterprise Solution, when available. Develop transition plans for the developed systems to integrate into Net Centric Enterprise Service solutions for Information/Knowledge Management Capabilities.
- Complete research, planning and engineering to transition JTEN to NextGen JTEN and complete GIG alignment of the JTEN.
- Complete research to identify customer off the shelf/government off the shelf alternative means of extending the JTEN to remote/austere locations and locations where security constraints do not permit persistent installation of JTEN service delivery points.
- Continue research and development efforts to mitigate or resolve identified Joint Training cross domain information sharing issues/shortfalls/gaps.

Exhibit R-2a, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

- Plan to release version 2.0 of the Joint Multi-Resolution Model Federation / NATO Training Federation as part of the Joint Trainer Toolkit. This capability will improve tactical-to-operation level of warfare interactions and incorporate additional logistics and intelligence functionality.
- Plan to release Joint Rapid Scenario Generation target and infrastructure service as part of the Joint Trainer Toolkit. This activity will reduce training event support costs to Joint Forces Command, Combatant Commands and Service training elements by reducing or eliminating the need for duplicative target and infrastructure data producing services.

C. OTHER PROGRAM FUNDING SUMMARY: The Joint National Training Capability program also includes funds $57M of O&M and $16M of Procurement funding for FY08.

D. ACQUISITION STRATEGY: Not applicable.

E. MAJOR PERFORMERS:

Recipients	City/State	Description
General Dynamics	Suffolk, VA	Joint Advanced Training Technology Lab (JATTL) support, Award date Feb 2004

Exhibit R-2a, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E Defense Wide BA 06			R-1 Item Nomenclature: Training Transformation 0603757D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Joint Training Capability Analysis of Alternatives (TCAoA), P759	9.052	10.214	3.686	0.746	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Joint Force Trainer supports development capabilities in Joint simulations to eliminate training gaps identified by the COCOMs and in accordance with SECDEF's T2 objectives. In accordance with the Unified Command Plan (2004), USJFCOM JWFC leads the development and implementation of system architectures that directly support distributed Joint training requirements of the other COCOMs, Joint Task Forces, and Defense Agencies. The underlying premise of TCAoA centers on privatization of training support and development with the competitive market forces driving the development of technologies to reduce the cost of training. The creation of a JFCOM Joint Oversight Board establishes a governance process to review the effectiveness of the tools and the providers. Management of the toolkit, which is a set of capabilities, and system certified technologies that are interoperable and acceptable for usage within the Joint training environment. This Joint Force Trainer Toolkit supports Joint Exercises, Doctrine, Lessons Learned, Distributed Learning and Modeling & Simulation will be a government-led Consortium with industry and academia that ensures the tools in the toolkit comply with the requirements of the common architecture. A number of emerging technologies from Industry, Government and Academic sources that offer the greatest potential to reengineer Joint training will be identified for training use. These technologies include Light Simulations, Light Federations, Story-Driven Training, Massively-Multi-player Games, Training Objective Driven Simulation, Embedded Training, and Joint Community Unique Simulations.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

Cost ($ in millions)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal cost	9.052	10.214	3.686
RDT&E Articles Quantity	0	0	0

FY 2007 Accomplishments:

- Analyzed the National Guard Bureau's training and certification requirements to train its 17 Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) Enhanced Response Force Package teams and included requirements in NGB training package.
- Developed an innovative acquisition strategy and a performance based work statement to support the National Guard Bureau with an innovative training package for its role for in Homeland Defense, specifically in CBRNE incident management.
- Established web-based Order of Battle Services editor to distribute data preparation and review to shorten Joint Event Life Cycle (JELC) process and reduce associated costs.

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

FY 2007 Accomplishments:

- Integrated Joint Integrated Database Production System Terrain Production System with Geospatial Intelligence Management proof of principle.
- Automated terrain source data acquisition and management to reduce cost and improve source data quality.
- Extended range of terrain export formats to include Joint Semi-Automated Forces and Army OneSAF Objective System to improve interoperability and minimize redundant competing efforts.
- Developed an initial capability for Force Lay-down by integrating order of battle data with terrain data.
- Developed a prototype capability for correlating targeting data from intelligence databases with terrain data to improve interoperability.
- Increased scale of the Joint, Live, Virtual, and Constructive Federation to support an exercise that trains all levels.
- Researched the M&S tools available and populated the web-based tool vendor's site for use by government, academia, and industry that could be used in satisfying requirements for implementation and evaluation of training prototypes.
- Analyzed Light Simulations and Intel Model.
- Provided Joint Training Facilitator Specialist (JTFS) to COCOM staffs to support Joint Training Program (Individual /Staff training) services. The primary function is to provide joint training facilitation for the commander within the four phases of the Chairman of the Joint Chiefs of Staff Joint Training System: Requirements, Plans, Execution, and Assessment. JTFS also provide expertise on the policy, plans, procedures, actions, and milestones necessary for efficient conduct of COCOM individual and staff joint training in accordance with reference documents.

FY 2008 Accomplishments:

- Develop a comprehensive innovative collective training package for a unit comprising a Chemical, Biological, Radiological, Nuclear, and Explosive Enhanced Response Force Package (CERFP).
- Develop and deliver a training package through an innovative acquisition strategy to recertify a 186 man National Guard, CERFP unit headquartered in Austin, Texas in May 2008.
- Provide additional CERFP recertification training to the CERFP teams at Columbus, Ohio [March], Omaha, Nebraska [June], and Arden Hills, Minnesota [September].
- Continue to provide Joint Training Facilitator Specialist to COCOM staffs to support development, evaluation, and integration of
-

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

innovative and emerging training technologies into COCOM individual and staff joint training programs.

- Deliver first Innovative Training Prototype: Virtual Culture Awareness Language Trainer (VCALT). VCALT will incorporate the use of advanced gaming technology enablers such as avatars, intelligent tutors, storytelling, remediation, and Level 4 interactivity on Joint Knowledge Online (JKO). Purpose of VCALT is to train Joint, Interagency, Intergovernmental, and Multinational players deployed to United States Central Command (CENTCOM) AOR on foreign culture awareness. VCALT will allow users to use their basic language skills to virtually experience selected culture scenarios in a web-based immersive learning environment.
- Deliver second Innovative Training Prototype: Interagency Coordination Training with United States Northern Command (USNORTHCOM). This training prototype focuses on Operational Planning and employs a four step template that bridges Individual to Collective Training by including a distributed web based immersive learning environment for Section Training and Cross Staff Section Training. Prototype directly addresses validated DOD training capability gaps and seems to improve interagency and multi-national participation during training exercises.
- Enhance targeting and terrain data correlation.
- Improve capabilities for integrating order of battle, targeting and terrain data.
- Extend Geospatial Integrated Data Management enterprise network to promote terrain data sharing across DoD in support of all M&S initiatives.
- Develop a distributed data services capability designed to reduce exercise costs for the Department of Defense.
- Establish open standards for data models and federation object models to reduce integration costs.
- Develop prototype COCOM training capabilities based on the following technologies; Massively Multiplayer Games, Story-Driven Training, and Light Simulations/Federations.
- Develop a use case for training United States Africa Command (AFRICOM) staff in mission rehearsal using non-kinetic scenarios.
- Develop criteria for training situations and metrics for evaluation of training.

FY 2009 Plans:

- Provide CERFP recertification to the CERFP teams located in Ellenwood, Georgia, Ft Pickett, Virginia and Camp Dawson, West Virginia.
- Enhance emerging technologies such as immersive virtual technologies, story driven training and massive-multiplayer online game technology to develop two new prototypes for Joint community unique simulations in support of TC AoA gaps.

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

- Enhance existing web-based, immersive technologies simulations to enable advanced problem solving and leadership skills for the Joint, Interagency, Intergovernmental and multi-national players deployed in Global War on Terrorism.
- Develop an over-arching gaming technology strategy that is joint training focused, yet, coordinated with Service training capability requirements and R&D plans to identify future innovative prototypes and acquisition strategies (long term Measures of Effectiveness).
- Enhance information operations by modeling computer-network attack and defense.
- Implement a psychological operations capability in the Joint, Live, Virtual, and Constructive Federation.
- Develop architecture for a NATO training federation, and implement a live, virtual, and constructive capability to support NATO events.
- Establish data services for terrain, targeting, and infrastructure, to provide faster and higher-fidelity mission rehearsals.
- Deliver COCOM gaming technology and analyze the effectiveness of using Massively Multiplayer Games, Story-Driven Training, and Light Simulations/Federations for COCOM training requirements.

C. OTHER PROGRAM FUNDING SUMMARY: Not applicable.

D. ACQUISITION STRATEGY: Not applicable.

E. MAJOR PERFORMERS:

Recipients	City/State	Description
TBD	TBD	Joint Training Data Services

Exhibit R-2, RDT&E Budget Item Justification		Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06		R-1 Item Nomenclature: Training Transformation 0603757D8Z
TBD	TBD	Comprehensive training package supporting the National Guard Bureau in the expansive mission as Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) incident management for Homeland Defense
Northrop Grumman	Suffolk, VA	Virtual Culture Awareness Language Trainer (VCALT) and Interagency Coordination prototypes.

Exhibit R-2a, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E Defense Wide BA 06			R-1 Item Nomenclature: Training Transformation 0603757D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Joint Combined Training Centre, P760	4.230	0	1.798	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: At the July 2004 Australia/US Ministerial Consultations (AUSMIN), the SECDEF signed an Australian – United States Joint Statement of Principles of Interoperability and affirmed the development of a Joint/Combined Training Centre (JCTC). The end-state for the JCTC is to enhance coalition training in Joint/Combined mission essential tasks in order to assess operational capability and preparedness, improve interoperability, facilitate capability development and develop recommended solutions, and enhance regional security. The JCTC will link DoD's Joint National Training Capability (JNTC) as part of the Global Joint Training Infrastructure via United States Pacific Command's Pacific (USPACOM) Gaming and Simulation Facility and eventually USPACOM Pacific Warfighting Center as a cooperative collection of training sites, nodes, simulations, and events. This strategic initiative has an AU$23 million commitment from Australia that requires U.S. funding enhancement to prevent possible withdrawal of Australia from the project thus reducing coalition readiness in emerging world situations.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

Cost ($ in millions)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal cost	4.230	0	1.798
RDT&E Articles Quantity	0	0	0

FY2007 Accomplishments:

- Commissioned a Program Study of desired capabilities as described in the JCTC scoping study. This study established the Modeling and Simulation baseline systems to support Australian participation with the US Joint training community, the technical requirements for US-Australian network interconnection and finally discover the policy and technical requirements to satisfy Multinational Information Sharing for authorizing network interconnection.
- Established connectivity between USPACOM and Australia JCTC Management Center.
- Prepared instrumented ranges as described in the JCTC scoping study to support a proof of concept demonstration.
- Leased and transported supporting architecture for a deployable and/or permanent live, virtual, and constructive environment to support proof of concept demonstration.

FY 2008 Accomplishments: Not applicable.

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

FY 2009 Plans:

- Advance the US-Australia Joint Combined Training Capability (JCTC) by researching, developing, designing, and testing of the JCTC which will include: Australian range instrumentation, conducting environmental studies, refining and implementing AS / U.S. training network architecture, and enhancing or modifying simulation systems for bilateral use.

C. OTHER PROGRAM FUNDING SUMMARY: Not applicable.

D. ACQUISITION STRATEGY: Not applicable.

E. MAJOR PERFORMERS:

Recipients	City/State	Description
SPAWAR,PACOM	Canberra, Australia and Hawaii	Fund manpower for engineering, technical support, consulting services and project management in support of JCTC research.

Exhibit R-2a, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E Defense Wide BA 06			R-1 Item Nomenclature: Training Transformation 0603757D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Joint Simulation Systems (JSS), P761	10.144	10.642	9.646	9.682	9.816	9.837	10.100

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Secretary of Defense tasked USJFCOM with the responsibility for maintaining JSS software and establishing a Software Support Facility (SSF) at the Joint Warfighting Center (JWFC), pending the results of a Training Capabilities Analysis of Alternatives (TCAoA). As a result of the TCAoA findings, JWFC will fund development capabilities in Joint simulations to eliminate COCOM identified training gaps. JWFC provides the Joint training environment with the ability to insert emerging research and development technology to enhance existing systems in Joint, Live, Virtual and Constructive (JLVC) and Joint Multi-Resolution Model training architectures. In accordance with Unified Command Plan 04, USJFCOM leads the development, integration, and operation of systems and architectures that directly support distributed Joint training requirements of other COCOMs, Joint Task Forces, and Defense Agencies.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

Cost ($ in millions)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal cost	10.144	10.642	9.646
RDT&E Articles Quantity	0	0	0

FY 2007 Accomplishments:

- Increased the size, scope, depth and fidelity of the scenarios for the Joint Live, Virtual, and Constructive Training Federation to support a Combatant Command Exercise that trained all personnel for the Combatant Commander to the individual soldier. The JLVC is an entity-based federation comprised of multiple service representation models, intelligence models, a logistics model, virtual simulators, live force instrumentation systems, and simulation to Command and Control systems interfaces.
- Produced exportable version of the Joint Multi-Resolution Model.
- Developed the capability to model civilian populations and infrastructure to represent non-kinetic effects within a Stability and Support Operation.
- Developed a weather model for the Joint, Live, Virtual, and Constructive training federation to support natural disaster scenarios.
- Enhanced logistics modeling-and-simulation capabilities to fully support global deployment requirements of U.S. Transportation Command.
- Increased air and maritime fidelity for the Joint Theater Level Simulation to improve training for combatant and component commands.

Exhibit R-2a, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

- Enhanced communications between simulations and command, control, communications, computers, and intelligence systems, which reduce exercise costs.
- Enhanced asymmetric-threat and urban-operations modeling to support combatant commands' joint training for the Global War on Terrorism.

FY 2008 Accomplishments:

- Enhance the Joint Conflict and Tactical Simulation, Low Overhead Driver to reduce exercise operation costs.
- Incorporate chemical, biological, radiological, and nuclear effects into the Joint, Live, Virtual, and Constructive Federation.
- Enhance electronic warfare, or jamming, in the Joint, Live, Virtual, and Constructive Federation.
- Implement a civilian infrastructure model in the Joint Theater Level Simulation.
- Provide distributed data services to reduce exercise costs for the Department of Defense.
- Establish open standards for data models and federation object models to reduce integration costs.
- Incorporate USJFCOM's Joint Experimentation directorate with the U.S. Army non-kinetic effects model into the Joint, Live, Virtual, and Constructive Federation.

FY 2009 Plans:

- Enhance information operations by modeling computer-network attack and defense.
- Implement a psychological operations capability in the Joint, Live, Virtual, and Constructive Federation.
- Establish data services for terrain, targeting, and infrastructure, to provide faster and higher-fidelity mission rehearsals.

C. OTHER PROGRAM FUNDING SUMMARY: Not applicable**.**

D. ACQUISITION STRATEGY: Not applicable

Exhibit R-2a, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

E. MAJOR PERFORMERS:

Recipients	City/State	Description
Lawrence Livermore	Suffolk, VA	Joint Conflict and Tactical Simulation (JCATS)
Northrop Grumman	Suffolk, VA	Joint Support Team/JSSF Contract Support
Northrop Grumman	Orlando, FL	Joint Support Team/JDIF Contract Support
Rolands&Associates	Monterey, CA	Joint Theater Level Simulation (JTLS)

Exhibit R-2a, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E Defense Wide BA 06			R-1 Item Nomenclature: Training Transformation 0603757D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Joint Integrated Information Operations Range/JNTC (JIIOR), P762	9.991	0	0	0	0	0	0

JIIOR was transferred to Support Information Operations Capability PE 0303166D8Z, starting in FY 2008.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The National Military Strategy of the United States stresses the importance of integrating Information Operations (IO) capabilities for the success of Joint Operations and Decision Superiority. "Assuring information systems in the face of attack and conducting effective Information Operations" was one of the six critical operational goals in DoD's transformation efforts (2001 Quadrennial Defense Review). In addition, the DoD IO Roadmap, signed on 30 October 2003, explicitly identified DoD's need for the IO Range. The FY04-09 Defense Planning Guidance stated the need to expand IO training and education for the developing cadre of IO professionals and provide an environment for analysis, testing, training, combat assessments, and measures of effectiveness for more reliable IO capabilities. Deputy SECDEF Memorandum on the IO Range signed 18 November 2005 established the requirement for creating a cooperative information operations range among military services under the leadership of USJFCOM.

The basis of the functional structure of the IO Range is the integration of existing ranges, laboratories, information warfare centers, and other Government facilities that currently support IO test, training, exercise, and experimentation events. Capabilities at the selected sites will be securely connected and integrated into IO Range. A key feature of this concept is the persistent, secure connection that links the sites together, allowing the exchange of data and the visualization of effects as capabilities are employed. Creation of a "virtual range" based on persistent connections significantly reduces the amount of lead-time required to set up each new warfighter event. The long-term goal for the IO Range is to be a full spectrum IO Range, supporting all the disciplines of IO Operational Security, computer network operations, electronic warfare, psychological operations, and military deception.

In short, the IO Range provides an environment enabling the Services and COCOMs to visualize non-kinetic weapons effects, understand the intricate and interactive effects generated by kinetic and non-kinetic weapons, and achieve the same level of confidence and expertise in employing IO weapons that they have with kinetic weapons.

Exhibit R-2a, RDT&E Budget Item Justification			Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06		R-1 Item Nomenclature: Training Transformation 0603757D8Z	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
Cost ($ in millions)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal cost	9.991	0	0
RDT&E Articles Quantity	0	0	0

FY 2007 Accomplishments:

- FY07 Events executed: Terminal Fury 07, Red Flag (AF), Alternate Current (AF), Talisman Saber 07 Part A (USPACOM), Mission Employment (AF), Talisman Saber 07 Part B (USPACOM), Pirate's Dagger (STRATCOM, JFCOM J9), Virtual Customer.
- Integrated additional events (COCOM, Service and Testing) to meet mission requirements.
- Established 15 Service Delivery Points and or Transportable Service Delivery Points at Service, OCONUS, Coalition, and other government agency sites.
- Expanded the IO Range backbone beyond the Defense Research and Engineering Network (DREN) to include JTEN and Energy Science Network
- Implemented back-up and recovery redundancy systems for Network Operations Center (NOSC).
- Began development of an alternate NOSC.
- Began implementation of event specific visualization capabilities.
- Pursued Oracle’s Cross-Domain Security Solution framework.
- Processed over 60 requirements submitted by COCOMs, Services, and other government agencies for use of the IO Range.
- Established and matured the Requirements Analysis Group, Requirements Core Group, and Requirements Working Group.
- Developed and refined Systems Security Authorization Agreement for the IO Range.
- Received DREN Authorization to Operate certification.
- Established an IOR COMSEC program.
- Participated in Red Team/Blue Team evaluation.
- Established personnel, physical, and AIS self-inspection checklists.
- Participated in Phase 1 assessment by National Assessment Group.
- Began work on spiral development for Electronic Warfare, Computer Network Defense and Psychological Operations.
- Established a Senior Advisory Group and Joint Integrated Process Team.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E Defense Wide BA 06	R-1 Item Nomenclature: Training Transformation 0603757D8Z

FY 2008 Accomplishments: Not applicable**.**

FY 2009 Plans: Not applicable.

C. OTHER PROGRAM FUNDING SUMMARY: Not applicable**.**

D. ACQUISITION STRATEGY: Not applicable.

E. MAJOR PERFORMERS:

Recipients	City/State	Description
Booz Allen and Hamilton	Suffolk, VA	Manage implementation and operation of the IO Range.

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			R-1 Item Nomenclature: Defense Readiness Reporting System, PE 0604774D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	13.231	11.784	11.385	11.427	4.245	6.374	6.523
Defense Readiness Reporting System, P774	13.231	11.784	11.385	11.427	4.245	6.374	6.523

A. Mission Description and Budget Item Justification:

This funding supports Defense Planning Guidance (DPG) direction to the Department of Defense (DoD) components to develop guidelines and procedures for a comprehensive readiness reporting system that evaluates readiness on the basis of the actual missions and capabilities assigned to the forces. The Defense Readiness Reporting System (DRRS) is a real change in how DoD thinks about, plans for, and assesses the ability of the Armed Forces to conduct operations. The DRRS is evolving to meet the need of force providers such as U.S. Joint Forces Command (JFCOM) to identify units that have, or can quickly develop, the capabilities requested by theater commanders. DRRS is designed to track detailed information on what forces, and even individuals, can do on a near-real-time basis. DRRS provides force managers at all levels the tools and information to respond to emerging crises and the ability to assess the risks of conducting such operations. The DRRS is a major transformation, moving the focus of force managers from reporting unit readiness to managing force capabilities. Specifically, it represents a shift from:

- resources to capabilities—inputs to outputs
- deficiencies to their implications
- units to combined forces
- front-line units to all units contributing to front-line operations.

The system is designed to come much closer to the goal of understanding "ready for what?" DRRS is a secure, web-based information system describing the status of organizations that contribute to the warfighting mission. It is built around explicit measures of performance relative to assigned standards, resources, and force sustainment. The system provides:

- An evolution of the traditional input view. DRRS contains an empirical description of the quantity and quality of resources for all units in the warfighting system.
- Mission assessments. DRRS provides a vehicle for each organization from individual units to combined forces to report on its ability to achieve the performance standards of its mission-essential tasks under the conditions of the assignments. Commanders can compare their unit's actual performance for each measure with the established criteria. With this information and the resource data discussed above, they can assess the organization's ability to accomplish individual tasks and the task list as a whole.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Defense Readiness Reporting System Program Element Name and Number: PE 0604774D8Z

DRRS development is as a combined effort of the Services, Defense agencies, Joint Staff, and Combatant Commanders. Its products (metrics describing various aspects of DoD health and capability, both inputs and outputs, objective and evaluative) are directly reported throughout the Department and used to support contingency sourcing and adaptive planning.

The realization of DRRS requires integrating a host of key technologies in order to achieve an information system that supports distributed, collaborative, and dynamic readiness reporting in addition to continuous tool-based assessment. The primary technical goal is the creation of a highly reliable and securely integrated readiness data environment.

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous Budget Estimates Submission	13.146	11.886	11.405
Current Budget Estimates Submission	13.231	11.784	11.385
Total Adjustments	0.085	-0.102	-0.020
Congressional program reductions	0	-0.102	0
Congressional increases	0	0	0
Reprogrammings	0	0	0
SIBR/STTR Transfer	0	0	0
Other	0.085		-0.020

Change Summary Explanation: The FY 2007 program value reflects adjustments at the Department level. FY 2008 reflects Congressional reductions of -$0.027 for FFRDCs, -$0.019 for Contractor Efficiencies, and -$0.056 for Economic Assumptions. FY 2009 reflects program adjustments for inflation.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Defense Readiness Reporting System, PE 0604774D8Z

E. Performance Metrics:

- Ability of Combatant Commands to assess current operations and war plans based on actual forces that would be assigned
- Mapping of Joint Capability Areas (JCAs) to joint services and agency tasks to usable total force and mission capability assessments
- Complete the integration of active Guard and Reserve
- Expanding readiness assessments to all DoD organizations, including installations and facilities
- Transition to one readiness reporting system for DoD.

Comment [b1]:

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Defense Readiness Reporting System, P774				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Defense Readiness Reporting System, P774	13.231	11.784	11.385	11.427	4.245	6.374	6.523
RDT&E Articles Quantity	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

This funding supports Defense Planning Guidance (DPG) direction to the Department of Defense (DoD) components to develop guidelines and procedures for a comprehensive readiness reporting system that evaluates readiness on the basis of the actual missions and capabilities assigned to the forces. The Defense Readiness Reporting System (DRRS) is a real change in how DoD thinks about, plans for, and assesses the ability of the Armed Forces to conduct operations. The DRRS is evolving to meet the need of force providers such as U.S. Joint Forces Command (JFCOM) to identify units that have, or can quickly develop, the capabilities requested by theater commanders. DRRS is designed to track detailed information on what forces, and even individuals, can do on a near-real-time basis. DRRS provides force managers at all levels the tools and information to respond to emerging crises and the ability to assess the risks of conducting such operations. The DRRS is a major transformation, moving the focus of force managers from reporting unit readiness to managing force capabilities. Specifically, it represents a shift from:

- resources to capabilities—inputs to outputs
- deficiencies to their implications
- units to combined forces
- front-line units to all units contributing to front-line operations.

The system is designed to come much closer to the goal of understanding "ready for what?" DRRS is a secure, web-based information system describing the status of organizations that contribute to the warfighting system. It is built around explicit measures of performance relative to assigned standards, resources, and force sustainment. The system provides:

- An evolution of the traditional input view. DRRS contains an empirical description of the quantity and quality of resources for all units in the warfighting system.
- Mission assessments. DRRS provides a vehicle for each organization from individual units to combined forces to report on its ability to achieve the performance standards of its mission-essential tasks under the conditions of the assignments. Commanders can compare their unit's actual performance for each measure with the established criteria. With this information and the resource data discussed above, they can assess the organization's ability to accomplish individual tasks and the task list as a whole.

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number Defense Readiness Reporting System, P774

DRRS development is as a combined effort of the Services, Defense agencies, Joint Staff, and Combatant Commanders. Its products (metrics describing various aspects of DoD health and capability, both inputs and outputs, objective and evaluative) are directly reported throughout the Department and used to support contingency sourcing and adaptive planning.

The realization of DRRS requires integrating a host of key technologies in order to achieve an information system that supports distributed, collaborative, and dynamic readiness reporting in addition to continuous tool-based assessment. The primary technical goal is the creation of a highly reliable and securely integrated readiness data environment.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	13.231	11.784	11.385
RDT&E Articles Quantity	0	0	0

FY 2007 Accomplishments:

- Continued ESORTS deployment to installations and other parts of the infrastructure
- Continued to refine customizable Resource displays
- Continued the transition of GSORTS to ESORTS
- Fielded Service ESORTS input tools
- Completed integration of National Guard and Reserves to include JFHQ-State readiness
- Developed an initial Language Readiness Index capability
- Developed an initial capability to identify potential Reserve organizations from a pool of remaining forces
- Continued the development of the Global Visibility Tool to support GFM
- Fielded initial Business Intelligence tool to enhance ad hoc query capability
- Integrated with mobility and transportation models
- Enhanced current risk and scenario assessment capability
- Fielded initial risk assessment tools including collaborative software
- Continued to develop a Distributed Data environment and an extensive use of web services

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number Defense Readiness Reporting System, P774

- Developed an initial On-line global Request For Forces / Request For Capability function
- Began initial work on integration of current JCA Assessment process
- Provided the capability for Joint Task Forces to assess their readiness to execute current operations and war plans
- Began the integration with DHS National Preparedness System
- Began the integration of JTIMS into DRRS

FY 2008 Plans:

- Continue development and begin fielding of the Global Visibility Tool to support GFM
- Software lifecycle support
- Continue refinement of data architecture
- Data quality improvement
- Data latency improvement
- Continue development and fielding of capabilities identified in FY07
- Complete the fielding of a Language Readiness Index capability
- Continue the integration of National Guard and Reserves to include Title 32 and State mission readiness
- Continue development and fielding of a capability to identify potential Reserve organizations from a pool of remaining force
- Continue fielding enhanced Business Intelligence tools to further enhance ad hoc query capability
- Complete the Distributed Data Environment
- Complete risk assessment tools including collaborative software
- Continue to improve the On-line global RFF / RFC capability
- Continue work on integration of current JCA Assessment process as it matures
- Continue the integration with DHS National Preparedness System
- Complete the integration of JTIMS into DRRS
- Develop an initial capability to support training range readiness assessments

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number Defense Readiness Reporting System, P774

FY 2009 Plans:

- Continue development and fielding of the Global Visibility Tool to support GFM
- Continue Software lifecycle support
- Continue refinement of data architecture
- Continue data quality improvement
- Continue data latency improvement
- Continue development and fielding of capabilities identified in FY 2008

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0604875D8Z - Joint Systems Architecture Development (JSAD)**

	COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
	Total Program Element (PE) Cost	9.869	14.312	14.310	14.682	14.601	14.590	14.622
P875	Joint Systems Architecture Development (JSAD)	9.869	9.705	9.479	9.448	9.450	9.450	9.450
P876	Portfolio Systems Acquisition (PSA)		4.607	4.831	5.234	5.151	5.140	5.172

A. Mission Description and Budget Item Justification: The Quadrennial Defense Review (QDR) and acquisition reform initiatives call for top down, national security strategy-driven capabilities-based planning. Department of Defense (DoD) Instruction 5000.2 and Chairman of the Joint Chiefs of Staff Instruction 3170.01D promulgate capabilities-based requirements and acquisition processes. The JSAD program enables collaborative efforts to achieve these goals. These efforts include providing support to conduct warfighting capability-based analyses; performing assessments of joint capability areas and joint integrating concepts; developing and supporting needed sets of system and system-related data; developing and applying systems engineering methodologies and tools; creating integrated roadmaps to support acquisition investment decisions; and performing assessments of major defense acquisition programs and major automated information systems in a capability area context. Activities in the JSAD project are divided into three areas: capability based analyses, roadmaps, and support tools and guidance. Capability-based analyses provide analysis of the different technology, functionality, and integration impacts of systems on warfighting capability, which forms the basis for initial systems engineering. Acquisition roadmaps guide systems development and associated investment plans. JSAD support tools and guidance initiatives develop systems engineering methods, systems data, and tools, exploit modeling and simulation and architecture efforts to improve DoD's overall assessment capability. These efforts guide the development and improve the testing and fielding of integrated systems of systems in order to achieve Joint mission capabilities.

The QDR also lays out the need for an institutional reorientation or shift in emphasis from organization-specific to enterprise-wide approaches. This means: 1) horizontal integration within the Department and unity of effort through greater interagency collaboration, 2) engaging in a coordinated and portfolio-based approach to planning, programming, budgeting and execution, and 3) significant reforms at the governance, management and execution levels. To accomplish this direction, there needs to be a focused goal and concerted emphasis on shifting from systems acquisition to capabilities-based portfolio management (or portfolio systems acquisition). Starting in FY 2008, this program enables collaborative efforts to implement the QDR direction outlined above in order to achieve portfolio systems acquisition goals. The program is broken up into two focus areas (Portfolio Management and Reform Initiatives) and consolidates work previously performed under various other Program Elements.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	9.337	14.437	14.336
Current BES/President's Budget (FY 2009)	9.869	14.312	14.310
Total Adjustments	0.532	-0.125	-0.026
Congressional Program Reductions			

Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other	0.532	-0.125	-0.026

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
07	See below					
08	See below					
09	See below					

Comment: Comment: FY 2007 Accomplishments:
-Approximately 40 reviews of acquisition programs
  --Program Support Reviews, e.g., CJR, H-1, V-22, ACS, BAMS, MPS, H-1, VH-71, KC-X
  --Nunn-McCurdy Certifications, e.g., WIN-T, JASSM, EFV, JPATS, GMLRS, C-130 AMP, ACWA
  --Operational Test Readiness, e.g., MPS, LPD-17, Stryker, Global Hawk
  --Special Assessments, e.g., JAGM, IAMD-MEADs, ARH
-Sponsored and chaired development of CMMI-Acquisition model in partnership with General Motors Corp; published guidebook for acquirers
-Developed and coordinating guidebook for system assurance
-Piloted draft system of systems (SoS) engineering guide with 20+ organizations
-Provided technical and analysis support for Concept Decision (CD) Evaluation of Alternatives (EoA) pilot programs (AT&L Goal 2.1 and 2.2):
-Demonstrated a risk-based knowledge management tool supporting IAMD EoA analysis

-Developed enhancement of the Matrix Mapping Tool that supported IAMD EoA and Joint IAMD Summit analysis
-Provided Special Access Program Multi-Level Security (MLS) facility and collaborative work environment for A&T, JS, and PA&E use required to support two of the CD Pilots (IAMD & GS-R)

FY 2008 Plans:
-Approximately 40 reviews of acquisition programs
  --Program Support Reviews, e.g., CJR, H-1, V-22, ACS, BAMS, MPS, H-1, VH-71, KC-X
  --Nunn-McCurdy Certifications, e.g., WIN-T, JASSM, EFV, JPATS, GMLRS, C-130 AMP, ACWA
  --Operational Test Readiness, e.g., MPS, LPD-17, Stryker, Global Hawk
  --Special Assessments, e.g., JAGM, IAMD-MEADs, ARH
-Publish guidebook for System of Systems Engineering
-Develop and coordinate guidebook for system assurance, piloting draft guidance with several acquisition programs
- Use risk-based knowledge management tool for IAMD EoA analysis
-Continue enhancement of the Matrix Mapping Tool that supported IAMD EoA and Joint IAMD Summit analysis

FY 2009 Plans:

-Planning approximately 50 reviews of acquisition programs
-Systemic analysis of review data to develop predictive diagnostics of program progress
-Review and approval of Program Protection Plans in support of milestone decisions

FY 2008/2009 Plans (P876):
The (P876) project is broken up into two focus areas and consolidates work previously performed under various other Program Elements. The first focus area funds portfolio management efforts. The second focus area funds reform initiatives and activities associated with our program evaluation responsibilities. Portfolio management efforts will include the development and implementation of integrated roadmaps, cross-cutting portfolio reviews, development of metrics for portfolio management, and implementation of governance reforms to include concept decisions, evaluation of alternatives, capital budgeting activities, and improvements to program management. This project will fund analysis in several portfolio areas including rotary wing aviation modernization, unmanned systems, shipbuilding, joint conventional munitions, prompt global strike, and support to our homeland defense mission. Program evaluation efforts will ensure that reforms and activities result in decreased program development cycle times, decreased costs, and more predictable performance in our weapons program.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0604875D8Z - Joint Systems Architecture Development (JSAD)**	**P875**

	COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P875	Joint Systems Architecture Development (JSAD)	9.869	9.705	9.479	9.448	9.450	9.450	9.450

A. Mission Description and Budget Item Justification: The Quadrennial Defense Review (QDR) and acquisition reform initiatives call for top down, national security strategy-driven capabilities-based planning. Department of Defense (DoD) Instruction 5000.2 and Chairman of the Joint Chiefs of Staff Instruction 3170.01D promulgate capabilities-based requirements and acquisition processes. The JSAD project enables collaborative efforts to achieve these goals. These efforts include providing support to conduct warfighting capability-based analyses; performing assessments of joint capability areas and joint integrating concepts; developing and supporting needed sets of system and system-related data; developing and applying systems engineering methodologies and tools; creating integrated roadmaps to support acquisition investment decisions; and performing assessments of major defense acquisition programs and major automated information systems in a capability area context. Activities in the JSAD project are divided into three areas: capability based analyses, roadmaps, and support tools and guidance. Capability-based analyses provide analysis of the different technology, functionality, and integration impacts of systems on warfighting capability, which forms the basis for initial systems engineering. Acquisition roadmaps guide systems development and associated investment plans. JSAD support tools and guidance initiatives develop systems engineering methods, systems data, and tools, exploit modeling and simulation and architecture efforts to improve DoD's overall assessment capability. These efforts guide the development and improve the testing and fielding of integrated systems of systems in order to achieve Joint mission capabilities.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2007 Accomplishments:	9.869	9.705	9.479

Approximately 40 reviews of acquisition programs
--Program Support Reviews, e.g., CJR, H-1, V-22, ACS, BAMS, MPS, H-1, VH-71, KC-X
--Nunn-McCurdy Certifications, e.g., WIN-T, JASSM, EFV, JPATS, GMLRS, _C-130 AMP, ACWA
--Operational Test Readiness, e.g., MPS, LPD-17, Stryker, Global Hawk
--Special Assessments, e.g., JAGM, IAMD-MEADs, ARH
-Sponsored and chaired development of CMMI-Acquisition model in partnership with General Motors Corp; published guidebook for acquirers
-Developed and coordinating guidebook for system assurance
-Piloted draft system of systems (SoS) engineering guide with 20+ organizations
-Provided technical and analysis support for Concept Decision (CD) Evaluation of Alternatives (EoA) pilot programs (AT&L Goal 2.1 and 2.2):
-Demonstrated a risk-based knowledge management tool supporting IAMD EoA analysis
-Developed enhancement of the Matrix Mapping Tool that supported IAMD EoA and Joint IAMD Summit analysis
-Provided Special Access Program Multi-Level Security (MLS) facility and collaborative work environment for A&T, JS, and PA&E use required to support two of the CD Pilots (IAMD & GS-R)

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2008 and FY 2009 Plans:			

-Planning approximately 50 reviews of acquisition programs
-Complete development of System Assurance Guidebook
-Develop methods for review and approval of Program Protection Plans, initiate pilot efforts
-Update draft SoS Engineering guide, continue piloting efforts, publish initial release
-Systemic analysis of review data to develop predictive diagnostics of program progress
-Review and approval of Program Protection Plans in support of milestone decisions
-Conduct Integrated Air and Missile Defense Investment Balance Review (AT&L Goal 2.2.3).
-Complete the 4 Concept Decision Evaluation of Alternatives Pilots (IAMD, JLTM, GS-R, JRSG); Develop proposed changes to 3170/5000 series reflecting Concept Decision Lessons Learned

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0604875D8Z - Joint Systems Architecture Development (JSAD)**	**P876**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P876	Portfolio Systems Acquisition (PSA)		4.607	4.831	5.234	5.151	5.140	5.172

A. Mission Description and Budget Item Justification: The Departments 2005 Quadrennial Defense Review (QDR) lays out the need for an institutional reorientation or shift in emphasis from organization-specific to enterprise-wide approaches. This means: 1) horizontal integration within the Department and unity of effort through greater interagency collaboration, 2) engaging in a coordinated and portfolio-based approach to planning, programming, budgeting and execution, 3) and significant reforms at the governance, management and execution levels. To accomplish this direction, there needs to be a focused goal and concerted emphasis on shifting from acquisition of individual systems to portfolio management (or portfolio systems acquisition). This program enables collaborative efforts to implement the QDR direction outlined above and to achieve portfolio systems acquisition goals. The program is broken up into two focus areas (Portfolio Management and Reform Initiatives) and consolidates work previously performed under various other Program Elements.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2008/2009 Plans:		4.607	4.831

The program is broken up into two focus areas and consolidates work previously performed under various other Program Elements. The first focus area funds portfolio management efforts. The second focus area funds reform initiatives and activities associated with our program evaluation responsibilities. Portfolio management efforts will include the development and implementation of integrated roadmaps, cross-cutting portfolio reviews, development of metrics for portfolio management, implementation of governance reforms to include concept decisions, evaluation of alternatives, capital budgeting activities, and improvements to program management. This project will fund analysis in several portfolio areas including rotary wing aviation modernization, unmanned systems, shipbuilding, joint conventional munitions, prompt global strike, and support to our homeland defense mission. Program evaluation efforts will ensure that reforms and activities result in decreased program development cycle times, decreased costs, and more predictable performance in our weapons program.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

Exhibit R-2, RDT&E Budget Item Justification						February 2008	
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06		R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z					
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	132.509	146.888	133.852	136.168	138.217	140.402	142.569

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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

The JIM funds critically needed T&E investments in the major functional areas of test mission command, control, communications and instrumentation; electronic warfare systems; threat and computational simulation test and evaluation; space systems T&E; weapons effects test capabilities; targets; and physical and environmental test capabilities. Examples of project subject matter include: automated data collection, processing, display, and archiving; smart munitions testing; modeling and simulation (M&S); advanced electronic combat systems; low-observable technologies and signature measurements; targets and target control; time-space-position-information; end-game measurement; testing of advanced materials application; test design; and advanced sensors and space systems. CTEIP continues as the focal point for fostering common architectures throughout the test and training communities to enhance the sharing of resources and links between test and training ranges.

CTEIP has provided special focus to institutionalize the use of M&S as a practical test tool; to link ranges through internetting to enhance inter-range and inter-Service cooperation and resource sharing; and, to ensure development and acquisition of common instrumentation necessary for a more efficient test infrastructure.

Analyses of alternative solutions are conducted for each investment project to validate T&E requirements, to define integrated support systems, and to determine overall cost effectiveness of the proposed test investments. The use of Department of Defense (DoD)-wide criteria for requirement validation, prioritization, and risk assessment ensures an effective test resource investment program.

The REP funds development of near-term solutions for critical ongoing operational tests supporting decisions on major, high priority defense acquisition programs. These unanticipated operational test (OT) capability requirements arise from several sources such as a new threat system identified during OT planning, acquisition of foreign military assets that are critical in determining weapon system operational effectiveness, short timelines between system design maturity and scheduled OT, and emerging technologies and test requirements resulting from operational concept changes mandated by Congress or Director, Operational Test & Evaluation (DOT&E), or system-of-systems testing. Funding these activities under the CTEIP provides the opportunity to coordinate and integrate these near-term test requirements with the total DoD test and evaluation investment planning, and ensures their availability and legacy for other programs that may have similar testing requirements.

This Research Category 6.4 PE includes special studies, analyses, and strategic planning related to test capabilities and infrastructure, and supports the development and application of proven technologies to provide major test and evaluation capabilities required to meet DoD component weapon system test requirements.

Program Accomplishments and Plans:

FY 2007 Accomplishments:

JIM Projects:

- Completed the Land and Sea Vulnerability Test Capability project to provide an instrumented land-sea interface test capability at the Aberdeen Test Center.
- Completed concept development and initiated systems development for the Next Generation Range Support Aircraft project to provide an improved airborne telemetry capability to support test and evaluation of future weapons systems requiring greater standoff distances and increased telemetry transmission ranges.
- Completed concept development for the Subminiature Flight Safety System to provide a warhead compatible, universal, subminiature, low-cost flight termination system.

Appropriation/Budget Activity	R-1 Item Nomenclature
RDT&E, Defense Wide, BA 06	Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

- Completed concept development and initiated systems development for the Hypersonic Propulsion Test Capability project to provide a variable Mach number aerodynamic propulsion test capability at the Arnold Engineering Development Center.
- Completed concept development for the Joint Information Assurance Test Suite / Web-Enabled Test project to provide a dynamic Information Assurance test tool suite with the ability to conduct extensive testing of web-based systems.
- Continued development of the Advanced Radar Environment Stimulator and the Infrared Sensor Stimulator product improvement, under the Joint Installed Systems Test Facility Product Improvements project, to provide improved installed systems capabilities needed to support next generation aircraft testing.
- Continued system development of the Advanced Instrumentation Data & Control System project to develop state-of-the-art instrumentation and control systems to meet DoD T&E requirements for propulsion systems, aerodynamic systems and space systems at Arnold Engineering Development Center.
- Continued system development of the Enhanced Flight Termination System project to develop an ultra high frequency (UHF) digital flight termination system for DoD unmanned flight vehicles.
- Continued system develop of the Unmanned Systems Testbed project to provide capabilities for using unmanned systems in training, operational exercises, and test and evaluation.
- Continued the Range Tactical Data Link and Relay Capability project to provide cross-range interoperability and establish a joint tactical data link test and training capability at selected ranges.
- Continued the Re-Locatable Command, Control, and Communications (C3) for Gulf Range Support project to provide re-locatable long-haul and inter/intra-communications to support interoperability and expanded operations at selected Gulf ranges.
- Continued systems development of the Joint Mobile Infrared Countermeasures Test System project to provide infrared spectrum test instrumentation for open air ranges.
- Continued the Joint Gulf Range Complex Upgrade project to provide upgraded range control capabilities at the Gulf Range.
- Continued concept development for the Integrated Network Enhanced Telemetry project to develop a network-enhanced telemetry capability for T&E ranges and facilities.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity	R-1 Item Nomenclature

RDT&E, Defense Wide, BA 06	Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

- Continued system development of the Towed Airborne Plume Simulator project to provide a capability to test airborne infrared countermeasure systems in a dynamic threat environment, to include realistic clutter background.
- Continued validation of flight test procedures and unmanned aerial vehicle (UAV) operations in the U.S. National Airspace alongside manned aircraft, under the UAV Systems Operations and Validation Program.
- Continued concept development for the Interactive Electronic Attack project to provide an interactive electronic attack radio frequency capability to test electronic warfare and avionics systems against reactive air defenses in a secure, protected ground-based environment.
- Continued concept development for the Advanced Communications Environment –Faithful Timeslot Messaging project to adapt the current Joint Communications Simulator antenna pattern and propagation effects to provide timeslot dependent attenuation of Link-16 terminal output.
- Continued systems development of the Test Capability Workstation / Data Collection Automation Tool project to develop a software suite and tools that focus on Capabilities-Based Test methodology to support operational test planning and the automation of test data collection, analysis, and reporting.
- Continued systems development of the Contamination Avoidance Detector Test Suite project providing test methodology, instrumentation, and test fixtures required to test and evaluate current and developmental Chemical Biological (CB) detector systems over the entire range of expected use conditions.
- Continued systems development of the Directed Energy Test and Evaluation Capability project to provide improved test and evaluation capabilities for directed energy weapons.
- Continued systems development of the Joint Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) project to develop a capability to test increasingly complex multi-discipline data fusion concepts.
- Continued systems development of the Soft Impact Location Capability project to provide the necessary instrumentation, signal processing, communication, and data processing capabilities to detect and locate the point and angle of impact of projectile and missile weapons within an 800m by 800m impact area.
- Continued threat system simulator development to improve integration, reduce potential duplication in threat and target development, and ensure that accurate, cost-effective representations of threat systems are available to support testing.
- Continued the Tri-Service and CTEIP support projects.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06	R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

- Continued the Test and Training Enabling Architecture Software Development Activity to promote integrated testing and simulation-based acquisition through the use of a logical range consisting of distributed live, virtual, and constructive elements tied together by a common architecture.
- Continued the Joint Advanced Missile Instrumentation project to develop and demonstrate time-space-position information, flight termination / safe and arm, and telemetry functions on advanced missile platforms.
- Initiated concept development for the Common Range Integrated Instrumentation System project to develop a common range instrumentation system to address next generation range data requirements. This effort includes a Rapid Prototype Initiative to address near term testing requirements for the Future Combat System.
- Initiated the Pacific Range Interoperability Test and Evaluation Capability project to enhance interoperability between test and training assets in the Pacific and other DoD ranges and facilities.
- Initiated an upgraded capability to evaluate the vulnerability of aircraft to Man Portable Air Defense System threats at an existing Live Fire Test and Evaluation facility.
- Initiated concept development for the Horizontal Fast Rise Electromagnetic Pulse (EMP) Pulser project to provide the required EMP testing environment for large aircraft under test.
- Initiated concept development for the Space Threat Assessment Testbed project to provide a capability to conduct subsystem and system level combined natural and man-made space environmental effects testing of critical space assets.

<u>Resource Enhancement Project:</u>

- Completed the development, integration, and testing of the Advanced Capability Mobile Flight Mission Simulator to allow for battalion level testing during the PATRIOT Limited User Test.
- Completed the software development, hardware integration and acceptance testing of the Time and Space Position Information Advanced Tracker to be used in the Initial Operational Test and Evaluation (OT&E) of the Advanced Tactical Assault Parachute.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06	R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

- Completed the testing and validation of the Portable Underwater Tracking System to be used in the OT&E of the Virginia Class Submarines.
- Completed the Integrated Broadcast Operational Test Suite subproject to provide a DoD-wide intelligence broadcast operational test capability to test the Integrated Broadcast Service (IBS).
- Completed the validation and testing of the Air and Missile Defense Operational Test Suite to be used for Ground-Course Missile Defense Upgraded Early Warning Radar (UEWR) operational and interoperability testing.
- Completed integration, verification, and validation efforts for the Shootable Remote Threat Ground Target subproject.
- Completed system integration and test of the Radio Frequency Monitoring and Data Analysis System subproject.
- Completed the integration, verification, validation, and training for the Command and Control Data Analysis Capability subproject.
- Completed system integration, acceptance testing, and training for the Digital Signal Environment Verification Test Tool subproject.
- Completed development, acceptance testing, verification, and validation of the Fluorescence Aerosol Particle Sensor subproject.
- Completed system integration, testing, and validation efforts for the Probability of Raid Annihilation Common Threat and Environment Capability subproject.
- Completed factory acceptance testing and initiated system acceptance testing of the Infrared Man-Portable Air Defense System Real Time Casualty Assessment Simulator to be used in the Armed Reconnaissance Helicopter's Initial Operational Test.
- Continued systems engineering and development efforts for the Chemical Agent Plume Tracking Capability subproject.
- Initiated the development of the Volumetric Influence Processor subproject to provide the ability to determine submarine and ship susceptibility to underwater electrical potential influence mines.
- Initiated the development of the Infantry Automatic Rifle Test Resource Unit Fire Hit Discriminator to provide the capability to measure the probability of hit requirements within the context of operationally realistic tactical scenarios to support the Infantry Automatic Rifle Operational Test (OT).

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06	R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

FY 2008 Plans:

JIM Projects:

- Complete the Enhanced Flight Termination System project to develop an ultra high frequency (UHF) digital flight termination system for DoD unmanned flight vehicles.
- Complete an upgraded capability to evaluate the vulnerability of aircraft to Man Portable Air Defense System threats at an existing Live Fire Test and Evaluation facility.
- Complete the Contamination Avoidance Detector Test Suite project to provide test methodology, instrumentation, and test fixtures required to test and evaluate current and developmental CB detector systems over the entire range of expected use conditions.
- Complete concept development and initiate system development for the Advanced Communications Environment – Faithful Timeslot Messaging project to adapt the current Joint Communications Simulator antenna pattern and propagation effects to provide timeslot dependent attenuation of Link-16 terminal output.
- Complete the Test Capability Workstation / Data Collection Automation Tool project to develop a software suite and tools that focus on Capabilities-Based Test methodology to support operational test planning and the automation of test data collection, analysis, and reporting.
- Complete the Unmanned Systems Testbed project to provide capabilities for using unmanned systems in training, operational exercises, and test and evaluation.
- Complete the Joint Mobile Infrared Countermeasures Test System project to provide infrared spectrum test instrumentation for open air ranges.
- Complete the Advanced Instrumentation Data & Control System project to develop state-of-the-art instrumentation and control systems to meet DoD T&E requirements for propulsion systems, aerodynamic systems and space systems.
- Complete concept development for the Interactive Electronic Attack project to provide an interactive electronic attack radio frequency capability to test electronic warfare and avionics systems against reactive air defenses in a secure, protected ground-based environment.
- Complete concept development for the Integrated Network Enhanced Telemetry project to develop a network-enhanced telemetry capability for T&E ranges and facilities.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06	R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

- Complete system development of the Towed Airborne Plume Simulator project to provide a capability to test airborne infrared countermeasure systems in a dynamic threat environment, to include realistic clutter background.
- Complete the Infrared Sensor Stimulator product improvement and continue system development of the Advanced Radar Environment Stimulator, under the Joint Installed Systems Test Facility Product Improvements project, to provide improved installed systems capabilities needed to support next generation aircraft testing.
- Complete the Joint Gulf Range Complex Upgrade project to provide upgraded range control capabilities at the Gulf Range.
- Complete the Pacific Range Interoperability Test and Evaluation Capability project to enhance interoperability between test and training assets in the Pacific and other DoD ranges and facilities.
- Complete the Range Tactical Data Link and Relay Capability project to provide cross-range interoperability and establish a joint tactical data link test and training capability at selected ranges.
- Complete the Re-Locatable Command, Control, and Communications (C3) for Gulf Range Support project to provide re-locatable long-haul and inter/intra-communications to support interoperability and expanded operations at selected Gulf ranges.
- Complete concept development and initiate system development for the Horizontal Fast Rise Electromagnetic Pulse (EMP) Pulser project to provide the required EMP testing environment for large aircraft under test.
- Continue systems development of the Directed Energy Test and Evaluation Capability project to provide improved test and evaluation capabilities for directed energy weapons.
- Continue systems development of the Joint Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) project to develop a capability to test increasingly complex multi-discipline data fusion concepts.
- Continue system development of the Joint Advanced Missile Instrumentation project to develop and demonstrate time-space-position information, flight termination / safe and arm, and telemetry functions on advanced missile platforms.
- Continue systems development of the Soft Impact Location Capability project to provide the necessary instrumentation, signal processing, communication, and data processing capabilities to detect and locate the point and angle of impact of projectile and missile weapons within an 800m by 800m impact area.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06	R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

- Continue the Test and Training Enabling Architecture Software Development Activity to promote integrated testing and simulation-based acquisition through the use of a logical range consisting of distributed live, virtual, and constructive elements tied together by a common architecture.
- Continue systems development for the Hypersonic Propulsion Test Capability project to provide a variable Mach number aerodynamic propulsion test capability at the Arnold Engineering Development Center.
- Continue concept development for the Common Range Integrated Instrumentation System project to develop a common range instrumentation system to address next generation range data requirements. Complete the Rapid Prototype Initiative to address near term testing requirements for the Future Combat System.
- Continue validation of flight test procedures and unmanned aerial vehicle (UAV) operations in the U.S. National Airspace alongside manned aircraft, under the UAV Systems Operations and Validation Program.
- Continue the Tri-Service and CTEIP support projects.
- Continue threat system simulator development to improve integration, reduce potential duplication in threat and target development, and ensure that accurate, cost-effective representations of threat systems are available to support testing.
- Continue systems development for the Next Generation Range Support Aircraft project to provide an improved airborne telemetry capability to support test and evaluation of future weapons systems requiring greater standoff distances and increased telemetry transmission ranges.
- Continue concept development for the Space Threat Assessment Testbed project to provide a capability to conduct subsystem and system level combined natural and man-made space environmental effects testing of critical space assets.
- Initiate development of capabilities to test and evaluate advanced infrared countermeasures systems.
- Initiate concept development for the Objective Helicopter Icing Spray System project to provide a roll-on / roll-off capability to perform in-flight icing and rain testing for low-speed air vehicles.
- Initiate and complete the Advanced SAM Hardware Simulator Development – Integrated Technical Evaluation Assessing Multiple Sources (ITEAMS) project to develop a detailed design of a threat radar system using available scientific and technical intelligence data.
- Initiate and complete the Joint Gulf Range Complex Test and Training Interdependency Initiative project to explore opportunities for common infrastructure development for test and training participants at the Joint Gulf Range Complex.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 6	R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

Resource Enhancement Project:

- Complete the fabrication, range integration, and validation of the AGM-88E Anti-Radiation Missile Air Defense Array Test Tool to support the OT of the AGM-88E Advanced Anti-Radiation Guided Missile (AARGM).
- Complete the site surveys and installation of the Air and Missile Defense Operational Test Suite to be used for Ground-Course Missile Defense operational and interoperability testing.
- Complete the integration, system testing, and validation of the Chemical Agent Plume Tracking Capability test tool to support the Improved Point Detection System II (IPDS II) OT.
- Complete acceptance testing of the Infrared Man-Portable Air Defense System Real Time Casualty Assessment Simulator to be used in the Armed Reconnaissance Helicopter's Initial Operational Test.
- Complete system integration and test of the Radio Monitoring and Data Analysis System subproject to provide the capability to assess the Prophet Ground Systems' operational effectiveness in detecting, identifying, and copying direction finding line of bearing low probability of intercept signals during the Prophet Ground System Initial Operational Test.
- Complete the prototype development and demonstration efforts and prototype validation testing of the Infantry Automatic Rifle Test Resource Unit Fire Hit Discriminator to support the Infantry Automatic Rifle OT.
- Continue the development and complete component and system testing for the Volumetric Influence Processor subproject.
- Initiate the development of the Digital Remote Interface Vector Equipment System to provide the operational test directors the ability to accurately simulate surface warfare environments to support the OT of the Littoral Combat Ship.
- Initiate the development of the Consolidated Enterprise Network Test and Evaluation Range to support the Operational Assessment of the Combat Information Transport System.
- Initiate the development of the Net-Ready Operational Test and Evaluation Support subproject to provide an operationally representative dense signal environment to support the Operational Test and Evaluation of the C-130 aircraft.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 6	R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

- Initiate the development t of the Air and Ground Network Waveform Test Capability subproject to provide the 605TH Test and Evaluation Squadron the capability to assess the interoperability of the Tactical Air Control Party Close Air Support System.
- Initiate developments to address near term OT capability shortfalls in range interoperability and knowledge management.
- Initiate developments to address near term OT capability shortfalls in realistic test environments, to include open air test environments, tunnels, and chambers.
- Initiate developments to address near term OT capability shortfalls in the realistic representation of enemy threats and targets.
- Initiate developments to address near term OT capability shortfalls in installed systems and hardware-in-the-loop T&E facilities.

FY 2009 Plans:

JIM Projects:

- Complete the Directed Energy Test and Evaluation Capability project to provide improved test and evaluation capabilities for directed energy weapons.
- Complete the Joint C4ISR project to develop a capability to test increasingly complex multi-discipline data fusion concepts.
- Complete concept development and initiate systems development for the Objective Helicopter Icing Spray System project to provide a roll-on / roll-off capability to perform in-flight icing and rain testing for low-speed air vehicles.
- Complete concept development and initiate system development for the Space Threat Assessment Testbed project to provide a capability to conduct subsystem and system level combined natural and man-made space environmental effects testing of critical space assets.
- Complete the Joint Advanced Missile Instrumentation project to develop and demonstrate time-space-position information, flight termination / safe and arm, and telemetry functions on advanced missile platforms.
- Complete systems development of the Soft Impact Location Capability project to provide the necessary instrumentation, signal processing, communication, and data processing capabilities to detect and locate the point and angle of impact of projectile and missile weapons within an 800m by 800m impact area.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 6	R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

- Complete validation of flight test procedures and unmanned aerial vehicle (UAV) operations in the U.S. National Airspace alongside manned aircraft, under the UAV Systems Operations and Validation Program.
- Continue systems development for the Horizontal Fast Rise Electromagnetic Pulse (EMP) Pulser project to provide the required EMP testing environment for large aircraft under test.
- Continue system development for the Advanced Communications Environment –Faithful Timeslot Messaging project to adapt the current Joint Communications Simulator antenna pattern and propagation effects to provide timeslot dependent attenuation of Link-16 terminal output.
- Continue development of the Advanced Radar Environment Stimulator, under the Joint Installed Systems Test Facility Product Improvements project, to provide improved installed systems capabilities needed to support next generation aircraft testing.
- Continue concept development for the Common Range Integrated Instrumentation System project to develop a common range instrumentation system to address next generation range data requirements.
- Initiate systems development for the Integrated Network Enhanced Telemetry project to develop a network-enhanced telemetry capability for T&E ranges and facilities.
- Continue the Test and Training Enabling Architecture Software Development Activity to promote integrated testing and simulation-based acquisition through the use of a logical range consisting of distributed live, virtual, and constructive elements tied together by a common architecture.
- Continue development of capabilities to test and evaluate advanced infrared countermeasures systems.
- Continue systems development for the Hypersonic Propulsion Test Capability project to provide a variable Mach number aerodynamic propulsion test capability at the Arnold Engineering Development Center.
- Continue the Tri-Service and CTEIP support projects.
- Continue threat system simulator development efforts to improve integration, reduce potential duplication in threat and target development, and ensure that accurate, cost-effective representations of threat systems are available to support testing.
- Continue systems development for the Next Generation Range Support Aircraft provide to provide an improved airborne telemetry capability to support test and evaluation of future weapons systems requiring greater standoff distances and increased telemetry transmission ranges.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 6	R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

- Initiate concept development for a free space data exchange capability to complement traditional radio frequency (RF) telemetry.

Resource Enhancement Project:

- Complete verification, validation and accreditation efforts for the Volumetric Influence Processor subproject.
- Complete the shipboard installation and at-sea verification efforts of the Digital Remote Interface Vector Equipment System to support the Operational Test of the Littoral Combat Ship.
- Complete system integration and testing of the Net-Ready Operational Test and Evaluation Support subproject to support the Operational Test and Evaluation of the C-130 aircraft.
- Complete developments to address near term OT capability shortfalls in range interoperability and knowledge management.
- Complete developments to address near term OT capability shortfalls in realistic test environments, to include open air test environments, tunnels, and chambers.
- Complete developments to address near term OT capability shortfalls in the realistic representation of enemy threats and targets.
- Complete developments to address near term OT capability shortfalls in installed systems and hardware-in-the-loop T&E facilities.
- Initiate development of instrumented facilities to evaluate our next generation of sensors, weapons, platforms, and C4ISR systems in a realistic urban environment.
- Initiate development of hardware simulators to test missile warning systems of new generation electronic warfare (EW) suites in a dynamic environment.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 6	R-1 Item Nomenclature Central Test and Evaluation Investment Program (CTEIP), PE 0604940D8Z

B. (U) PROGRAM CHANGE SUMMARY

	FY 2007	FY 2008	FY 2009
Previous President's Budget:	137.648	133.772	134.095
Current President's Budget:	132.509	146.888	133.852
Total Adjustments:			
Congressional Program Adjustments:			
Congressional Rescissions:		-1.284	
Congressional Increases:		14.400	
Other Program Adjustments:	-5.139		-0.243

C. (U) OTHER PROGRAM FUNDING NA

D. (U) ACQUISITION STRATEGY NA

E. (U) PERFORMANCE METRICS

Percentage of CTEIP projects that were developed and delivered to the DoD test community over the past five years.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0604943D8Z - Thermal Vicar**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P943 Thermal Vicar	7.414	9.385	9.658	7.927	8.097	8.301	8.511

A. Mission Description and Budget Item Justification: This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP at (703) 697-1282.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	7.449	7.822	7.847
Current BES/President's Budget (FY 2009)	7.414	9.385	9.658
Total Adjustments	-0.035	1.563	1.811
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other			

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics: Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0604943D8Z - Thermal Vicar**	**P943**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P943 Thermal Vicar	7.414	9.385	9.658	7.927	8.097	8.301	8.511

A. Mission Description and Budget Item Justification: This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP at (703) 697-1282.

B. Accomplishments/Planned Program: Not Applicable.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

Exhibit R-2, RDT&E Budget Item Justification							February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06			R-1 Item Nomenclature Joint Mission Environment Test Capability (JMETC), PE 0605100D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	10.409	6.865	8.834	9.523	10.314	10.477	10.639

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Mission Environment Test Capability (JMETC) Program provides the infrastructure for distributed testing of systems during development. The JMETC program implements the infrastructure capabilities defined in the Testing in a Joint Environment Roadmap to provide Acquisition Program Managers a robust nation-wide capability to "Test like We Fight." JMETC provides a persistent distributed test and evaluation (T&E) capability that otherwise would not be readily available to Service/Component development programs. This program is funded within the RDT&E Management Support Budget Activity because it is intended to provide test capability in support of RDT&E programs.

JMETC creates a common corporate capability to link live systems with virtual and constructive representations to generate a realistic joint mission test environment for the system(s) being tested. JMETC is a widely applicable, persistent, service provider for Department acquisition and net-centric programs. Key JMETC products include readily available connectivity over existing Department networks, standard data transport solutions, tools and utilities for planning and conducting distributed integrations, and a reuse repository. This common integration capability ensures compatibility between JMETC and the Joint National Training Capability (JNTC), streamlining reuse of technical resources across test and training communities and, in the future, enabling combined test and training exercises. JMETC capabilities will eventually migrate to a mature Global Information Grid (GIG).

By linking distributed facilities, JMETC allows customers to efficiently evaluate their warfighting capability in a realistic joint environment. This enables a customer-defined joint mission test environment for systems engineering and testing, extensible to training and experimentation, in a timely and cost effective manner.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06	R-1 Item Nomenclature Joint Mission Environment Test Capability (JMETC), PE 0605100D8Z

JMETC's institutional funding builds, maintains, and operates the JMETC, and pays for persistent availability of national connectivity for testing; data communications middleware; identification of interface standards; common software tools and components; and a data archive and reuse repository. It also funds JMETC program management, facilities, equipment, operating costs, and special studies and analysis related to test capabilities and infrastructure. Key attributes of the JMETC include: persistency; interoperability; reuse; various combinations of distributed capabilities (reconfigurable infrastructure to meet customer requirements); Modeling and Simulation (M&S) linkage; Live Virtual Constructive (LVC) integration; and common support to both Service and Joint needs. System engineering, training, and experimentation will all benefit from a corporate JMETC developed for T&E.

The Test Resource Management Center (TRMC) is the Department's lead for the JMETC program, and oversees both its development and its operations.

Program Accomplishments and Plans:

FY 2007 Accomplishments:

- Initiated the JMETC program. Established the JMETC Program Office.
- Established the JMETC Virtual Private Network (VPN) and associated security agreements on the Secure Defense Research and Engineering Network (SDREN). Integrated 8 test sites into the JMETC VPN network. Sites were determined on the basis of customer requirements and potential for reuse. Test Events supported include Integral Fire 07 Test Event Air Force Integrated Collaborative Environment (AF-ICE), Joint Forces Command (JFCOM), and Joint Test and Evaluation Methodology (JTEM), and the InterTEC Spiral 2 Test Event. Initiated requirement analysis planning for FY08 events in support of CVN-21, Single Integrated Air Picture (SIAP), and Future Combat Systems (FCS) Combined Test Organization event.
- Used the Aggregation Router, originally sponsored by JFCOM/JNTC, to integrate and reuse former AF-ICE and Joint Systems Integration Command (JSIC) sites to support Integral Fire 07.
- Established Customer Support to provide a single-face-to-the-customer for using the JMETC. Customer Support provides programs and test ranges with information about JMETC capabilities, standards, interfaces, tools, available nodes, and expertise in planning and conducting distributed tests. JMETC assists acquisition program managers and test organizations in designing their distributed test plans to exploit the joint mission infrastructure capabilities.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06	R-1 Item Nomenclature Joint Mission Environment Test Capability (JMETC), PE 0605100D8Z

- Established JMETC Users' Group to provide technical user input to the JMETC Program.
- Collaborated with the AF-ICE to demonstrate efficiencies through use of the JMETC provided infrastructure.
- Assessed DoD Joint Distributed Test Capabilities status and presented the results to the Joint Capabilities Board.
- Initiated long range planning efforts to support future test events for Multi-Mission Aircraft (MMA), DD1000, CVN-21, FCS, and Joint Strike Fighter (JSF) programs.
- Initiated development of the Reuse Repository to store software interfaces, tools, utilities, and test metadata making all available to the test community for reuse. The Repository's purpose is to improve the efficiency in using the JMETC and other distributed test assets that are to operate in a joint mission environment. It will primarily support programs and net-centric capabilities that are either a part of or interfaces the joint mission infrastructure.

FY 2008 Plans:

- Provide support to customer events, particularly InterTEC and CVN-21 (Jun 08, Aug 08), and FCS (Jul 08). Assist the Net-Enabled Command Capability (NECC) Program with distributed test tools and expertise for planning their distributed events.
- Establish the infrastructure needed to support the SIAP event in October/November 08.
- Assume former Joint Distributed Engineering Plant (JDEP) functions supporting connectivity and distributed test infrastructure for the SIAP program.
- Continue collaboration with AF-ICE to leverage efficiencies through use of the JMETC provided infrastructure.
- Cultivate relationship with Navy Distributed Engineering Plant (DEP), supporting their distributed events where connectivity outside the Navy is required.
- Continue providing requirements analysis support to programs such as DD1000, MMA, and Littoral Combat Ship.
- Working with the JMETC Users Group, facilitate development and incorporation of the highest priority improvements for the middleware and standard interfaces to meet customer requirements.
- Continue development of the JMETC Reuse Repository to store software interfaces, tools, utilities, and test metadata making all available to the test community for reuse.
- Continue to develop Customer Support providing programs and test ranges with information about JMETC capabilities, standards, interfaces, tools, available nodes, and expertise in planning and conducting distributed tests.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06	R-1 Item Nomenclature Joint Mission Environment Test Capability (JMETC), PE 0605100D8Z

- Expand the JMETC VPN from 8 sites (established in FY07) to 24 sites (16 new sites). Connections will continue to use the SDREN. Continue to use the JNTC - sponsored Network Aggregator at Patuxent River NAS; providing the capability of bridging the JMETC VPN to sites on other classified networks (i.e., JNTC Joint Training and Experimentation Network (JTEN), DISN Secret Internet Protocol Router Network (SIPRNET), AF-ICE Enclave, Army Test and Evaluation Command (ATEC) Test and Integration Network (ATIN) Enclave, and other DREN classified enclaves). Begin coordination with HPCMO to develop plans to transition to the Global Information Grid (GIG (DISN-Core)) when SDREN transitions.
- Monitor the development of existing Service tools for joint application and commercially available software tools for utilization with the standard distributed test support tools.
- Begin development and testing of "Best of Breed" distributed test tools selection process.

FY 2009 Plans:

- Provide support to approximately 3major customer events, such as SIAP, InterTEC Spiral 3, FCS, and CVN-21and 3-10 minor test activities. Assist the NECC Program with distributed test tools and expertise for planning their distributed events.
- Continue out reach efforts to new programs with requirements to demonstrate compliance with Net-Ready Key Performance Parameter requirements.
- Continue planning support to on-going programs, particularly SIAP, CVN-21, FCS, NECC, and InterTEC.
- Provide planning support to JSF and MMA for their distributed test events.
- Continue collaboration with AF-ICE and Navy DEP distributed test events to leverage efficiencies through use of the JMETC infrastructure.
- Continue to develop the Reuse Repository to store software interfaces, tools, utilities, and test metadata making all available to the test community for reuse.
- Expand the JMETC VPN from 24 sites (VPN at end of FY07) by 2 to 7 sites, based upon customer requirements and potential for reuse. Connections will continue to use the SDREN. Continue coordination with HPCMO to develop plan to transition to the Global Information Grid (GIG (DISN-Core)) when SDREN transitions.
- Begin selection of "Best of Breed" distributed test tools selection process thru the JMETC Users Group.

Exhibit R-2, RDT&E Budget Item Justification	February 2008
Appropriation/Budget Activity RDT&E, Defense Wide, BA 06	R-1 Item Nomenclature Joint Mission Environment Test Capability (JMETC), PE 0605100D8Z

B. (U) PROGRAM CHANGE SUMMARY:

	FY 2007	FY 2008	FY 2009
Previous President's Budget:	10.539	6.925	8.850
Current BES/President's Budget:	10.409	6.865	8.834
Total Adjustments:			
Congressional Program Adjustments:		-0.060	
Congressional Rescissions:			
Congressional Increases:			
Other Program Adjustments:	-0.130		-0.016

C. (U) OTHER PROGRAM FUNDING: N/A.

D. (U) ACQUISITION STRATEGY: N/A.

E. (U) PERFORMANCE METRICS:

- Establishment of initial capability to support major acquisition program test requirements, providing distributed capability to test systems and demonstrating required joint capability.
- Successful use of integration software compatible with the JNTC and Joint Training infrastructure.
- Number of test sites/locations that are reused to support distributed tests using the JMETC infrastructure.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

1APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605104D8Z - Technical Studies, Support & Analysis**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P421 Technical Studies, Support & Analysis	35.737	34.958	34.520	32.916	37.035	36.727	36.601

A. Mission Description and Budget Item Justification: This program is a key source of funding for the Office of the Secretary of Defense and the Joint Staff for studies, analyses, management, and technical support efforts to improve and support policy development, decision making, management and administration of DoD programs and activities. Studies and analyses will examine current and alternative policies, plans, operations, strategies and budgets, and are essential for understanding and gaining insight into the ever-changing multifaceted international, political, technological, economic, military, and acquisition environments in which defense decisions and opportunities take place. The need for independent analyses has become particularly acute with the evolution of requirements for planning the reconstitution of assets affected by combat and non-combat operations, and there is a strong need to incorporate the effects of operational analyses in force planning assessments. With the persistently complex security, threat, and economic environment, the need for objective analyses and forward looking planning for the mid and long-term is vital.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	36.131	31.263	34.571
Current BES/President's Budget (FY 2009)	35.737	34.958	34.520
Total Adjustments	-0.394	3.695	-0.051
Congressional Program Reductions	-0.280	-0.376	
Congressional Rescissions			
Congressional Increases		4.000	
Reprogrammings	-1.000		
SBIR/STTR Transfer	-0.931	-0.890	
Other	1.817	0.961	-0.051

There were congressional additions in FY 2008 for the Capabilities Study for Improvised Explosive Devices Study ($1.0 million), Countering Missile-Related Technology Proliferation Study ($2.0 million), and Foreign Test Range Analysis ($1.0 million).

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

1APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605104D8Z - Technical Studies, Support & Analysis**

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
08						

Comment: PE 0605104D8Z Technical Studies, Support & Analysis

FY 2009 BA: $34,304K FY 2009 BA Assoc w/Metrics: $34,304K Percent FY 2009 BA Assoc w/Metrics: 100%

This program conducts approximately one-hundred fifty actions per fiscal year to support a wide variety of dynamic goals of the Department and is designed to encourage a collaborative research approach among the components of OSD and the Joint Staff. The focus of studies varies across a wide spectrum including weapons systems cost analysis, strengthening and leveraging alliances, human resource and military personnel management, examination of innovative technologies, application of technology to operational doctrine, and many other issues of timely importance. Most of the actions are long to intermediate-range in outlook, and the program allows high-level managers to plan and to guide their research toward their highest-priority goals and other high-level guidance such as the President's Management Agenda and the National Security Strategy of the United States of America. The research and study projects supported by this program are closely integrated with the Departments strategic goals, especially the objectives stipulated in the Quadrennial Defense Review.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605104D8Z - Technical Studies, Support & Analysis**	**P421**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P421 Technical Studies, Support & Analysis	35.737	34.958	34.520	32.916	37.035	36.727	36.601

A. Mission Description and Budget Item Justification: This program is a key source of funding for the Office of the Secretary of Defense and the Joint Staff for studies, analyses, management, and technical support efforts, to improve and support policy development, decision making, management and administration of DoD programs and activities. Studies and analyses will examine current and alternative policies, plans, operations, strategies and budgets, and are essential for understanding and gaining insight into the ever-changing multifaceted international political, technological, economic, military, and acquisition environments in which defense decisions and opportunities take place. The need for independent analyses has become particularly acute with the evolution of requirements for planning the reconstitution of assets affected by combat and non-combat operations, and there is a strong need to incorporate the effects of operational analyses in force planning assessments. With the persistently complex current security, threat, and economic environment, the need for objective analyses and forward looking planning for the mid and long-term is vital.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Technical Support to OSD and the Joint Staff: FY 2007 Program	35.737		

Technical Support for USD(Acquisition, Technology & Logistics):
Studies and analyses of:

Current and emerging unmanned ground systems spectrum supportability, unmanned systems investment planning, joint conventional munitions requirements, conventional munitions fuze technologies, weapons systems safety, conventional munitions hardened target penetration, NATO materiel stockpile planning, Littoral Combat Ship capabilities and planning scenarios, anti-submarine warfare and mine warfare planning and evaluation, strategic global strike capabilities and the Nuclear Posture Review (including the annual Hard and Deeply Buried Target Defeat report to Congress), homeland defense and civil support integration and interagency cooperation, maritime domain awareness strategy, standoff detection of weapons of mass destruction, acquisition strategy for homeland defense, DoD energy strategy and reducing energy consumption in defense systems, integrated air and missile defense capabilities operational assessment and risk management, joint net-centric operations, defense industry acquisitions and mergers analyses, effects of restructuring on critical defense industries, effects of defense contracting policy on industry, globalization in the defense industry and effects of the use of non-US suppliers, export control policy, international armaments cooperation, logistical supply chain operations, depot and field-level maintenance costs, weapon systems reliability improvement, development of pilot maintenance and transportation concepts, various tasks supporting numerous Defense Science Board task forces, rapid acquisition process standards , international cooperative R&D programs, NATO policy planning, small business investment strategy, and DoD relations with small businesses

Technical Support for the Director, Program Analysis & Evaluation:
Studies and analyses regarding the following areas:

Non-traditional military challenges, ground-based tactical networking, global defense posture, airborne electronic attack capabilities, electronic warfare operations and irregular warfare, alternative force structures to enhance irregular warfare capabilities, medical cost growth analyses, F-35/Joint Strike Fighter requirements, tactical air warfare, technical analyses of various weapons systems,

mobility capabilities, earned value management and cost control, space systems resource planning, force and infrastructure requirements, improving cost estimation of software, DoD acquisition execution improvement, airborne ISR (Intelligence, Surveillance and Reconnaissance) operational effectiveness, and personnel cost analyses

Technical Support for the USD(Policy):
Studies, analyses, and activities in the following areas:

Mid-and-long range defense planning scenarios and their effects on force planning requirements, NATO transformation planning, strategic weapons employment policy, unconventional warfare and other DoD contingency defense planning, space policy development and national space strategy, Africa Command implementation planning, irregular warfare case studies, reducing proliferation risk, and strategic-level simulations of areas of interest for senior members of the executive and legislative branches

Technical Support for the USD(Personnel & Readiness):
Studies and analyses in the following areas:

Effects of activation on National Guard and Reserve recruiting, science and technology education policies and future requirements, stress on military families, training capabilities and operational effectiveness, improving foreign language proficiency, underemployment among military families, effects of disabilities on recent military veterans and care of wounded personnel, national security personnel policy, general and flag officer management, sexual assault prevention, enlisted personnel policy, emerging issues in USMC recruiting, and evaluating the effectiveness of military advertising

Technical Support for the ASD(Networks and Information Integration) and USD(Intelligence):
Studies and analyses regarding the following areas:

Advanced signal processing technologies and signal processing simulation, navigation technologies, incorporation of evolving technologies into acquisition planning, defense and intelligence space capabilities integration, implementing advanced technologies into information assurance policy and the Global Information Grid, full-motion video capabilities, and ISR (Intelligence, Surveillance and Reconnaissance) systems investment planning

Technical Support for the Joint Staff:

Studies and analyses conducted with OSD supporting net-centric operations environment planning, rebalancing special operations forces and general purpose forces, and global strike raid portfolio capabilities

Other activities:
Congressional additions for Capabilities Study for Improvised Explosive Devices Detection ($1 million) and Prompt Global Strike Study ($5 million)

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Technical Support to OSD and the Joint Staff: FY 2008 Program		34.958	

Technical Support for USD(Acquisition, Technology & Logistics):
Efforts supported:

New and continued studies on unmanned terrestrial and air systems, joint conventional munitions requirements planning, joint service fuze technology, hard and buried target defeat, homeland

defense and civil support coordination, maritime domain awareness, test and evaluation capabilities, DoD energy policy, weapons systems safety and reliability, NATO materiel stockpile planning, Littoral Combat Ship mission requirements, mine warfare countermeasures, Prompt Global Strike-related efforts, identifying acquisition program risk, the unmanned vehicle industrial base, effects of global defense industry trends, defense industry acquisition and merger policy, industrial base assessments of critical defense sectors, facilitation of defense industry competition and emergence of new suppliers, microelectronics investment strategy, supply chain modernization planning, integration of supply chain commercial practices into DoD logistics systems, tasks supporting various Defense Science Board task forces, evolving technologies and the acquisition process, international cooperative R&D programs, NATO policy planning, small business investment strategy, and DoD relations with small businesses

Technical Support for the Director, Program Analysis & Evaluation:
Studies and analyses regarding the following areas:

Identifying requirements for the next Quadrennial Defense Review, the long-term trends and sustainability of the defense program, force structure and manpower issues, alternative systems and weapon configurations, software cost estimation, operations and support costs of weapons systems, evaluation and planning for stability operations, modeling and simulation master planning, cost estimation and joint requirements evaluation of weapons platforms shared with US allies, operational availability of assets, and multi-service force deployment baseline planning

Technical Support for the USD(Policy):
Studies, analyses, and activities in the following areas with an emphasis upon planning for the QDR:

Asia-Pacific basing and defense policy cooperation, defense against evolving biological and chemical weapons of mass destruction, strategic weapons employment policy, improving the ability of DoD to build security partnerships, strengthening capabilities of African states to combat terrorism, counter-proliferation strategy, development of defense planning scenarios and improving contingency planning, and strategic-level simulations of areas of interest for legislative and executive branch decision-makers

Technical Support for the USD(Personnel & Readiness):
Studies and analyses in the following areas:

Effects of incentives on personnel retention, advancing foreign language proficiency, effects of the National Security Personnel System, long-term impact of deployments on personnel retention, civilian personnel management and retention, hardships among military families, civilian education and professional development, and management of reserve components

Technical Support for the ASD (Networks & Information Integration) and USD(Intelligence):
Studies and analyses of:

Net-centric tactical wireless issues, command and control in coalition operations, developing net-centric enterprise communication capabilities, developing standards for joint data exchange, evaluation of emerging communication technologies, DoD information assurance, improving effectiveness of wireless systems, DoD security systems and policies, battlespace awareness capabilities, disruptive tagging technologies, DoD satellite communications strategic planning, persistent intelligence collection capabilities, improving capabilities to discern intentions of adversarial entities, and management of intelligence community personnel assets

Technical Support for the Joint Staff:

Studies and analyses with OSD supporting information sharing risk management, adaptive planning human resource strategy, means to dissuade potential adversaries from obtaining weapons of mass destruction, and improving DoD collaborative capabilities

Specific additions by Congress:

Capabilities Study for Improvised Explosives Detection ($1.0 million)
Countering Missile-Related Technology Proliferation ($2.0 million)
Foreign Test Range Analysis-Measurement and Signals Intelligence ($1.0 million)

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Technical Support to OSD and the Joint Staff: FY 2009 Plans			34.520

Technical Support for USD(Acquisition, Technology & Logistics):
Efforts supported:

New and continued studies on unmanned terrestrial and air systems, electronic warfare, joint conventional munitions requirements planning, joint service fuze technology, hard and deeply buried target defeat, homeland defense and civil support coordination, maritime domain awareness, test and evaluation capabilities, DoD energy policy, weapons systems safety and reliability, NATO materiel stockpile planning, Littoral Combat Ship mission requirements, mine warfare countermeasures, Prompt Global Strike-related efforts, identifying acquisition program risk, the unmanned vehicle industrial base, effects of global defense industry trends, defense industry acquisition and merger policy, industrial base assessments of critical defense sectors, facilitation of defense industry competition and emergence of new suppliers, reserve vessel management policy, supply chain modernization planning, integration of supply chain commercial practices into DoD logistics systems, support to various Defense Science Board task forces, evolving technologies and the acquisition process, international cooperative R&D programs, NATO policy planning, small business investment strategy, and DoD relations with small businesses

Technical Support for the Director, Program Analysis & Evaluation:
Studies and analyses regarding the following areas:

Various requirements for the Quadrennial Defense Review, the long-term trends and sustainability of the defense program, force structure and manpower issues, alternative configurations of weapons systems, software cost estimation, operations and support costs of weapons systems, evaluation and planning for stability operations, modeling and simulation master planning, cost estimation and joint requirements evaluation of weapons platforms shared with US allies, operational availability of assets, and multi-service force deployment baseline planning

Technical Support for the USD(Policy):
Studies, analyses, and activities in the following areas:

Global basing and defense policy cooperation, defense against evolving biological and chemical weapons of mass destruction, strategic weapons employment policy, improving the ability of DoD to build security partnerships, strengthening capabilities of African states to combat terrorism, counter-proliferation strategy, development of defense planning scenarios and improving contingency planning, and strategic-level simulations of areas of interest for legislative and executive branch decision-makers

Technical Support for the USD(Personnel & Readiness):
Studies and analyses in the following areas:

Effects of incentives on personnel retention, improving foreign language proficiency, effects of the National Security Personnel System, long-term impact of personnel deployments on retention,

civilian personnel management and retention, mitigating hardships among military families, civilian education and professional development, and management of reserve components

Technical Support for the ASD (Networks & Information Integration) and USD(Intelligence):
Studies and analyses of:

Net-centric tactical wireless issues, command and control in coalition operations, developing net-centric enterprise communication capabilities, developing standards for joint data exchange, evaluation of emerging communication technologies, DoD information assurance, improving effectiveness of wireless systems, DoD security systems and policies, battlespace awareness capabilities, detection of infectious disease events, persistent intelligence collection capabilities, and management of intelligence community personnel assets

Technical Support for the Joint Staff:

Studies and analyses with OSD supporting theater security cooperation, homeland defense consequence management, information assurance, pandemic control, and other issues directed by developing DoD planning guidance

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605110D8Z - Militarily Critical Technology Program**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P110 Militarily Critical Technology Program	4.337	3.987	4.007	4.007	3.978	4.031	4.087

A. Mission Description and Budget Item Justification: The Militarily Critical Technologies Program (MCTP) provides an ongoing assessment and analysis of goods and technologies. The MCTP determines significant advances in the development, production, and use of military capabilities of potential adversaries. The MCTP determines goods and technologies being developed worldwide with potential to significantly enhance or degrade U.S. military capabilities in the future.

The MCTP is comprised of two sets of documents:
(1) Militarily Critical Technologies List (MCTL): congressionally mandated source document for identification of leading edge and current technologies monitored worldwide for national security, nonproliferation control of weapons of mass destruction, and advanced conventional weapons.
(2) Developing Science & Technologies List (DSTL): describes military and proliferation significance of future technologies.

The MCTP was identified in the Export Administration Act of 1979 and extended by Presidential Directive to review militarily critical goods and technologies and to consider worldwide technology capabilities.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	4.006	4.021	4.014
Current BES/President's Budget (FY 2009)	4.337	3.987	4.007
Total Adjustments	0.331	-0.034	-0.007
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-0.112		
Other	0.443	-0.034	-0.007

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
08						

Comment: The Militarily Critical Technologies Program (MCTP) identifies critical technologies and informs export control processes to protect critical information from potential adversaries. Increased funding equates into broader participation in technology assessment and direct participation in international export control regime negotiations.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605110D8Z - Militarily Critical Technology Program**	**P110**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P110	Militarily Critical Technology Program	4.337	3.987	4.007	4.007	3.978	4.031	4.087

A. Mission Description and Budget Item Justification: Specific Militarily Critical Technologies Program (MCTP) activities include:
- Develop and publish in electronic form (including Internet version, both restricted and public) various editions of the Militarily Critical Technologies List (MCTL) and Developing Science and Technologies List (DSTL) documents that describe the military and proliferation significance of various technologies
- Monitor and assess dual-use and military technologies worldwide
- Assist in the development of proposals for negotiation in various multilateral export control regimes
- Provide technical support for the review/revision of the U.S. Munitions List under the Defense Trade Security Initiative
- Provide analytical support for Congressional reports
- Continuous technical support to interdepartmental and international processes which develop multinational export control agreements on technologies of concern to DoD
- Worldwide technology capabilities assessments for the MCTL and other USG international critical technologies efforts
- Identification and determination of technical parameters for proposals for international control of weapons of mass destruction
- Technical assessments to support decisions on foreign ownership of US industrial assets and treaty compliance inspections
- Identification of foreign technologies of interest to the DoD and opportunities for international cooperative research and development
- Identification of Homeland Defense and terrorism applications of militarily critical technologies
- This program includes funding for travel by DoD personnel in support of management and technical objectives

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Militarily Critical Technology Program	4.337	3.987	4.007

FY2007 Accomplishments: Completed urgent content update of the MCTL. Completed MCTL reengineering plan and began implementation. Virtual collaboration tool (Wiki) prototype developed and being populated with current MCTL. Beta-testing in progress using Technology Working Groups. Defense Technical Information Center (DTIC) is implementing an improved, commercial search engine on MCTL content to provide improved access and useability. Roll-out of these tools expected by 2nd QTR FY2008. Provided detailed technical proposal inputs to Wassenaar Arrangement negotiation team. Held first-ever MCTL Community Advisory Board (CAB) with key Service and Agency stakeholders as part of outreach to MCTL customers.

FY2008/2009 Plans: Complete MCTL reengineering and roll-out of MCTL tools (Wiki and Search Engine). Continue to strengthen outreach to Services, and U.S. Departments of State and Commerce to exchange technical information through the CAB process, as well as technical representation on multilateral export control panels. Improve and expand the focus of the DSTL effort to represent a broader global research watch.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009

Intentionally left blank

C. Other Program Funding Summary	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
N/A							

Comment:

D. Acquisition Strategy Not applicable for this item.

E. Major Performers

Category	Name	Location	Type of Work and Description	Award Date
FFRDCs				
	Institute for Defense Analyses	Alexandria, VA	Provide in-depth technical and analytical support to respond to rapidly changing requirements involving multiple departments of the U.S. and foreign govenments; and identify and define the broad and enduring critical technology base elements for national security including homeland defense.	Nov 07
Other				
	Systems Planning & Analysis, Inc (via GSA)	Alexandria, VA	Provide specialized technical, engineering, programmatic, analytical, financial management and adminstrative program office support	Nov 07

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			R-1 Item Nomenclature: Foreign Materiel Acquisition and Exploitation, PE 0605117D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	38.873	52.227	62.816	63.818	64.420	65.336	66.244
Foreign Materiel Acquisition and Exploitation, P411	38.873	52.227	62.816	63.818	64.420	65.336	66.244

A. Mission Description and Budget Item Justification:

This program manages the acquisition and assessment of foreign weapons systems, military equipment, and military and dual-use technologies for the military services and defense agencies.

Program Accomplishments and Plans:

FY 2007 Accomplishments:

- Mission Support $38.873

FY 2008 Plans:

- Mission Support $52.227

FY 2009 Plans

- Mission Support $62.816

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Foreign Materiel Acquisition and Exploitation, PE 0605117D8Z

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget	38.035	52.683	52.911
Current Program and Budget Review	38.873	52.227	62.816
Total Adjustments	0.838	-0.456	9.905
Congressional Reductions	0	0	0
Congressional Increases	0	0	0
Other Adjustments	0.838	-0.456	9.905

Change Summary Explanation:

FY 2007: Department increase
FY 2008: Department decrease
FY 2009: Department increase

C. Other Program Funding: NA

D. Acquisition Strategy: NA

E. **Performance Metrics:** Classified

Exhibit R-2, RDT&E Budget Item Justification							**Date:** February 2008
Appropriation/Budget Activity RDT&E Defense-Wide, BA 06	R-1 Item Nomenclature: Classified Program PE 0605128D8Z						
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	91.626	97.576	0	0	0	0	0

A. Mission Description and Budget Item Justification: Classified.

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget	91.626	0	0
Current President's Budget	93.462	97.576	0
Total Adjustments	1.836	0	0
Congressional reductions	0	-0.624	0
Congressional increases	0	98.200	0
Other adjustments	1.836	0	0

Change Summary Explanation:

FY 2007: Classified.
FY 2008: Classified
FY 2009: N/A

C. Other Program Funding Summary: Classified

D. Acquisition Strategy: Classified

E. Performance Metrics: Classified

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605130D8Z - Foreign Comparative Testing (FCT)**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P130 Foreign Comparative Testing (FCT)	31.438	32.634	34.910	35.719	34.381	34.839	35.330

A. Mission Description and Budget Item Justification: The Foreign Comparative Testing (FCT) program supports the warfighter by leveraging mature technologies and equipment from allied nations and coalition partners to satisfy U.S. defense requirements, thereby accelerating the U.S. acquisition process and lowering development costs. Authorized by Title 10, U.S. Code, Section 2350a(g), the FCT Program is managed by the Deputy Under Secretary of Defense (Advanced Systems & Concepts), Comparative Testing Office. FCT projects are nominated by the Services and U.S. Special Operations Command (USSOCOM) each year. Evaluation processes for project selection include a detailed review to confirm the proposed item addresses valid requirements, a thorough market survey, and development of a viable acquisition strategy. A 30-day Congressional notification of the intent to fund the most meritorious projects is required, prior to the issuance of funds to the Services/SOCOM for execution.

Since the program's inception in 1980, OSD has initiated 583 projects; 501 projects have been completed to date. Of the 268 evaluations that met the sponsors' requirements, 190 led to procurements worth approximately $8.480 billion in FY 2008 constant year dollars. With an OSD investment of about $1.100 billion, the FCT program has realized an estimated RDT&E cost avoidance of $7.370 billion in FY 2008 constant year dollars.

The FCT program is frequently a catalyst for teaming or other business relationships between foreign and U.S. industries; many successful FCT projects result in arrangements for the licensed production of the qualified foreign item in the U.S. Other nations recognize the long-term value of such practices for competing in the U.S. defense market and the resultant strengthening of the "two-way street" in defense procurement. For the U.S., the result often means the creation of jobs and contributions to local economies. To date, companies across 33 states have benefited from FCT projects.

This Research, Development, Test and Evaluation (RDT&E) Category 6.5 is assigned and identified in this descriptive summary in accordance with existing DoD policy.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	31.812	32.919	34.974
Current BES/President's Budget (FY 2009)	31.438	32.634	34.910
Total Adjustments	-0.374	-0.285	-0.064
Congressional Program Reductions			
Congressional Rescissions		-0.285	
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other	-0.374		-0.064

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605130D8Z - Foreign Comparative Testing (FCT)**

The change in the FY 2008 funding amount from last years President's Budget to this year is as a result of the implementation of mandated Congressional recissions in Sections 8025(f), 8097 and 8104.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
08						

Comment: 19 FY 2007 FCT Projects completed.
22 FY 2008 FCT Projects planned for completion.
11 FY 2009 FCT Projects planned for completion.

See R-2a project-level narratives for return on investment and technology performance metrics (i.e., KPPs).

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P130 Foreign Comparative Testing (FCT)	31.438	32.634	34.910	35.719	34.381	34.839	35.330

A. Mission Description and Budget Item Justification: The Foreign Comparative Testing (FCT) program supports the warfighter by leveraging mature technologies and equipment from allied nations and coalition partners to satisfy U.S. defense requirements, thereby accelerating the U.S. acquisition process and lowering development costs. Authorized by Title 10, U.S. Code, Section 2350a(g), the FCT Program is managed by the Deputy Under Secretary of Defense (Advanced Systems & Concepts), Comparative Testing Office. FCT projects are nominated by the Services and U.S. Special Operations Command (USSOCOM) each year. Evaluation processes for project selection include a detailed review to confirm the proposed item addresses valid requirements, a thorough market survey, and development of a viable acquisition strategy. A 30-day Congressional notification of the intent to fund the most meritorious projects is required, prior to the issuance of funds to the Services/SOCOM for execution.

Since the programs inception in 1980, OSD has initiated 567 projects; 481 projects have been completed to date. Of the 258 evaluations that met the sponsors' requirements, 177 led to procurements worth approximately $7.900 billion in FY 2007 constant year dollars. With an OSD investment of about $1.000 billion, the FCT program has realized an estimated RDT&E cost avoidance of $6.900 billion in FY 2007 constant year dollars.

The FCT program is frequently a catalyst for teaming or other business relationships between foreign and U.S. industries; many successful FCT projects result in arrangements for the licensed production of the qualified foreign item in the U.S. Other nations recognize the long-term value of such practices for competing in the U.S. defense market and the resultant strengthening of the "two-way street" in defense procurement. For the U.S., the result often means the creation of jobs and contributions to local economies. To date, companies across 32 states have benefited from FCT projects.

This Research, Development, Test and Evaluation (RDT&E)Category 6.5 is assigned and identified in this descriptive summary in accordance with existing DoD policy.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
30mm Programmable Air Burst Munition (ABM) (Navy)	1.563		

Outcome: A successful project will provide DoD users of the MK46 and other 30mm Gun Weapon Systems (GWSs) with the required capability to effectively engage and defeat personnel and light to medium materiel targets. Extensive analyses and modeling of ABM have proven four to six times more lethal and effective across the full spectrum of combat operations than currently available combat munitions. The 30mm ABM could potentially be fielded in the following weapon systems: Marine Corps's Expeditionary Fighting Vehicle (EFV); Army's Future Combat System (FCS); Landing Platform Dock (LPD)-17; Littoral Combat Ship; Amphibious Assault Ships Replacement ((LHA(R)); and other foreign weapon systems from the UK and NATO countries. The primary outputs and efficiencies are: (1) fielded 30mm programmable ABMs provide US combat forces greater survivability thru increased lethality; (2) avoid RDT&E costs of $15.000 million and O&S savings of $10.000 million; and (3) fielding reduction by five years.

FY 2007 Output: Issued contract for qualification rounds with procurement options to ATK/Diehl (Germany) Team for use during the Weapons System Explosives Safety Review Board (WSESRB)

qualification program. Continued working on the joint qualification test plan, which will be conducted at Naval Surface Warfare Center (NSWC) Dahlgren. The Navy, Marine Corps, and Army are working together to develop a joint qualification test plan covering all services' requirements. Present the ABM fuze to a joint fuze review board. Present 30mm ABM qualification program to the WSESRB. Delivery of the 1200 30mm ABM qualification cartridges for actual qualification testing. USMC began their effort to integrate the 30mm ABM cartridge into the EFV platform, with an integration kickoff meeting at Woodbridge, VA. The integration effort will continue in parallel with this cartridge qualification effort.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: Complete qualification testing, secure approval for production, prepare close-out report; execute contract options for ABM cartridges for Service use.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
40mm Tactical Marking & 40mm Day/Night Training Cartridges (SOCOM)	0.293		

Outcome: This Joint FCT project will qualify two 40mm low velocity (LV) cartridges for multi-service use: (1) a non-developmental IR tactical marking cartridge and (2) a 40mm day/night training cartridge. Both 40mm cartridges use unique chemi-luminescent night marking technology. The 40mm tactical marking cartridges provide for accurate IR target marking to support precision fire control and air-ground combat in daylight and at nighttime. The 40mm Day/Night training cartridges allow soldiers to train as they fight, at night using their night vision goggles, a capability not currently available. The RDT&E and manufacturing cost avoidance is $9.000 million. Savings in procurement costs is expected to be $5.000 million and Operational Life Cycle savings are $10.000 million annually.

FY 2007 Output: Fabrication has been underway of both the tactical marking round in Germany and the training round in the USA test articles in preparation for Performance Qualification Testing (PQT).

FY2008 Planned Output: Test articles for Production Qualification Testing will be received Jan 2008. PQT, safety and environmental testing for the training round will be completed in Camden, AK and PQT for the marking round will be completed in Unterluess, Germany, Jan through Mar 08. Concurrently, initial operational test and evaluation will occur at Fort Bragg, NC. WSESRB Certification, Milestone C Decision and Close-out Report is anticipated in 3Q FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
70 mm (2.75) Rocket Warhead (SOCOM)	1.384		

Outcome: This project is qualifying an improved 70mm multi-purpose penetration warhead for use by Special Operations Aviation Regiment (SOAR) (Task Force 160) aircraft (AH/MH-6J). Primary Outputs and efficiencies: This warhead will provide Special Operations Forces (SOF) with a significant new capability to defeat hardened targets such as bunkers, buildings or other structures consisting of up to 24 inches reinforced concrete or 4 feet of timber and earth. Total cost avoidance and savings exceed $43.000 million.

FY 2007 Output: Received test articles; began interim hazard classifications, and Phase I technical and safety testing, as well as insensitive munitions (IM) testing; started Weapons System Explosive Safety Review Board (WSESRB) approval process.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: Obtain air worthiness certification; complete Phase I testing; obtain WSESRB certification; conduct Phase II Operational and User Assessment. Complete Close-out Report. Obtain Milestone C decision 2Q FY 2008.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
84 mm Multi-Target Warhead (SOCOM)	1.308		

Outcome: This project is evaluating an 84 mm Multi-Target (MT) Warhead for use in the Multi-Role Anti-Armor, Anti-Personnel System (MAAWS), the primary Special Operations Forces (SOF) crew served shoulder fired weapon. Primary Outputs and efficiencies: This munition will greatly enhance SOF capabilities to blast through wall-structures and targets urban/built up areas using a tandem warhead with a follow-through charge. This project will accelerate the weapons into the hands of the warfighter by 5 years sooner and avoid $45.000 million in RDT&E and life-cycle costs.

FY 2007 Output: Initiated hardware integration and delivery; initiated technical and safety testing; submitted Navy Weapon System Explosive Safety Review Board (WSESRB) data package.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: Complete hardware integration; finish technical and safety testing; perform limited user testing; obtain Navy WSESRB approval. Complete Close-out Report. Obtain Milestone C Decision 3Q FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Air Flotation Platform (Air Force)	0.313		

Outcome: This is an Industrial Capitalization Improvement project started in FY06. Reduction in the number of work flow days per aircraft (A/C) by ten and save $0.025 million per A/C in rigging costs resulting in annual savings of $3.600 million for lean-moving structural production lines. The 309th Air Maintenance Group at Hill AFB, Utah will evaluate air flotation platforms developed by Solving of Finland that are used to reposition aircraft and airframe structures as integral units during depot level maintenance operations, while maintaining structural alignment. During maintenance operations aircraft airframes are disassembled for repair and/or replacement of major structural components, and the inability to move the aircraft results in all tooling and labor being transported to the airframe, causing added wait-time and degraded lean-moving production lines. The Air Flotation Platforms are being used by Airbus in France and by the Dutch Royal Air Force. The primary outputs and efficiencies are to reposition aircraft and airframe structures as structurally aligned integral units during depot level maintenance operations.

FY 2007 Output: Demonstrated successful motion over shop floors with a factory demonstration model. Test article delivery with final evaluation occurred in August 2007. Generated Final Report with Completion in September 2007.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: Transition to production use in structural modification line and procure additional systems.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Aluminum Alloy 5059 for Armor Applications (Army)	0.148		

Outcome: This project is evaluating and qualifying an improved aluminum developed by Corus of Germany for armored ground systems used in PEO Ground Combat Systems as well as for possible use in Future Combat Systems (FCS) applications. Preliminary data indicated excellent performance among aluminum materials in ballistics, particularly against frag based threats. In addition, the alloy possesses a lower density versus other aluminum alloys imparting good potential for reducing the overall weight of weapon systems while simultaneously increasing or maintaining current armor performance levels. RDT&E Cost Savings: $2.500 million over four years (minimum). O&S Cost Savings: $1.200 billion. Procurement Cost Savings: Recouped from simplified welds. Other Benefits: Use on other armored platforms and
structures.

FY 2007 Output: The armor plate material was received by ARL from Corus. The overall test plan and IPT were established, and testing activities successfully completed. The prime contractor,

British Aerospace and Engineering (BAE), submitted a quote for an upcoming contract for work in evaluating weld performance of the 5059 armor. The project resulted in a decision to procure the product for use in "resetting" the Army's Bradley and Stryker vehicle fleets, and approved for incorporation into the FCS program. Preparations for disbursing funds to US Navy laboratories NAVAIR and NAVSEA for evaluation of 5059 corrosion resistance are underway and will commence upon receipt of funds.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Area Mine Clearing System (AMCS) (Army)	1.318		

Outcome: This project is evaluating and qualifying the Army's area mine clearing capability for the new Combat Engineer Clearance Companies that will support the redesigned Modular Future Engineer Force. The current techniques for clearing large areas of mines are soldiers using handheld mine detectors and mine probes or explosive breaches and line charges. These methods are problematic because they are time consuming, leaving the soldiers unprotected and they do not neutralize anti-tank mines. The Area Mine Clearing System (AMCS) candidate systems are large mechanical mine clearing flails, predominantly used for humanitarian demining operations around the world. They clear large areas by detonating or destroying the mines and they are blast hardened to withstand multiple Anti-Tank (AT) and Anti-Personnel (AP) mine blasts. As a result of this project, Army Combat Engineers will gain the ability to clear large areas of minefields at a faster rate of speed than ever before. In addition, engineers will be protected in a fully armored vehicle and will no longer need to solely rely on hand-held devices. The Army's testing program for this project includes dynamic blast testing using live AP and AT mines, operational testing against surrogate mines while flailing operations are being conducted, and ballistic blast testing against live AT mines. Efficiency: RDT&E Savings is estimated to have saved between $25.000-35.000 million. SDD Savings is estimated to have saved between $10.000-20.000 million. Procurement Savings is estimated to have saved between $1.000 - $5.000 million.

FY 2007 Output: All developmental and operational testing of the AMCS candidate systems was conducted successfully in 1Q and 3Q FY 2007, and will be thoroughly analyzed by the Army Test & Evaluation Command to provide a testing report which will be used as feeder data for the down-select decision in 4Q FY 2007.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: In 1Q FY 2008 the PM will complete the full rate production decision with PEO Ammo, and in 2Q FY 2008 the production contract will be awarded to the vendor selected during down-select. After contract award, the PM office will begin executing all acquisition documentation required for Full Materiel Release and Type Classification standard.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Composite Shroud for Landing Craft Air Cushion (LCAC) (Navy)	0.163		

Outcome: A successful project will provide the U.S. Navy composite shrouds that are more easily repairable and 30 percent more reliable; thus, reducing Landing Craft Air Cushion (LCAC) life cycle maintenance costs and increasing craft mission availability. The primary outputs and efficiencies to be demonstrated are: (1) composite shrouds are potential replacements when casualties occur for the entire LCAC fleet (72 craft); (2) The U.S. Navy saves over $0.500 million in specification development, $13.500 million in material/labor and R&D plus an estimated additional reliability savings of $1.200 million over the life of the LCAC Program.

FY 2007 Output: Completed the Critical Design Review (CDR) and FY Composites was authorized to proceed with tooling and fabrication. Completed contract negotiations and modifications. The Government Furnished Equipment (GFE) consisting of the propeller center-body and rudder attachment fittings, plus a second center-body with fairing attached, were shipped and received at FY Composites Ltd. A first draft test plan for the composite shroud has been completed. Continued work with FY Composites Ltd. with respect to design and testing issues.

FY 2008 Planned Output: FY 2007 funds will continue to provide for the following FY 2008 planned actions: Accept delivery of first article test unit and install on a test platform. Testing is expected to be complete with final test report and close out report provided by FY 2009.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Emergency Battery System (Navy)	0.113		

Outcome: A successful project will provide the warfighter with a lightweight, renewable, emergency power source capable of operating computers and communications equipment while minimizing the warfighters' battery load and ensuring adequate power resources throughout a mission. During OIF and OEF, world production limitations of the BA5590 lithium battery have driven the requirement for supplemental sources of expeditionary power. The US Marine Corps will test the Metal Cell from MEET of South Korea and the Magnesium-Air Power Cell from MagPower Systems Inc. of Canada to meet the requirement for alternative power sources. A two-year FCT project under sponsorship of the OSD Comparative Testing Office and Marince Corps Systems Command (MARCORSYSCOM). Projected completion of testing and qualification will be FY 2007 with transition to USMC operating forces during FY 2007. The primary outputs and efficiencies to be demonstrated are: (1) provide lightweight multiple/redundant sources of emergency battery power; (2) minimize warfighter battery load while assuring mission critical power needs; (3) avoid RDT&E costs of $2.000 million and Operational costs of nearly $0.500 million per year, providing a ROI of 27:1.

FY 2007 Output: Initial test article delivery received from MEET and MagPower Systems Inc. in 1Q FY 2007. Performance Testing initiated during the 1Q FY 2007. Received remaining test articles from both vendors in the 3Q FY 2007.
Completed Performance Testing during the 4Q FY 2007. Submitted technical test report and project close out report.

Outcome: Results concluded the Emergency Battery System could not meet Marine Corps requirements for fielding.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Enhanced Underwater Breathing Apparatus (EUBA) (Navy)	0.758		

Outcome: A successful project will field a nitrox mix, semi-closed re-breather system, developed by Divex of the UK, Carleton of Canada, or OMG of Italy, to meet the requirement for a EUBA in order to conduct extended range, underwater reconnaissance missions. This project is under sponsorship of the OSD Comparative Testing Office and MARCORYSYSCOM. Projected completion of testing and qualification will be CY 2008 with transition to USMC reconnaissance forces during CY 2009. The primary outputs and efficiencies to be demonstrated are: (1) The EUBA will increase dive duration by 33 percent and dive depth by 80 percent over currently fielded systems; (2) eliminate the risk of decompression up to 130ft.; (3) provide for stealth operation by eliminating surface bubbles that cause diver detection; (4) meet the requirements for naval certification; and (5) provide O&S cost avoidance of $2.000 million, RDT&E cost avoidance of $1.200 million, and a ROI of 20:1. Completed contracting for test articles and finalized test planning. Receive test articles during the 4Q FY 2007 and forward them to the Naval Experimental Dive Unit (NEDU) at the Naval Surface Warfare Center, Panama City for certification. Completed Phase I, Un-Manned Testing during 4Q FY 2007.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: Complete Phase II, Pool and Open Water Testing, and Phase III, Open Ocean Testing, by the 3Q FY 2008. The test report will be provided by the NEDU in the 3Q FY 2008. A Milestone C Decision is anticipated in the 4th Qtr followed by the Close-out Report.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Extended 1553 Databus (Air Force)	1.832		

Outcome: This is a Spare Parts project to increase databus throughput rates. Integration of an extended 1553B interface into high-bandwidth demand avionics, which will enable increased throughput rates from one mega-bit per second (Mb/sec) to an excess of 200 Mb/sec over existing cable. ASC/YS, B-2 Systems Group at Wright Patterson AFB in Dayton, OH will evaluate an Extended 1553B Data Bus developed by Edgewater Computer Systems, Inc. of Ontario, Canada. DoD platform data bus networks are based upon MIL-STD 1553B information exchange protocols that are constrained to 1Mb/sec throughput rates. The primary outputs and efficiencies to be demonstrated will be that the Extended 1553B performance is transparent to the user if data bus operations/functions occur within specified parameters and the increased throughput is realized. This Spare Part will have application to all legacy aircraft or other 1553 databus users and will save

the Air Force approximately $1.600 million per aircraft in lieu of the installation of fiber optic cable.

FY 2007 Output: Completed all required hardware purchases, leading to the manufacture/delivery of four test assets. Validated that the Edgewater solution performs as advertised and that it complied with established MIL-STD 1553C protocols.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: Complete the final demonstration in 1Q FY 2008. Completion date and publishing the Final Report planned for 4Q FY 2008. Transition to platform integration with Northrop Grumman.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Improved Limpet Mine (SOCOM)	0.548		

Outcome: This project will test and evaluate the effectiveness of a candidate Improved Limpet Mine (ILM) at a specified depth and its ability to destroy or incapacitate enemy vessels and maritime structures. The ILM is smaller, lighter and more capable than the current legacy Limpet Assembly Module (LAM). This project will also leverage the successes of the UK Ministry of Defense (MOD) Research, Development, Test and Evaluation of the Royal Ordnance ILM; who have already contributed nearly $11.500 million to develop an ILM. The RDT&E and manufacturing cost avoidance is $10.000 million. Savings in procurement costs is expected to be $34.000 million and Operational Life Cycle savings are $2.000 million.

FY 2007 Output: Completion of Phase II scaled operational testing in Sept 2007.

FY 2008 Planned Output: Complete Phase III scaled operational testing Jan - Mar 2008. Finalize production and fielding milestone decision documentation based on test and evaluation outcome. Milestone C Decision and complete Closeout Report 3Q FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Lightweight Deployable UMTS Communications System (LDUCS) (SOCOM)	1.168		

Outcome: This project will test and evaluate the Swedish based Ericsson "QuicLINK", a lightweight Universal Mobile Telecommunications System (UMTS) mobile cellular system. Primary Outputs and efficiencies: "QuicLINK" is a downsized third generation cellular system that can provide high data rates to personal communications devices, as well as handle 90 simultaneous voice calls and provide data rates up to 384 kbps over a Wideband Code Division Multiple Access air interface and will incorporate Robust Header Compression technology. The "QuicLINK" system can operate in an autonomous mode or as a sub-network within current legacy networks. RDT&E Cost avoidance is estimated at $10.000 million. Combined O&S and Procurement cost avoidance is expected to be $6.000 million. Fielding reduction time is greater than five years.

FY 2007 Output: Contracted for and received test articles. A prototype demonstration of QuicLINK system was conducted.

FY 2008 Planned Output: FY 2007 funds will continue to provide for the following FY 2008 planned actions: Prepare and perform instrumentation and laboratory technical test, as well as over the air technical tests and field level tests. Intellectual Property Rights and information exchange agreements between vendor and PM Warfighter Information- Tactical (WIN-T). Perform tweaks to system as necessary to provide better hand-off between nets. Submit Close-out Report. Milestone C Decision is scheduled not later than the 4Q FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Mobile Oxygen Ventilation & External Suction System (MOVESS) (Navy)	1.563		

Outcome: A successful project will provide the USMC with a Mobile Oxygen Ventilation & External Suction System (MOVESS), co-developed by Thornhill Research, Inc. of Canada and the USMC, to provide the patient care capabilities necessary to meet the urgent need for transporting critically ill and injured post-operative patients via USMC rotary wing aircraft. Projected completion of testing and qualification will be CY 2008 with transition to deployed USMC forces by the end of CY 2008. The primary outputs and efficiencies to be demonstrated are: (1) MOVESS is an integrated oxygen, ventilation, and suction device that can meet Food and Drug Administration (FDA) Approval for fielding; (2) eliminate 90 percent of the logistics burden, 15% of the cost, and 85 percent of the weight of the currently fielded En-Route Care System; (3) increase the safety and flexibility of providing critical patient care during transportation by eliminating oxygen bottles in ambulances and fixed wing aircraft; and (4) avoid procurement costs of $10.000 million, RDT&E costs of $90.000 million, and provide a ROI of 74:1.

FY 2007 Output: Received FCT funding during the 2Q FY 2007. Initiated test article contracting and Test Planning in the 2Q FY 2007. Test Article contract award 3Q FY 2007. Test Plan completed by 3Q FY 2007. Completion of the test article manufacture by the 4Q FY 2007 and initiated FDA Testing at Thornhill Research Institute consisting of Lab Testing, Clinical Testing, and Environmental Testing.

FY 2008 Planned Output: Complete FDA Testing by 2Q FY 2008. Submit the Test Results for FDA 510(k) approval during the 2Q FY 2008. Utilize NAVAIR for Air Transportability Testing in the 2Q FY 2008. A Milestone C Decision is anticipated during the 3Q FY 2008. The Technical Test Report and Close-out Report are anticipated during 4Q FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Noise Robust Voice Recognition System (Army)	0.488		

Outcome: This project will evaluate the performance of the Aurix speech recognition technology when immersed in typical tactical acoustic environments, including various vehicular noise and small-arms fire. In addition the claim of "speaker independence" will be validated through extensive testing, requiring the collection of a substantial voice database that is, to the greatest extent practical, representative of the Army accent diversity. Improvements: Pending satisfactory performance evaluation, this technology will provide the Warfighter hands-free interaction with current and future battle-command software, increased Warfighter efficiency, survivability and lethality. Efficiency: Reduce task timelines by 50 percent; Reduce input error rate by 75 percent; Increase survivability by 50 percent; and increase lethality by 25 percent. Visited several military bases to collect an active-military voice database that, within practical limitations, represents the regional and ethnic diversity of today Army.

FY 2007 Output: Began the evaluation of the Aurix technology by running a battery of evaluations that will include many permutations of tactical acoustic environments utilizing the accent diverse voice database as input to the Aurix speech recognition technology.

FY 2008 Output: 2007 funds will continue to provide the following FY 2008 planned actions: Complete the evaluations of the Aurix speech recognition technology and prepare a detailed evaluation performance report.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Pitch Adapting Composite Marine Propeller (Navy)	0.128		

Outcome: This project will provide the U.S. Navy with composite pitch adapting marine propellers to improve vehicle stealth, speed and propulsion efficiency. In addition, the pitch change reduces

cavitation damage, marine growth fouling and permits in-water blade replacement. This advanced performance is enabled by blades constructed from carbon fibers instead of traditional metals. This project is evaluating commercial Contur-series propellers developed by AIR Fertigung- Technologie GmbH, Rostok, Germany. The primary outputs and efficiencies to be demonstrated are: (1) fielded pitch adapting propellers will have lower noise and vibration characteristics; (2) lower maintenance and operation costs; (3) better fuel efficiency, and (4) avoid RDT&E costs of $10.000 million - $15.000 million and procurement cost savings of $3.000 million per propeller.

FY 2007 Output: Completed the Advanced SEAL Delivery System (ASDS) loading calculations for the fatigue testing. Completed formulation and review of the ASDS fatigue test plans for both USN and AIR of Germany. Completed the fabrication of the prototype blades and two hubs for the fatigue testing. Initiated the technology transfer agreement between AIR and the Naval Surface Warfare Center (NSWC). Completed the initial assessment between SSBN and ASDS designs for the generic SSBN fatigue testing. Completed the documentation of the 36-in water tunnel tests. Approve the ASDS fatigue test plans. Start to fabricate the flex prop for the ASDS platform. Conduct the ASDS fatigue testing at USNA and AIR Fertigung-Technologie GmbH (Germany). Conducted a generic SSBN design for fatigue testing.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: Conduct the 2nd phase experiments for the unconstrained rigid and flex propellers in Navy Surface Warfare Center Carderock Division (NSWCCD) 36 inch water tunnel. Perform 2nd test analysis for the 2nd phase 36 inch water tunnel test. Start to design the flex propeller for ASDS platform. Develope Final Test Report and Close Out Report.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Portable Undersea Training Range (PUTR) (Navy)	0.876		

Outcome: A successful project will satisfy a critical need for shallow water and forward-deployed Anti-Submarine Warfare (ASW) training. This project will enable ASW training in littoral waters with the completion of two, closely linked concurrent efforts. The first effort is to acquire and test a transponder acoustic up-link receiver (hub), which is a component of a commercial transponder system developed in Australia. The second effort is to acquire and test one Station Keeping Buoy (SKB) developed in France, which can potentially act as a support platform for a transponder hub. The SKB and transponder hub provide key components in establishing an ASW training capability in littoral waters by enabling the deployment of a large array of transponders over a wide area. A 50 percent reduction in operational support costs is achieved by avoiding use of two support vessels. Successful execution will result in a RDT&E cost savings/avoidance of $2.000 million for Initial Operational Capability (IOC) implementation. Additionally, estimated savings of $1.000 million will be realized in procurement cost savings.

FY 2007 Output: Completed assembling SKB main components, and writing SKB Factory Acceptance Test (FAT) plan. Commenced SKB subsystem integration and testing. Phase I testing of the SKB and transponder hub test units. Naval Undersea Warfare Center Division, Newport will verify basic performance parameters and gain operational experience by testing the SKB unit in France, under benign environmental conditions, and testing the transponder hub in Australia.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: Final operational demonstration of PUTR SKB and transponder HUB during Phase II testing is scheduled for March 2008 at Pacific Missile Range Facility (PMRF).

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Shipboard Mast/Mounted Surveillance Pod (SMSP) (Navy)	0.542		

Outcome: This project will demonstrate the N-channel tuner technology from WinRadio (Australia) and the N-channel digital processing technology from Sundance Digital Signal Processor (DSP) (Great Britain) to resolve US Navy shipboard blind spots in their Signal Intelligence (SIGINT) threat warning systems. The primary outputs and efficiencies to be demonstrated in this FCT are: (1) detect signals normally masked by shipboard transmitters; (2) provide signal direction relative to ships orientation, which can be used to geo-locate enemy forces; (3) when multiple long range

signals are simultaneously being transmitted on the same frequency, the SIGINT operators can select which ones to process; and (4) system can be adapted to aircraft applications or situations that need signal interference mitigation, (5) system theoretically enhances signal quality, so we will measure the effectiveness relative to current technology.

FY 2007 Output: WinRadio signal search and radio direction finding capability field tested on Charleston facility. WinRadio technology briefed to Navy Cryptologic Carry On Program (CCOP) and Southern Operations Command Joint Threat Warning System (SOUTHCOM JTWS) personnel. Briefed Homeland Security (HLS) SEAHAWK program which resulted in request to set up on-site evaluation tests in FY 2008. Completed stress testing newly developed Sundance Field Programmable Gate Array FPGA and carrier boards. Completed bench testing all Sundance beam forming software modules with signal generators and WinRadio equipment. Completed field testing WinRadio/Sundance search, radio direction finding, and signal interference mitigation on shipboard type signals. Brief NSA Bluestream, Salvage and other programs on WinRadio and Sundance technologies for Services Oriented SIGINT applications. Final operational demonstration.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: Based on inputs from the initial demonstrations, SMSP will be interfaced to the Shipboard Signal Exploitation Environment - F (SSEE-F) and SIGINT shipboard surveillance systems for limited operational evaluation during exercises or special SIGINT missions of opportunity. Based on the FY 2007 demonstrations, USSOCOM will evaluate implementation of SMSP on their C-130 gunships or UAVs by flying it on a surrogate platform, a commercial helicopter with experimental testing certification. A final report will be generated to include test results, logistics requirements, installation issues, and training information.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Telemetry Buoy for Underwater Comms (TBUCS) (Navy)	0.663		

Outcome: This project will provide an underwater communications link between various different US Navy platforms. TBUCS will utilize air dropped expendable sonobouys to establish a two way underwater communications link between US Navy submerged platforms and aircraft using a Hydro Acoustic Communications Link (HAIL) system. TBUCS program will allow CSD to achieve Program of Record (POR) milestones and potentially avoid significant development and testing costs. The primary outputs and efficiencies to be demonstrated are: (1) that fielded TBUCS, using HAIL technology would support the following naval platforms: all submarine classes; (2) P3 squadrons; special operations submerged forces; all U.S. Navy surface vessels; and (3) unmanned aerial vehicle squadrons.

FY 2007 Output: Phase I was executed and completed by L-3 Maripro/Nautronix and sonobuoy manufacturers. A major integration and test contract was awarded to a collaboration of the HAIL providers with major sonobuoy manufacturers. The contract provides test items and Satellite Communications (SATCOM), Radio Frequency (RF), and acoustic communications integration in standard sonobuoy-size containers. Test schedules and plans were developed with performance and comparison tests at an initial concept demonstration, leading to an at-sea demonstration. TBUCS concept testing occured 4Q FY 2007 and the integration design of the acoustic modem with the deployable buoy was finalized.

FY 2008 Planned Output: FY 2007 funds will continue to provide the following FY 2008 planned actions: Testing in an at-sea environment and submission of the final Test Report and Close Out Report.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Urban Deployable Instrumented Training System (U-DITS) (Navy)	0.563		

Outcome: This project will enable the USMC to conduct realistic urban training by integrating the U-DITS, manufactured by Saab Training Systems of Sweden, into current training devices to improve USMC training capabilities and tactics for current battlefield threats. Projected completion of testing and qualification will be CY 2007 with transition to USMC training facilities during CY 2008. The primary outputs and efficiencies to be demonstrated are: (1) the U-DITS integrates with the Multiple Integrated Laser Engagement System; (2) supports live training exercises that move seamlessly from open terrain to an urban environment; (3) track all movements of up to 1000 players in real time Global Positioning System (GPS); (4) provide the realistic simulation of direct

and indirect fires affects within the Urban environment; and (5) provide Manufacturing cost avoidance of $2.000 million, RDT&E cost avoidance of $15.000 million, and a ROI of 59:1.

FY 2007 Output: Awarded the Test Article Contract during the 2Q FY 2007. Completed Test Planning during the 2Q FY 2007. Received Test Articles and performed operational testing during the 2Q FY 2007. A Milestone C Decision was made during the 3Q FY 2007. The Technical Test Report and Project Close-out Report is anticipated during the 4Q FY 2007.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
AK-47 Special Effects Small Arms Marking System (SESAMS) Training System (Navy)		0.441	

Outcome: This project will test a Special Effects Small Arms Marking System (SESAMS) compatible AK-47 Training Weapon, developed by General Dynamics,Ordinance and Tactical Systems of Canada, to improve the realism of urban warfare training. Projected completion date of testing and technology transition will be 3Q FY 2009. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) A permanent training weapon that allows the shooter to fire, at short range, a low velocity non-lethal 5.56mm SESAMS marking cartridge; (2) Accurate visual and auditory weapon signatures providing increased threat recognition, survivability and battlefield awareness; (3) Increased training safety by using a center firing mechanism, precluding the weapon from firing lethal, live ball ammunition; and (4) avoid RDT&E and manufacturing costs of $0.950 million and $0.110 million, while providing a ROI of 2.2:1.

FY08 Planned Output: Receive foreign test data 1Q FY 2008. Receive FCT Funds and initiate contract preparation and award 2Q FY 2008. Initiate test planning and award contract during 3Q FY 2008. Receive test articles by the end of 3Q
FY 2008. Commence lab/technical testing during 4Q FY 2008.

FY09 Planned Output: Complete lab/technical testing during 1Q FY 2009. Initiate field user evaluation (FUE) by the end of 1Q FY 2009. Complete FUE and receive tech data package and test report by end of 2Q FY 2009. Milestone C Decision and close-out report expected by mid 3Q FY 2009.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Ceramic Tile Testing and Evaluation for Hard Body Armors (Army)		0.896	

Outcome: A new hard armor, Small Armors Protective Inserts (XSAPI), using Silicon Carbide (SiC) made by Saint Gobain (Germany) or Hocheng (Taiwan), together with domestic SiC, to meet US Army's production needs. Silicon Carbide (SiC) candidate made by Hocheng (Taiwan) has been added and will be funded by the Project Manager for testing. Upon successful testing and evaluation, the below product will be the deliverable: New hard armor, XSAPI, with higher level of ballistic protection than current SAPI with minimum weight increase. RDT&E Cost Savings: $10.000 million. O&S Cost Savings: no impact. Procurement Cost Savings: $50.000 million. Fielding Reduction: no impact. Procurement Potential: $500.000 million. Other Benefits: Mitigate production risk, maintain industrial base.

FY 2008 Output: Conducted two technical meetings with Saint Gobain during last two months to discuss technical approach and program plan for this program. Conducted one technical meeting with Schunk in November to discuss program plan. Conducted two meetings with Armacel insure the contractor understand the program. In process of drafting the contract for Chesapeake Testing for ballistic tests.

FY 2008 Planned Output: Full evaluation of new ceramic tiles (SiC) made by Saint GoBain and Hocheng. Evaluation will include the ballistic performance against various threats, 5.56mm, 7.62mm, hard steel core and tungsten carbide core rounds, the cracking patterns, durability, environmental effect, and physical mechanical properties. Transition manager is PM Soldier.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Fractal Antenna Technology for Shipboard Information Operations (Navy)		0.846	

Outcome: This project will test and evaluate a compact fractal element high frequency (HF) antenna for US Navy (USN) use. This antenna is based on technology which is currently fielded aboard Spanish Navy ships. This antenna will be much more compact and have a lower radar cross section (RCS) than current USN HF antennas. It will fit in locations not currently capable of supporting HF antennas and can be installed without an antenna tilting group (ATG) in locations currently requiring ATGs. It will be the baseline for compact low-radar cross section HF antennas for future Navy ships. The primary outputs and efficiencies to be demonstrated in the HF Fractal Antenna FCT are (1) development of a compact fractal HF antenna, based on and similar to the Fractus, SA Fracmia-1 COTS antenna, but optimized for USN installations, (2) the potential elimination of ATGs from many HF antenna installations, (3) reduction in maintenance labor and expenses currently devoted to maintaining and repairing antenna tilting groups, (4) reduction in weight and improvement in balance/center of gravity due to removal of ATGs, as each ATG weighs roughly 1,000 pounds, (5) greater availability of antennas currently requiring ATGs, (6) advancement in developing compact, low observable, low RCS HF signal intelligence antennas mandated for deployment onboard future ships, such as DD(X).

FY 2008 Planned Output: Purchase HF fractal antenna from Fractus, SA and install onboard LHD one class amphibious assault ship. Test HF fractal antenna at Shipboard Electronics Systems Evaluation Facility test range and compare to currently installed HF conventional. Validate HF fractal antenna performance as meeting US Navy requirements and superior to conventional alternatives. Transition to Navy HF Antenna In-Service Engineering Agent; transition manager is PMW 180.

FY 2009 Planned Output: Deliver technical test report and close out report.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Global Positioning System (GPS) Jammer (Air Force)		0.446	

Outcome: To provide a state-of-the-art UK LMPDA GPS Jammer System, capable of emulating most current and projected adversary GPS jammers. Systems include remote control units, transport cases, batteries, and antennas. The Joint Navigation Warfare Center (JNWC) will evaluate a GPS Jammer system developed by Technology Ltd located in Twekesberry, UK. The Global Positioning System (GPS) is a critical element of all US military operations. Our adversaries recognize the asymmetrical advantages GPS provides and are developing more and more robust GPS jamming systems to eliminate these advantages. This project involves identifying and procuring the most capable foreign jammer available in the market place to evaluate its ability to emulate adversary threats, current and projected, to provide realistic weapon system Positioning, Navigation, and Timing (PNT) denial testing, to support realistic operational training, and to support Tactics, Techniques, and Procedures (TTP) development to counter the growing threat.

FY 2008 Output: Procure test article and begin evaluating the system

FY 2008 Planned Output: Complete testing and publish test report 15 September 2009. Procure additional Systems

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Heat Resistant Lightweight Matting (Navy)		0.675	

Outcome: This project will facilitate testing and deployment of a follow-on expedient airfield matting system capable of accommodating the MV-22, particularly in the austere operating environments found in Iraq and Afghanistan. Current lightweight matting supports all USMC Vertical Take-Off and Landing (VTOL) aircraft and is not capable of supporting the unique operating profile of the MV-22 engine heat signature and loads. This matting will allow the MV-22 to operate with enhanced range and operational flexibility in order to bring more firepower to bear on

hostile forces.

FY08 Planned Output: Lightweight matting will be instrumented and lab tested to determine material properties. Engineering analysis will be conducted to further determine material limits of lightweight matting to ensure safety of flight for MV-22 aircraft testing. MV-22 will conduct numerous VTOL evolutions to characterize engine exhaust heat signatures. Final test report will qualify the lightweight matting for MV22 use in training and combat operations.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Advanced Flight Deck Lighting System (AFDLS) (Navy)	0.995	0.864	

Outcome: This project will test three commercially developed Advanced Flight Deck Lighting (AFDL) systems for use in providing visual cues to pilots approaching air-capable ships for safe landings as well as lighting and status cues to deck handling crews to enable them to perform their duties more safely. The AFDLs being evaluated provide Navy pilots with the increased capability to operate more effectively at night when using Night Vision Devices (NVDs). These AFDLs will allow warfare commanders to conduct higher-tempo night-time aircraft operations aboard US Navy ships.

FY 2008 Output: Complete purchase of AFDL evaluation systems. RFP was issued to three competing vendors soliciting AFDL systems. Proposals were evaluated, and purchase orders for both are currently being prepared.

FY 2008 Planned Output: Test article contract award expected in 2Q FY 2008. System delivery expected 3Q FY 2008 with testing to begin 4Q FY 2008. Planning for the laboratory and shipboard testing has been initiated.

FY 2009 Planned Output: Install systems aboard ship for qualification testing and operational Navy flight testing. Develop test reports.

FY 2010 Planned Output: FY 2009 funds will continue to provide the following FY 2010 planned actions: Final test reports issued. Secure approval for production; prepare close-out report; and execute contract options for AFDL for Service use.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Advanced Stabilized Glide Slope Indicator (ASGSI) (Navy)	0.507	0.546	

Outcome: This project will test two commercially developed Stabilized Glide Slope Indicators (SGSI) for use in providing pilots approaching air-capable ships with a color-coded indication of safe glide slope down to hover position for landing. The SGSIs being evaluated provide Navy pilots with the improved capability to operate at night when utilizing Night Vision Devices (NVDs). These SGSIs will allow warfare commanders to conduct higher-tempo aircraft operations aboard US Navy ships during night time littoral operations.

FY 2008 Planned Output: Request for Proposal (RFP) issued soliciting SGSI systems. Proposals, received, evaluated, and purchase orders for two vendors are currently being prepared. Complete purchase of Advanced SGSI systems for evaluation. Test article contract award expected in 2Q FY 2008. System delivery expected 3Q FY 2008 with testing to begin 4Q FY 2008. Planning for the laboratory and shipboard testing has been initiated.

FY 2009 Planned Output: Install systems aboard ship for qualification testing and operational Navy flight testing. Develop test reports.

FY 2010 Planned Output: FY 2009 funds will continue to provide the following FY 2010 planned actions: Final test reports issued. Secure approval for production; prepare close-out report; and execute contract options for ASGSI for Service use.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Anti-Material Rifle - Sniper (SOCOM)	0.517	0.565	

Outcome: This project will evaluate anti-material sniper rifles and subject them to a variety of tests to evaluate their performance, and ultimately select one rifle to complement the sniper rifle currently in SOF inventory. Primary Outputs and efficiencies: Special Operation Forces (SOF) snipers need to be able to defeat material targets such as lightly armored vehicles, power stations, communication assets, unexploded ordnance, etc. Current sniper rifles are effective against personnel targets at long ranges, but are not as effective as desired against hardened/materiel targets. This rifle is designed to fill this capability gap. RDT&E cost avoidance for this weapon is $15.000 million and the collective O&S and procurement cost savings are $9.000 million. This capability will be available to the warfighters more than two years sooner by using weapons already developed. Completion date is 30 Sept 2009.

FY 2007 Output: Published solicitation, and performed technical down-select. Certified on-hand ammunition for testing; contracted for foreign test articles; received ammunition and foreign/domestic test articles.

FY 2008 Planned Output: Conduct initial Technical Testing, perform operational and user assessments; down-select to most qualified vendor. Prepare test reports and submit decision packet. Complete FCT Close-out Report. Milestone C decision is scheduled for 4Q FY 2009.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
AT4-CS w/ Enhanced Blast Tandem Warhead (EBTW) (Army)	2.213	0.512	

Outcome: The Vice Chief of Staff for the Army approved the Army's Shoulder Launched Munition Strategy on 9 September 2005. The Joint Requirements Oversight Council (JROC) validated the capability need for the AT4 Confined Space on 23 January 2007. To demonstrate and qualify the AT4CS-EBTW to meet shoulder launched munition capabilities required by the US army Infantry Center. The current AT4CS warhead provides high lethality and incendiary effects against armor (defeats 16 inches of armor) but lacks overmatching penetration and effect against masonry walls made of brick and concrete and other urban targets/structures, field fortifications (earth and timber bunkers). With increased deployment of US Forces around the world in urban warfare environments, a new multi-purpose warhead with the ability to penetrate brick and concrete walls, incapacitate enemy forces behind urban structures and within field fortifications is required to maintain overwhelming firepower and reduce the logistics and training associated with multiple systems. The three-year effort will plan for and procure the hardware necessary to conduct test and evaluation for US Army, conduct the developmental operational tests necessary to verify safety and support materiel release and complete the modeling/simulation and evaluation of test results to ensure that the AT4CS-EBTW meets requirements by the end of FY 2008. The lead service is Army. The primary outputs and efficiencies to be demonstrated are (1) capability of incapacitating enemy soldiers positioned behind urban walls and structures made of eight inch double reinforced concrete (2) capability of incapacitating enemy soldiers positioned behind urban walls and structures made of 12 inch triple brick, (3) capability of incapacitating enemy soldiers positioned within earth and timber bunkers, (4) capability to meet performance requirements within close combat ranges and (5) capability to be safely fired from enclosures found in urban environments. In addition to savings in logistics and training due the eliminating of multiple munitions, the procurement cost savings of this project is estimated at 40-50 percent of the unit cost of each weapon by leveraging ammunition and fuzing components from other similar 84mm family weapons. Assuming $0.003 million per round savings x $0.020 million rounds over five years = $0.060 million.

FY 2007 Output: Conducted contract award, finalized test plans and schedules and funded fabrication of targets.

FY 2008 Planned Output: Accept and deliver test assets and initiate training/conduct of developmental and operational tests, complete all developmental and operational testing conduct full system evaluation, prepare a final report. Spiral Output: the successful completion of safety tests to facilitate urgent materiel release and release to the field approximately two years early.

FY 2009 Planned Output: FY 2008 funds will continue to provide the following FY 2009 planned actions: Complete army type classification documentation in support of a production decision. Qualification and fielding of the AT4CS-EBTW will be a combat multiplier since it reduces the need for continued fielding of multiple shoulder launched munitions with similar capabilities.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Ceramic-Aluminum (CERAL) Engine Coatings (Air Force)	0.650	0.567	

Outcome: This is an industrial process to remove chrome started in FY 2007. A “chrome free" Ceramic-Aluminum (CERAL) drop-in replacement protective coating for gas turbine engines, landing gear and surfaces of strategic components that are exposed to severe environments. The 76th Propulsion Maintenance Group at Tinker AFB (TAFB) will evaluate a non-metallic coating manufactured by Gebr. M.u.M. Morant GmbH of Grassau, Germany. The primary output and efficiencies to be evaluated is a non-metallic coating that lasts twice as long (3000 hours), costs 25 percent less and increases engine performance by providing a smoother surface. Reduced corrosion, reduced cost, reduced friction and wear, equals increased performance, increased life, and saves fuel. CERAL coatings are used extensively throughout DoD to provide protection from erosion and corrosion on gas turbine engines, landing gear and surfaces of strategic components that are exposed to severe environments. Coating materials currently in use (such as SermeTel W) contains six percent carcinogenic chrome, whereas, CERAL 3450 is a "chrome free".

FY 2007 Output: Two (2) TF33 engines components were shipped to Grassau, Germany to be coated by Morant. Both parts (#5 Bearing Support and Heat Shield and #6 Hub) have been coated, returned to TAFB and subsequently sent to the ANG base for inclusion in an engine build during June 2007. Testing and verification commenced in May 2007 to include Corrosion/Erosion resistance testing. The project results to date are better than existing technology when tested in accordance with SO2 Salt Fog Corrosion Test. Verified that coating can be applied with existing spray hardware and not require facility modification or capital expenditure. Verifying that it will meet CPW 731 & CPW 732 material specifications and that it is chrome free and will not introduce any new environmental hazards. Verified that it complies with USAF/A4 &A7 Zero Discharge Depot program goals.

FY 2008 Planned Output: Complete testing with final demonstration date end of 3Q FY 2008. Completion date and final report 4Q FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Enhanced 5.56mm and 7.62 Rounds for Special Operation Forces (SOF) Combat Assault Riffle (SCAR) (SOCOM)	1.263	1.168	

Outcome: This project will provide Special Operation Forces (SOF) with enhanced 5.56mm and 7.62mm ammunition for direct action missions. By employing a single "multi-purpose" round, the Special Forces operator has the precision fire, intermediate barrier penetration and terminal ballistic performance attributes of three or more separate rounds found in the current inventory of rounds. True multi-purpose enhanced ammunition is being sought that combines improved terminal ballistics, including accuracy, penetration of steel and auto glass without deflection, as well as providing maximum tissue damaging effects. Combat effectiveness is enhanced, while ammo load/load-out is reduced.

FY 2007 Output: Funding received and initial project planning undertaken. Solicitation for multi-purpose 5.56mm and 7.62 ammunition test items published.

FY 2008 Planned Output: Down selection of vendors to participate in live fire testing; and completion of procurement contract for test items. Analysis of vendor data will be accomplished prior to the start of technical and safety testing leading to safety certification and Weapons System Explosives Safety Review Board (WSERB) qualification.

FY 2009 Planned Output: FY 2008 funds will continue to provide the following FY 2009 planned actions: Operational testing and user assessment will occur, and all test reports will be completed. A closeout report will be published and distributed. A procurement decision packet will be completed before the end of 3Q FY 2009.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Hostile Forces Tagging, Tracking and Locating (SOCOM)	0.817	0.648	

Outcome: This project will evaluate a collection of tagging, tracking and locating (TTL) devices that represent the latest in TTL technology. Primary Outputs and efficiencies: These electronic components consist of Data Loggers, Direction Finding (DF) devices with associated DF receivers, Ground Positioning Satellite (GPS) based cellular and satellite systems. These ultramodern devices will provide deployed U.S. Special Operations Forces (SOF) worldwide with an enhanced capability to tag, track and pin-point potentially dangerous adversaries. The procurement potential for these devices is up to $24.300 million and will result in a $19.500 million cost avoidance.

FY 2007 Output: Contracted for and received test articles for Phase I testing; analyzed vendor data and conducted initial Phase I technical testing. Prepared and submitted Phase I technical test report. Began operational Testing of Phase I test articles.

FY 2008 Planned Output: Contract for and receive test articles for Phase II Technical testing. Complete Operational Test of Phase II test articles, prepare and submit test reports. Prepare decision packets and Close-out Report. Procurement decision is scheduled for 4Q FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Joint Program Executive Office (JPEO) Biological Detection System (Army)	1.178	2.753	

Outcome: This project will evaluate Biological Detectors for performance and cost advantages over the Biological Aerosol Warning Sensor (BAWS) which is a component in the Joint Biological Point Detection System (JBPDS) and Joint Portal Shield (JPS). The JBPDS is in production (230 fielded) and together with the JPS (222 fielded) are deployed in locations where Biological Agent surveillance is required. Maintaining Biological Agent surveillance operations has become an affordability issue, and systems that are less manpower intensive to operate and service are required by the war fighter.

FY 2007 Output: Acquire the candidate detectors and initiate the comparison via field trials using simulants at Eglin Air Force Base, Florida and background collection at various CONUS locations.

FY 2008 Planned Output: Complete field trials at remaining CONUS locations. Assess performance against the approved pass/fail criteria. Down select the successful candidate(s) for laboratory agent testing and integration into a production JBPDS suitable for fielding decision. Efficiency: (1) Reduction of Operation and Support costs (goal 67 percent) through lower false detection rate representing $0.840 million in cost avoidance per day per site and (2) Increase in reliability to lower dependence on the need for cleaning and repair by contractor and Original Equipment Manufacturer (OEM) repair which averaged $0.011 million per detector in 2005. Based on 500 fielded systems by FY 2009 this project will reduce costs by $1.500 million annually if the evaluation substantiates the manufacturer's claims.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Large Polymer Lithium ion Battery (Army)	0.863	1.268	

Outcome: This project will evaluate the potential for Li-Ion polymer battery cells developed by SKC of the Republic of Korea, to satisfy Army and USMC portable electrical power requirements for

a high power density, high cell potential fuel source. The candidates may provide greater energy density than present Li-Ion cell-based batteries and have the potential to reduce the logistics burden and enhance cost effectiveness through increased mission times (increases in power), greater shelf life, increases in power and greater recharging capability. Efficiency: Estimated in a $20.000 million RDT&E cost avoidance and a $5.000 million O&S cost savings.

FY 2007 Output: Purchased Li-ion polymer cells from SKC and Kokam for BB-XX80 type batteries. Based on initial test and evaluation, they are acceptable to be used in BB-XX80 type batteries. Awarded SKC and Brentronic to initiate the design concept of the batteries. Completed engineering evaluation of cells and obtain initial batteries for XX80 type design batteries. Initiated evaluations on battery configurations. Completed preparation for purchase of cell types to evaluate the cell performance and safety performance of the cells for BB-XX80.

FY 2008 Planned Output: Complete evaluations of batteries using Li-Ion polymer cells using both SKC and Kokam for XX90 and BB-XX80 type batteries. Purchase and evaluation of battery using Kokam Cells for building battery types: XX90 and BB-XX80. Complete written evaluations/reports for Communications Electronics Command (CECOM - US Army) Battery group to purchas, if successful, battery types.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
MK47 Trainer System (SOCOM)	0.663	0.838	

Outcome: This project will evaluate a crew served weapons training system used to facilitate mission specific rehearsals prior to combat operations. Primary Outputs and efficiencies: The trainer system allows operators to dry fire the weapon and receive feedback. The significant procurement cost avoidance of approximately $57.000 million is realized by firing training ammunition instead of expensive programmable airburst ammunition. The objective is to directly improve the readiness of Special Operation Forces (SOF) by allowing operators to train on MK47 systems and rehearse missions on a highly realistic trainer. Completion date is 30 Sept 2008.

FY 2007 Planned Output: Published solicitation and completed down-selection. Contracted for and received test articles. Conducted analysis, study and integration of training system. Analyzed and validated vendor data to preclude redundant testing.

FY 2008 Planned Output: Conduct initial Technical Testing. Prepare and submit technical test report. Perform user assessment and operational testing. Prepare and submit test results of the operational test. Prepare decision packet and Close-out Report. Milestone C Decision is scheduled for 4Q FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Real Time Geospatial Information Sharing (Army)	1.063	1.168	

Outcome: This project will test Black Coral live to provide Command Post of the Future (CPOF) Command and Control Systems real time information sharing and collaboration using geospatial maps/data for the war-fighter at all levels. The test will validate searching of current data (from internet or official databases) and ability for several information layers to be combined for see-through ability. Each user has the ability to add their detailed knowledge from the field and/or send a message to another user. Improvements: Incorporation of the Black Coral live software into the CPOF architecture will provide CPOF with an on the move solution to support mounted Battle Command. Efficiency: The outcome will provide Geospatial Information System collaboration to support Battle Command on the move operations, at a RDT&E.

FY 2007 Output: An assessment of Black Coral Live's compliance to MIL-STD-2525B Change 1, Common Warfighter Symbology. Compliance with MIL-STD-2525B Change 1 is essential to the

ability of Black Coral Live and CPOF to interoperate. An assessment of Black Coral Live's other functionalities to determine if they can benefit the CPOF software. Development to support the Black Coral Live software's geospatial information system engine to be compliant with the Commercial Joint Mapping Tool Kit (CJMTK).

FY 2008 Planned Output: Development of a software module that will allow Black Coral Live to interoperate with CPOF via a Publish and Subscribe Service (PASS) interface. Testing of the PASS interface to ensure the Black Coral Live software is interoperable with the CPOF software and can accurately and efficiently exchange geospatial and tactical data. Development of software that will provide Black Coral Live with the capability to interoperate with the lower tactical network. Testing of the Black Coral Live software to ensure it can interoperate with the lower tactical network and exchange geospatial and tactical information with CPOF across the tactical network.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Secure High Capacity Tactical Radio Relay System (Army)	0.688	0.399	

Outcome: This project will demonstrate and evaluate an improved, more efficient communications solution for securely moving information between central basestations and multiple outstation network nodes via the Swedish EriTac Point-to-Multipoint (PTMP) radio system versus the currently fielded military Point-to-Point (PTP) radios. The EriTac solution significantly improves upon the current system by reducing the number of required radio sets by up to 50 percent, solely through the introduction of the PTMP capability. In addition, the EriTac radios offer alternate modes of operation, providing enhanced communications security when needed. The EriTac system is also easy to set up, operate and maintain, and designed for simple and efficient network management by means of a built-in web server. This project with radio testing being performed from 2Q FY 2007 thru 2Q FY 2008, report preparation and evaluation in 2Q-3Q FY 2008, and a procurement decision in 4Q FY 2008. The primary outputs and efficiencies to be demonstrated are (1) up to 50 percent reduction in number of radios required in a "star configuration" network system , (2) communications performance equal or greater than the Army current HCLOS AN/GRC-245 radios (data rates, short delays, comm. range, etc.), and (3) possible enhanced security performance due to additional LPI/LPD/AJ modes. Efficiency: 50 percent reduction in number of radios required in a "star configuration" network, potentially resulting in a greater than 40 percent reduction in production costs. Procurement savings: $9.100 million. RDT&E Cost Avoidance: $20.000-30.000 million & 18-24 months of development to upgrade current Army radios. Life-Cycle O&S Savings: Over $5.000 million, based on 50 percent reduction in supported radios.

FY 2007 Output: EriTac radio contract preparation & award with Ericsson (Sweden). Radios (test items) received at US Army Communications-Electronics Research Development and Engineering Center (CERDEC). Lab test plan preparation & instrumentation. Laboratory technical tests performed.

FY 2008 Planned Output: Operational over-the-air technical tests performed. Final operational demonstration 2Q FY 2008. Test & evaluation report preparation. Test results review with sponsoring Government Program of Record: PM Tactical Radio Communications Systems (PM TRCS). PM TRCS analysis of alternatives & procurement decision. Close-out report & briefing.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Spatial Disorientation Trainer (Air Force)	0.413	0.288	

Outcome: A Spatial Disorientation (SD) Trainer was developed to meet a training Requirement to identify the effects of pilot disorientation in student pilots started in FY 2007. The Chief, Aero medical Flying Training Branch/Command Pilot Physician (AETC/A3FP) at Randolph AFB will evaluate a Spatial Disorientation Trainer developed by AMS Technik GmbH of Ranshofen, Austria. The primary outputs and efficiencies to be determined are if pilots can experience SD illusions and practice SD recoveries in a realistic simulated flight environment. Unrecognized Spatial Disorientation (SD) accidents in the U.S. Air Force between 1991-2004 represents 37 percent of fatal Class A mishaps at a cost of over $1.900 billion and 82 lives. AETC plans to reduce this accident rate by obtaining SD trainers capable of producing most of the known SD illusions associated with aircraft flight and incorporating them into pilot training, allowing pilots the opportunity to experience SD illusions and practice SD recoveries in a realistic simulated flight environment (a training capability that currently does not exist in the U.S.Air Force). This program will allow AETC to evaluate and compare currently available COTS SD trainers capable of allowing a pilot to fly the simulator while being exposed to motion-induced, visual and seat-of-the-pants mismatches.

FY 2007 Output: Developed protocol and survey instruments, utilized GSOS at Brooks City Base to fine tune SD flight profiles and recruited test subjects for first trip to AMST. Finalized contract support, completed first and second study groups.

FY 2008 Planned Output: Complete testing with final demonstration date end of 1Q FY 2008. Completion date and final report 2Q FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Tactical Paging Buoy (TPB) for Sub Comms at Speed and Depth (Navy)	0.748	0.283	

Outcome: A successful project will provide the U.S. Navy a near-term Communications at Speed and Depth (CSD) capability, identified as one of the highest Fleet priorities as critical to planned missions and scenarios. This project will evaluate submarine-launched expendable communications buoys developed by Ultra Electronics Maritime Systems of Canada and RRK of the United Kingdom to provide a submarine at depth and speed with the capability to receive messages from the global Iridium Satellite Network via undersea acoustic communications. This new capability will support more agile submarine mission execution and better synchronized joint/coalition operations, and enable rapid and inexpensive fielding of the acoustic communications capability aboard U.S. submarines. The primary outputs and efficiencies to be demonstrated are: (1) a new fleet-wide deployed CSD system with limited initial availability in FY 2008; (2) RDT$E cost savings of $26.000 million; (3) O&S cost savings of $5.000 million; and (4) procurement cost savings of $3.600 million.

FY07 Output: CSD obtained acquisition authority for TPB using the Advanced Concept Technology Demonstration (ACTD) process via a signed Acquisition Decision Memorandum. TPB has been fully integrated as a component of the Sea Eagle ACTD with all initial required documentation completed and accepted. A detailed testing plan leading to the Military Utility Assessment (MUA) was developed, to include critical performance comparisons and comparisons of the TPB technology. A major contract was negotiated with the TPB proposed implementers, including revised capabilities to meet Fleet CSD requirements. This process will deliver CSD capability to the fleet at least three years in advance of what the POR can achieve.

FY08 Planned Output: Test item deliveries are scheduled totaling over 50 units and several supporting coms net interface units. The key test event will be a Military Utility Assessment to be conducted in 3Q FY 2008. At the conclusion of the MUA, a final acquisition decision will be made.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
TerraSARX (Air Force)	0.853	1.578	

Outcome: A high resolution, day/night, all weather observation capability with one meter GSD (Ground Sample Distance) resolution. The Eagle Vision Program Manager at Hanscom AFB will evaluate software developed by the German company Infoterra that interfaces with Eagle Vision and generates a new high resolution, day/night, all weather observation capability. The primary outputs and efficiencies to be evaluated will be the capability to extend the all weather imagery capabilities of the operational Eagle Vision systems with resolution reaching one meter GSD providing the highest resolution ever achieved from an unclassified civil or commercial satellite. This capability is critical to effective mission planning and battle space awareness and with a new unclassified satellite, allowing open sharing among coalition partners. Germany, with other European partners, is launching this new generation synthetic aperture radar satellite to provide all weather satellite imaging and ocean surveillance.

FY 2007 Output: Contract award, test planning and receipt of software.

FY 2008 Planned Output: Factory Acceptance Testing will take place through the 2Q FY 2008. System testing and data analysis will take place during 3-4Q FY 2008. Complete testing with final demonstration date at the end of 4Q FY 2008.

FY 2009 Planned Output: FY 2008 funds will continue to provide for the following FY 2009 planned actions: Completion date and final report 1Q FY 2009.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Type II Superlattice Focal Plane Arrays and Cameras (Army)	1.463	1.268	

Outcome: This project will demonstrate infrared focal plane array performance at higher operating temperatures than is currently available from state-of-the-art focal plane arrays. The eighteen month project is under the sponsorship of PM Night Vision for completion of demonstration/testing by 3Q FY 2008 with subsequent transition to Program Manager Night Vision/Reconnaissance, Surveillance, and Target Acquisition (NV/RSTA). These focal plane arrays will be appropriate to retrofit existing systems with potential transition to Long Range Scout Surveillance System (Stryker and HMMWV), Apache (targeting), F-35 (threat warning, navigation and targeting) and Future Combat Systems (targeting). The lead service is Army. The primary outputs, Efficiencies, and Return on Investment are shown below for FY 2007 and FY 2008. The efficiencies in this effort will allow us to assess our ability to carry out the activity and measure how well we have achieved the outcomes shown below. The efficiencies that pertain to this effort are;(1) the decrease the costs of the focal plane array by a factor a two (2) raise operating temperature over current arrays, thereby decreasing system cost (smaller size, weight, power) (3) the increase operating life by a factor of two. The formula the will be used for calculating the return on investment (ROI) for the above efficiencies is (cost avoidance as result of successful project completion) / FCT investment. The calculation yields an ROI of 92.1. The cost avoidance is based upon $30.000 million in research and development costs avoidance, reducing the acquisition cost of each focal plane array by 50 percent avoiding $60.400 million and increasing the reliability by a factor of two with a total ownership cost avoidance of $181.000 million. The above calculation does not take into account the time value of money.

FY 2007 Output: Parts to be acquired and tested in the Night Vision and Electronic Sensors Director/Directorate (US Army) (NVESD) IR System Test Lab tactical requirements and at the IR Space Radiation Effects Laboratory for strategic requirements.

FY 2008 Planned Output: Transition to ground testing.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Waterjet Shock Qualification for Future Naval Combatants (Navy)	0.563	2.768	

Outcome: A successful project will provide the U.S. Navy large waterjet shock-qualified certifications. Kamewa/Rolls Royce (Sweden) and Lipps/Wartsilla (Netherlands) waterjets will be subjected to full-scale shock test and modified, if necessary, in order to be Grade A shock qualified per U.S. Navy requirements. The primary outputs and efficiencies to be demonstrated are: (1) large waterjet Grade A shock certification for installation on the Navy's Littoral Combat Ship (LCS), and for other future naval ships; (2) RDT&E cost savings of $50.000 million, production cost savings of $25.000 million, and procurement cost savings of $8.000 million.

FY 2007 Output: Revised program schedule due to changes in Littoral Combat Ship (LCS) acquisition schedule and also allow test of an improved Wartsila-Lips waterjet design. Test assets are long-lead items that are being taken from LCS Hulls three and six. Since the waterjets are long-lead material, the Rolls-Royce waterjet for Hull three was already purchased and is currently being built. It will be available for testing by Dec 2007. The Wartsila-Lips waterjet for Hull four is being improved to an axial flow design vice radial flow. Due to the design change, the improved waterjet for Hull four will not be available for shock testing because of ship construction schedule. Current build time for waterjets is one year. Revised test schedule still supports Down select of Flight one.

FY 2007 Output: Development of test plan. Ongoing discussions with NAVSEA Technical Warrant Holders on an acceptable mounting method, operational status during the shock test and post-shock operational tests required for shock approval. Prepare Contract for test facility.

FY08 Planned Output: Shock testing is scheduled to commence 1Q or 2Q FY 2008. Teardown equipment and inspection, equipment refurbishments, develop Final Test Report and Close out

Report.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
40MM Extended Range Marking (Army)		1.116	0.610

Outcome: The objective of this program is to qualify, procure, and field a new Non-Lethal Extended Range 40 mm Marking Munition for use in both the M203 and XM320 Grenade Launcher system. Commercial items will be procured for formal test and evaluation against US Army requirements. Upon successful testing, the XM1140 40mm Extended Range Marking Munition will be type classified into the Army inventory. The XM1140 40mm Extended Range Marking Munition will replace the M1006 Cartridge for select applications and will increase the range of the current M1006 cartridge from 50 meters to 75 meters as well as provide an identifiable mark on personnel targets. RDT&E Cost Avoidance $2.400 million; Procurement Cost Avoidance $0.750 million; Fielding Reduction 1+ years; Procurement Potential $2.400 million. It is estimated that the XM1140 will save $2.400 million in Research and Development funds as well as enhance the capability of soldiers to apply a non-lethal deterrence at extended ranges an estimated one plus years earlier than if developed in-house. Currently, soldiers must move closer to the disruptive elements subject to the application of the non lethal force which places both soldiers and subjects at increase danger of unintended effects. The extended range will provide a longer buffer zone which increases the time before any decision to switch to lethal force is made while still applying an identifiable mark to the subject(s).

FY 2008 Output: Program documentation has been generated to establish acquisition strategy and program baseline. The Capability Production Document has been drafted and is in process of being staffed for Joint Requirement Oversight Council approval.

FY 2008 Planned Output: Prepare documents for the release of the solicitation to industry. Downselect and award contract for qualification test items.

FY 2009 Planned Output: Perform Qualification Test and downselect and award production options.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Advanced Airborne Expendable Infrared Countermeasures (IRCM) (Navy)		0.523	2.059

Outcome: This project will test and evaluate the ability of advanced airborne expendable countermeasures (IRCM), aboard Navy/Marine Corps aircraft, to defeat advanced infrared man-portable air defense systems. A successful test and qualification will also result in a reduction in the types of expendable countermeasures in the current inventory. This is a Navy-led project; however, the Air National Guard has also committed to participate along with the F-16 and A-10 aircraft.

FY 2008 Planned Output: Receive demonstration units from vendor for initial testing. Complete test article contract. Receive test articles for Insensitive Munitions tests (7.62 AP bullet impact, deflagration propagation and lock-set) and Weapon Systems Explosive Safety Review Board certification.

FY 2009 Planned Output: Qualify IRCM for operational use and place in Navy inventory. Submit technical test report and project close out report.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Aircraft Arresting System for F-22 and JSF (Air Force)		1.061	0.555

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

Outcome: To provide a previously unavailable functionality and enhanced capability by safely and controllably decelerating the full array of USAF fighter aircraft without imparting excessive hook-loading and dangerous end-of-arrestment aircraft rollback. This evaluation will provide a complete dual-disc BC11 braking system, including all associated hardware, software, and required spare consumables shall be provided. All necessary installation, operational, and maintenance instructions will be included. HQ ACC/A7OI, Langley AFB, Virginia will evaluate the BC11 computer-controlled caliper-disk aircraft arresting system from Scama of Väderstad, Sweden. As new aircraft, such a the F-22 and Joint Strike Fighter (JSF), are introduced into the Air Force_s inventory, the 40 year old BAK-12 aircraft arresting system has become overburdened; it can not be adjusted to safely stop an F-22 throughout the F-22's full operational range of stopping speeds without overstressing the tail hook and aircraft structure of the lighter-weight F-16. The BC-11 will provide previously unavailable functionality and enhanced capability by safely and controllably decelerating the full array of USAF fighter aircraft without imparting excessive hook-loading and dangerous end-of-arrestment aircraft rollback. Since the BC11's computer controls include extensive self-diagnostics and would provide availability feedback to the airfield tower, as well as automated recordkeeping, the system would require significantly less maintenance and support, which in turn would result in overall lower life-cycle costs.

Output FY08: Procure test article and begin evaluating the system

Planned Output: Complete testing and publish test report 15 September 2009

Planned Output: Procure additional Systems

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Family of Hawkmoor Limited Burners (Army)		0.226	0.205

Outcome: To eliminate the need for a High Mobility Multi-purpose Wheeled Vehicle (HMMWV) or a 2kW generator when operating Company-sized, mobile Army field feeding systems and components. To enhance the ability of field feeding equipment to be utilized in forward and remote locations. To reduce the fuel consumption rate of field kitchens and the overall logistics tail of Army field feeding. To improve the overall reliability, availability, and maintainability (RAM) characteristics of mobile field feeding systems. The primary outputs and efficiencies to be demonstrated are as follows: (1) high RAM characteristics for integrated system of Hawkmoor burner and Self-powered Tray Ration Heater (STRH) (2) 40-Watt or less power requirement by burner (3) no reduction in ration heating time for integrated burner and heater tank system. RDT&E Cost Savings: $1.500 million. Procurement Cost Savings: $0.318 million. O&S Cost Savings: $33.900 million. Other Benefits: Capability to integrate burner/STRH combination into field feeding systems used by multiple services.

FY 2008 Output: Developed project strategy plan for tests and acquisition.

FY 2008 Planned Output: Award a contract to obtain multiple Hawkmoor burners for use in testing. Purchase Self-powered Tray Ration Heater (STRH) with contracts that will be awarded as part of the STRH program. STRH will be integrated with Hawkmoor burner. Development of a test plan and conduct testing at Natick, testing will include fuel consumption rate, energy output, efficiency, power requirements, and a preliminary evaluation of burner reliability and maintainability. Preparation of detailed test plan and conduct of limited technical testing of burner integrated into Self-powered Tray Ration Heater tank at Aberdeen Test Center, MD.

FY 2009 Planned Output: Development of detailed test plan and conduct of a User Evaluation of the Self-powered Tray Ration Heater integrated with Hawkmoor burner. Army Test and Evaluation Command will prepare a test report and system evaluation report for burner integrated into Self-powered Tray Ration Heater. Completion of a system performance specification. Transition of the project to procurement. Transition manager is PM Force Sustainment Systems.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Fire Control System for Special Operation Forces (SOF) Combat Assault Rifle (SCAR) Grenade Launcher (SOCOM)		1.346	0.500

Outcome: The purpose of this project is to extend the effective range of the MK47 Enhanced Grenade Launcher Module (EGLM), which is affixed to the Special Operations Forces (SOF) Combat Assault Rifle (SCAR), from 200 to 600 meters. This project integrates the fire control and ammunition programming technology that is necessary to fire a medium velocity 40mm programmable round from the SCAR, in an effort to counter the current rocket propelled grenade threat. The RDT&E and manufacturing cost avoidance is $250 million. Savings in procurement costs is expected to be $15 million per year and Operational Life Cycle savings are $1.5 million.

FY 2008 Planned Outputs: Funds will be received and Integrated Product Team formed. Project and test planning will begin and preparation of contract for test articles will be accomplished during 2Q FY 2008. Fabrication of test articles will begin 3Q FY 2008 and finish 1Q FY2009.

FY 2009 Planned Outputs: Technical and Safety Testing 1Q FY 2009. Commence System Demonstration and User Assessment 1Q FY 2009 through 2Q FY 2009. After necessary adjustments are made based on Engineering Change Requests, delivery of modified test articles will occur. Final Technical testing and User Assessment (Phase II) 2Q-3Q FY 2009. Milestone C decision and Close Out Report in 4Q FY 2009.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Hand-Held Laser Welder (HHLW) (Air Force)		0.696	0.450

Outcome. To provide A fully qualified (TRL 9) self-contained, field deployable, gas shielded, hand guided laser welding device for the in-theater repair of strategic military components, specifically those constructed of exotic titanium and other strategic alloys. The 76PMXG/QI at Tinker AFB, Oklahoma will evaluate a Hand-Held Laser (HHLW) developed by Laser Zentrum Hannover e.V (LZH) / S.E.T., LLC located in Hannover, Germany. Currently this capability is only available at the Depot level. Critical components, such as the B-2 aft deck, which, up to this point, could only be repaired at depot level, can be in-theatre repaired. The HHLW unit is self-contained, field deployable, and can withstand extended exposure to the elements. Welding of thin parts also becomes possible with less potential for warping or burn-through. This extends HHLW benefits to new repair applications that are impractical with automated systems and, due to its compact size, can reach otherwise inaccessible locations. With this evaluation the benefits of Laser Welding out of the depot and onto the battlefield where it can reduce the cost and time to repair and will provide increased asset utilization to the warfighter.

FY08 Output: Contract for the test Article and commence evaluating the system

FY09 Planned Output: Complete testing and certification and publish final test report August 2009

FY10 Planned Output: Procurement

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
M1A1 120MM Multi-Purpose High Explosive (MPHE) Munition (Navy)		1.591	1.005

Outcome: This project will test 120MM Multi-Purpose High Explosive (MPHE) Ammunition for the USMC M1A1. The USMC will test improved 120MM tank rounds from Rheinmetall Waffe Munition/L-3 of Germany and NAMMO/General Dynamics-Ordinance and Tactical Systems of Norway. Projected completion of all testing and qualification will be FY 2009. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) A tank round capable of reducing structures and assisting dynamic entry for infantry, while retaining its ability to destroy vehicles; (2)

consolidate 4 different tank rounds into one round encompassing point detonation, delay, and airburst capabilities; (3) increase ammunition effective range by 833 percent, provide improved blast fragmentation, and reduce the logistical burden while maximizing the M1A1's ammunition load; and (4) avoid RDT&E costs of $169.000 million, and provide a ROI of 14:1.

FY08 Output: Initiated Test Planning and received foreign test data at the beginning of 1Q FY 2008. Contract Prep & Award and Down Select during 1Q FY 2008.

FY08 Planned Output: Receive FCT funding at the end of 1Q FY 2008. Anticipate receipt of test articles and begin Point Detonation Qualification Testing (PDQT) 2Q FY 2008. Complete PDQT, User Evaluation, and Weapon Systems Explosive Safety Review Board certification 4Q FY 2008. Ammunition Milestone C Decision expected at the end of 4Q FY 2008.

FY09 Planned Output: Receive test articles and initiate M1A1 fire control integration by the end of 1Q FY 2009. Initiate Fire Control Qualification Testing during 2Q FY 2009. Complete Qualification Testing and commence User Evaluation during 3Q FY 2009. Complete User Evaluation and provide a Full Production Decision, Technical Test Report and Close-out Report by the end of 4Q FY 2009.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Programmable High Explosive Dual Purpose Ammunition (SOCOM)		1.083	0.813

Outcome: This project will produce a 40mm high velocity Programmable-High Explosive Dual Purpose (P-HEDP) round for the Advance Lightweight Grenade Launcher (ALGL) MK47 Weapon System. P-HEDP ammunition will consist of components derived from two other successful FCT projects combined into the next priority round from the ALGL operational requirement. These components will be assembled, tested, qualified, and then released for Special Operation Forces' use. The RDT&E and manufacturing cost avoidance is $9.000 million. Savings in procurement costs is expected to be $27.700 million over ten years and Operational Life Cycle costs are not expected to change.

FY2008 Planned Outputs: Funds will be received and contract for test article negotiations will be conducted with vendor. Anticipate test article delivery 3Q FY 2008. Safety release achieved in 4Q FY 2008 and technical testing 4Q FY 2008-2Q FY 2009.

FY 2009 Planned Outputs: Continue technical testing through 2Q FY 2009. Joint safety approvals and operational testing 2Q FY 2009-4Q FY 2009. Milestone C Decision and FCT Close-out Report 4Q FY 2009.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Signaling Colored Smoke Grenades (SCSG) (Navy)		0.913	0.489

Outcome: This project will test Signaling Colored Smoke Grenades for procurement and immediate fielding to the warfighter. Projected testing completion date will be 4Q FY 2009. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) Readily producible and cost efficient Green/Yellow/Red/Violet/White colored smoke grenades to meet operational requirements for ground-to-air and ground-to-ground signaling; (2) improvements for increased smoke duration, safer initiation system by reducing flame height, decreased smoke toxicity, more environmentally friendly components, reduced weight, Insensitive Munitions compliance, and denser smoke to enhance visual recognition from long distances; (3) increased availability for training purposes; and (4) avoid RDT&E and Procurement costs of $0.853 million and $3.300 million, while providing an ROI of 7:1.

FY08 Output: Initiated technical test planning and begin contracting.

FY08 Planned Output: Receive FCT Funding 1Q FY 2008. Complete qualification test planning and receive test articles by the end of 1Q FY 2008. Conduct comparative test and initial down

select during 2Q FY 2008. Complete technical test planning and receive test articles by the end of 3Q FY 2008. Initiate insensitive munitions, technical testing, safety, environmental, and toxicity testing during 4Q FY 2008.

FY09 Planned Output: Commence field user evaluation (FUE) by the end of 1Q FY 2009. Complete FUE during 2Q FY 2009. Receive technical test report during 3Q FY 2009. Receive Weapon Systems Explosive Safety Review Board Certification, Milestone C Decision and close-out Report by end of 4Q FY 2009.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Three-Dimensional (3D) Visualization of the Battlespace (Army)		1.321	1.300

Outcome: Test the Arisawa three-dimensional (3D) stereoscopic Liquid Crystal Displays (LCD) to provide Force XXI Battle Command Brigade and Below - Blue Force Tracking (FBCB2-BFT) Systems with high-resolution 3D mapping and tactical data display capability. Validate the ability of Arisawa displays to enhance visualization capabilities of C2 software, built with commercial-off-the shelf applications. Warfighters can immerse themselves in the terrain and tactical data during mission planning, situational awareness and after-action reviews. RDT&E Cost Savings: Avoidance/Savings $12.000 million. Contractor has spent over $10.000 million in developing/testing/debugging their system. Similar to many hardware/software products, they continue to invest in improvements estimated over $12.000 million will be invested by the start of this effort (FY 2008). If the Foreign Comparative Testing (FCT) verifies all claims, there is great potential to apply this technology to various ABCS and intelligence efforts beyond the basic application identified for dramatically increasing the potential RDT&E cost avoidances. Manufacturing Cost Avoidance/Savings $10.000 million. Both hardware and software products are commercially available.

FY 2008 Output: Began the test planning activities and contract/acquisition planning.

FY 2008 Planned Output: Phase I of the testing will focus developing/modifying software drivers for the Arisawa Xpol technology for optimal use with the Army Battle Command Systems (ABCS) and interoperability with Commercial Joint Mapping Tool Kit (CJMTK) compliant graphics and imagery and conducting feasibility testing of the software drivers and Arisawa hardwares performance metrics.

FY 2009 Planned Output: Phase II of the testing will focus on the usability and human factors of the Arisawa technology with the Army Battle Command System (ABCS) in Tactical Operations Center (TOC) and On the Move (OTM) applications using the resources in the Communications Electronics Research, Development & Engineering Center (CERDEC) Command & Control Directorate (C2D) C4ISR Automated Virtual Environment (CAVE) facility. Phase III testing will be conductedat Fort Dix, NJ, testing will be conducted by CERDEC Product Manager C4ISR. The focus of Phase III will be suitability of use in a field environment and human factors issues related to field use.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Transportable Plasma Waste to Energy System (Air Force)		1.564	1.332

Outcome: To provide a system which can efficiently and economically dispose of the entire waste stream in an environmentally sound manner. AFSOC/A7AV (Environmental) at Hurlburt Field, Florida will evaluate and advanced waste to Energy System developed by PyroGenesis a Canadian company located at 1744 William St. Montreal, QC. Current methods typically involve expensive contracts with local waste haulers that remove and transport the waste to a landfill. At remote locations, open pit burning is usually involved, with a myriad of operational security, environmental health, and other serious exposure risks to our troops. Additionally, in many remote locations, gravel is a valuable asset that is not locally available, and troops are put at risk from IEDs and ambushes when transporting gravel to the remote location. Executive order 13423 mandates the Federal Government reduce energy consumption, increase the use of green products, reduce green house gases, and divert or reduce solid waste. The Plasma Waste to Energy System will meet all these goals, while producing electricity and valuable by-products (i.e. gravel and metal ingots). This compact, land-based system will accept any type of gaseous, liquids or solid without the need for pre-sorting, including hazardous waste, food waste, biological/medical waste, solid waste

including, tires, metal, and petroleum sludge and is a net energy producer.

FY08 Output: Contract for the test article, order parts, begin fabrication of the system.

FY09 Planned Output: Complete fabrication of the system during the 3Q FY 2009, Train personal and commence limited day to day operations.

FY10 Planned Output: Full operational status. Completion date and publishing of the Final Report in 2Q FY 2010.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
5.0-Inch Steel Strip Laminate (SSL) Rocket Motor Case (Navy)	0.623	0.409	1.078

Outcome: A successful project will provide the U.S. Navy /USMC the flexibility to use Zuni 5.0-Inch Rockets during shipboard operations. This project will demonstrate the capability of the steel strip laminate (SSL) rocket motor case technology that may provide potential safety improvements to the Zuni Rocket System. At present, shipboard use of the Zuni requires a waiver because the current system is not Insensitive Munitions (IM)-compliant. The primary outputs and efficiencies to be demonstrated are: (1) enhanced IM compliance of the rocket motor using the SSL Case in Fast and Slow Cook-Off environments; (2) no degradation of performance and operational use; (3) if the project is successful, additional flexibility in using the Zuni during shipboard operations for the Navy/Marine Corps; and (4) avoid RDT&E costs of $6.000 million.

FY 2007 Output: Established multi-year contract for the SSL rocket motor case. Adapted technology to the Zuni requirements, created a technical data package, and procured raw materials. Conduct Kick-Off meeting. Provided technical support to contract. Conducted initial Weapons System Explosive Safety Review Board briefing. Created Demonstration Test Plan. Created IM testing and Statement of Work required procurement documentation.

FY 2008 Planned Output: Contractor shall hold a design review, manufacture cases, and deliver. Conduct IM and ballistic testing. Manufacture rocket motors using delivered cases. Award IM testing contract. Obtain Interim Hazard Classification. Conduct Test Readiness Review and Insensitive Munitions Review Board briefs. Create Demonstration Test Report.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2009 Plans			24.514

For FY 2009 the FCT program will continue testing activities on the projects selected from the FY 2008 proposal cycle. Remaining funding will be used to initiate new start FCT projects selected from the FY 2009 FCT proposal process. The FY 2009 final proposal selection process is scheduled for the fourth quarter FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Other	-0.374		

New Accomplishment

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605161D8Z - Nuclear Matters**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P161 Nuclear Matters	4.193	4.475	4.475	4.587	4.538	4.627	4.749

A. Mission Description and Budget Item Justification: The purpose of the Nuclear Matters program, formerly called Counterproliferation Support, is to sustain the U.S. nuclear deterrent posture. The funds for this program are used to support research, development, test and evaluation efforts as well as studies and analyses for nuclear weapons security; use control; nuclear weapons stockpile safety, survivability and performance; and office management. Funds are also used to develop and implement plans for stockpile transformation; infrastructure analyses and assessments; DoD-NNSA Nuclear Weapons Council activities, as mandated by Title 10 USC, section 179; radiological and nuclear emergency response efforts; and manage international programs of nuclear cooperation, particularly with respect to enhancing international nuclear safety and security and office management. In fiscal year 2004, this program incorporated additional responsibility for policy development and implementation, and operations and oversight of nuclear weapons physical security and Personnel Reliability Programs for the protection of tactical, fixed and nuclear weapons systems, DoD personnel and DoD facilities.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	4.261	4.513	4.483
Current BES/President's Budget (FY 2009)	4.193	4.475	4.475
Total Adjustments	-0.068	-0.038	-0.008
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other	-0.068	-0.038	-0.008

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605161D8Z - Nuclear Matters**

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
08						

Comment: Success in this area is measured by compliance with various statutes and DoD directives that govern the conduct of the affairs within the Office of DATSD(Nuclear Matters). Success is also measured by the currency of information and usability of the website, timeliness and responsiveness of reports due to Congress, performance in various response exercises, and feedback from a number of senior-level government organizations that DATSD(Nuclear Matters) supports.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605161D8Z - Nuclear Matters**	**P161**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P161 Nuclear Matters	4.193	4.475	4.475	4.587	4.538	4.627	4.749

A. Mission Description and Budget Item Justification: The purpose of the Nuclear Matters program, formerly called Counterproliferation Support, is to sustain the U.S. nuclear deterrent posture. The funds for this program are used to support research, development, test and evaluation efforts as well as studies and analyses for nuclear weapons security; use control; nuclear weapons stockpile safety, survivability and performance; and office management. Funds are also used to develop and implement plans for stockpile transformation; infrastructure analyses and assessments; DoD-NNSA Nuclear Weapons Council activities, as mandated by Title 10 USC, section 179; radiological and nuclear emergency response efforts; and manage international programs of nuclear cooperation, particularly with respect to enhancing international nuclear safety and security and office management. In fiscal year 2004, this program incorporated additional responsibility for policy development and implementation, and operations and oversight of nuclear weapons physical security and Personnel Reliability Programs for the protection of tactical, fixed and nuclear weapons systems, DoD personnel and DoD facilities.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Nuclear Weapons Council (NWC) and Committee of Principals (CoP)	0.960	1.050	1.050

FY 2007 Accomplishments:
- Managed the activities on the Congressionally mandated Joint DoD-DOE Nuclear Weapons Council and its support committees to include the Nuclear Weapons Council Standing and Safety Committee, the Compartmented Advisory Committee and the Action Officer group.
- Prepared, staffed, and submitted annual reports to the President and the Congress to include the FY 2007-2013 Nuclear Weapons Stockpile Memorandum and Requirements Planning Document, FY 2006 Report on Stockpile Assessment, FY 2006 Joint Surety Report and the FY 2006 Nuclear Weapons Council (NWC) Report to Congress.
- Facilitated nuclear weapons complex site visits for individuals within the nuclear weapons community including senior DoD/DOE officials.
- Maintained oversight and managed departmental compliance with all National Security Presidential Directive (NSPD-28) implementation efforts across all NCCS Departments and Agencies through the NCCS CoP and its subordinate committees.
- Managed the joint SecDef/SecEnergy response to the Presidential memo requesting a plan to improve the Nuclear Command and Control System (NCCS).
- Managed the response to Presidential guidance concerning the FY06 NCCS Assessment Program.

FY 2008 Plans:
- Continue to manage the activities on the Congressionally mandated Joint DoD-DOE Nuclear Weapons Council and its support committees to include the Nuclear Weapons Council Standing and Safety Committee, the Compartmented Advisory Committee and the Action Officer group.
- Prepare, staff, and submit annual reports to the President and the Congress to include the FY 2008-2014 Nuclear Weapons Stockpile Memorandum and Requirements Planning Document, FY 2007 Report on Stockpile Assessment, FY 2007 Joint Surety Report and the FY 2007 NWC Report to Congress.
- Conduct a week-long trip to several nuclear weapons complex sites for over sixty individuals within the nuclear weapons community including senior DoD/DOE officials.
- Maintain oversight and manage departmental compliance on all National Security Presidential Directive (NSPD-28) implementation efforts across all NCCS Departments and Agencies through the NCCS CoP and its subordinate committees.

- Manage the response to Presidential guidance concerning the FY07 NCCS Assessment Program.
- Continue to support the Nuclear Weapons Council and its associated functions.

FY 2009 Plans:
- Continue to manage the activities on the Congressionally mandated Joint DoD-DOE Nuclear Weapons Council and its support committees to include the Nuclear Weapons Council Standing and Safety Committee, the Compartmented Advisory Committee and the Action Officer group.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
International Programs	0.470	0.520	0.500

FY 2007 Accomplishments:
- Continued FY 2006 initiatives.
- De-conflicted the various programs of assistance (French, British, Cooperative Threat Reduction (CTR), Warhead Safety and Security Exchange (WSSX), other) as they apply to Russia.
- Advocated for allied cooperation in deconflicting CTR, WSSX, etc. support to Russia by US/UK/France:
  -- Promoted program efficiency.
  -- Promoted better international cooperation.
  -- Enhanced each participating nations nuclear weapons information security program.
- Completed transmissibility guide and administrative arrangement overhauls with international partner.
- Commenced process for increase information sharing with key partners via Statutory Determination generation.
- Pursued cohesive DoD/DOE strategy to leverage support between MDA-supervised IPOCs and the U.S. that will contribute to the safety, security and stockpile stewardship of bilateral international partners.
- Developed MOA for wide-ranging transportation-related issues.

FY 2008 Plans:
- Build upon FY 2007 initiatives.
- Provide key international partners, in the nuclear weapons establishment, assistance with program overhaul and forward momentum - upgrade peer review potential in this area.
- Sponsor international partners at national-level nuclear weapons accident/incident exercises.
- Contribute to confidence building measures with close nuclear power nations.

FY 2009 Plans:
- Build upon FY 2008 initiatives.
- Execute confidence building programs of cooperation with international partners.
- Sponsor international partners at national-level nuclear weapons accident/incident exercises.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Nuclear Surety	0.960	1.025	1.050

FY 2007 Accomplishments:
- Conducted OSD oversight and provided direction for actions taken under DoDD 3150.2, DoDD 3150.2-M "DoD Nuclear Weapons Safety Program"; DoDD 4540.5, "Transportation of Nuclear Weapons"; DoDI S-5210.82, "Protection of Nuclear Coding Equipment"; DoDD S-5210.81, "United States Nuclear Weapons Command and Control, Safety, and Security"; DoDD S-3150.7,

"Controlling the Use of Nuclear Weapons"; DoDD 3150.3, "Nuclear Forces Security and Safety"; and DoDD 5210.42 and 5210.42-R, "The DoD Personnel Reliability Program."
- Updated DoD policy, responsibilities and procedures in DoD publications to include DoDD S-5210.41-M, "Physical Security of Nuclear Weapons."
- Reviewed DoD policy, responsibilities and procedures described in DoDD 5210-.41, ""Security Policy for Protecting Nuclear Weapons."
- Continued as DoD Sigma 14 Approval Authority (interface with DOE/NNSA).
- Continued to support the operations of the Joint Advisory Committee on Nuclear Weapons Surety (JAC).
- Supported and participated in NATO nuclear weapons policy and oversight groups, including the High Level Group and the Joint Theatre Surety Management Group.

FY 2008 Plans:
- Conduct OSD oversight and provide direction for actions taken under DoDD 4540.5, "Transportation of Nuclear Weapons"; DoDI S-5210.82, "Protection of Nuclear Coding Equipment"; DoDD S-5210.81, "United States Nuclear Weapons Command and Control, Safety, and Security"; DoDD S-3150.7, "Controlling the Use of Nuclear Weapons";; DoDD 5210.42 and 5210.42-R, "The DoD Personnel Reliability Program'; and DoDD 5210-.41 and S-5210.41-M, "Physical Security of Nuclear Weapons."
- Update DoD policy, responsibilities and procedures in DoD publications to include DoDD S-5210.41-M, "Physical Security of Nuclear Weapons."
- Review DoD policy, responsibilities and procedures described in DoDD 5210-.41, ""Security Policy for Protecting Nuclear Weapons."
- Review DoD policy, responsibilities and procedures described in DoDD 3150.2, DoDD 3150.2-M "DoD Nuclear Weapons Safety Program," and DoDD 3150.3, "Nuclear Forces Security and Safety."
- Continue as DoD Sigma 14 Approval Authority (interface with DOE/NNSA).
- Continue to support the operations of the Joint Advisory Committee on Nuclear Weapons Surety (JAC).
- Support and participate in NATO nuclear weapons policy and oversight groups, including the High Level Group and the Joint Theatre Surety Management Group.
- Continue to support activities that support nuclear surety policy and provide OSD oversight of the Nuclear Surety program.

FY 2009 Plans:
- Conduct OSD oversight and provide direction for actions taken under DoDD 4540.5, "Transportation of Nuclear Weapons"; DoDD S-5210.81, "United States Nuclear Weapons Command and Control, Safety, and Security"; DoDD S-3150.7, "Controlling the Use of Nuclear Weapons";; DoDD 5210.42 and 5210.42-R, "The DoD Personnel Reliability Program'; and DoDD 5210-.41 and S-5210.41-M, "Physical Security of Nuclear Weapons."
- Continue to support activities that support nuclear surety policy and provide OSD oversight of the Nuclear Surety program.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Stockpile Transformation	0.960	1.060	1.050

FY 2007 Accomplishments:
- Conducted life cycle activities in support of the nuclear weapons stockpile under DoDD 3150.1, "Nuclear Weapons Life Cycle" and DODI 5030.55, "DoD Procedures for Joint DoD-DOE Nuclear Weapons Life Cycle Activities.
- Continued to manage DoD RDT&E activities for nuclear warheads to include B61, W62, W76, W78, W80(0,1), B83, W87, W88 Weapons.
- Supported studies for warhead replacement.
- Continued programs to assess the future of the nuclear weapon stockpile.
- Supported new Task Forces for strategic systems.
- Continued to develop and implement a Nuclear Matters knowledge system to help preserve nuclear weapons information for operational improvements and continuity.
- Provided technical support to maintain strategic materials and nuclear power systems.
- Continued to develop a nuclear enterprise model for DoD.

FY 2008 Plans:
- Conduct life cycle activities in support of the nuclear weapons stockpile under DoDD 3150.1, "Nuclear Weapons Life Cycle" and DODI 5030.55, "DoD Procedures for Joint DoD-DOE Nuclear Weapons Life Cycle Activities.
- Continue to manage DoD RDT&E activities for nuclear warheads to include B61, W62, W76, W78, W80(0,1), B83, W87, W88 Weapons.
- Support studies for warhead replacement.
- Continue programs to assess the future of the nuclear weapon stockpile.
- Support new Task Forces for strategic systems.
- Provide technical support to maintain strategic materials and nuclear power systems.

FY 2009 Plans:
- Conduct life cycle activities in support of the nuclear weapons stockpile under DoDD 3150.1, "Nuclear Weapons Life Cycle" and DODI 5030.55, "DoD Procedures for Joint DoD-DOE Nuclear Weapons Life Cycle Activities.
- Continue to manage DoD RDT&E activities for nuclear warheads to include B61, W62, W76, W78, W80(0,1), B83, W87, W88 Weapons.
- Support studies for warhead replacement.
- Continue programs to assess the future of the nuclear weapon stockpile.
- Support new Task Forces for strategic systems.
- Provide technical support to maintain strategic materials and nuclear power systems.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Survivability and Weapons of Mass Destruction (WMD)	0.470	0.520	0.500

FY 2007 Accomplishments:
- Provided direction for DoD and OSD preparations to train for response actions, under DoDD 3150.8, "DoD Response to Radiological Accidents.
- Completed OSD planning and training for, and execute OSD participation in, Vigilant Shield 2007 (VS 07) nuclear weapon accident exercise.
- Planned and trained for OSD participation in Diamond Flight nuclear weapon accident exercise.
- Completed and published the new DoDD for nuclear-radiological incident response.
- Completed and published the new DoD3150.8-M, Nuclear Accident Response Procedures" (NARP) and DoDD 5110.63, "Security of Nuclear Reactors and Special Nuclear Material".
- Maintained the office Go-Kit and classified website to enhance coordination in the event of a nuclear weapon accident.
- Continued to improve interagency nuclear weapon accident planning and coordination activities.
- Continued to implement the DoD Action Plan for assessing vulnerability to High Altitude Electromagnetic Pulse (HEMP).
- Supported the technical needs of the re-established Electromagnetic Pulse (EMP) Commission.
- Completed and published the new DoDI for survivability of material and equipment to radiological effects.
- Monitored and advised OSD on the status of DoD capability for Nuclear Weapons Effects Simulators and Simulation.
- Continued to support the DoD executive agency role (of ASD(HD)) for interagency actions concerning Combating WMD at home and abroad.

FY 2008 Plans
- Provide direction for DoD and OSD preparations to train for response actions, under DoDD 3150.8, "DoD Response to Radiological Accidents.
- Plan and train for OSD participation in Diablo Bravo 2008 (DB 08) nuclear weapon accident exercise led by DOE/NNSA.
- Participate in interagency tabletop exercises in preparation for DB 08.
- Maintain the office Go-Kit and classified website to enhance coordination in the event of a nuclear weapon accident.

- Direct and coordinate the activities of the NCCS Committee of Principals Subcommittee on Nuclear Weapon Accident Response.
- Continue to implement the DoD Action Plan for assessing vulnerability to HEMP
- Monitor and advise OSD on the status of DoD capability for Nuclear Weapons Effects Simulators and Simulation.
- Continue to support the DoD executive agency (ASD(HD)) for interagency actions concerning Combating Weapons of Mass Destruction at home and abroad.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Nuclear Matters	0.373	0.300	0.325

FY 2007 Accomplishments:
- Submitted annual reports to the President and the Congress.
- Initiated the updating and documentation of DoD nuclear weapon policy, responsibilities, and procedures in DoD publications.
- Continued to manage the protection of classified nuclear weapons information including access to and dissemination of Restricted Data, as mandated by Enclosure 5, DoDD 5210.2, "Access to and Dissemination of Restricted Data".
- Continued as DoD Sigma 15 Approval Authority (Interface with DOE/NNSA).
- Addressed Freedom of Information Act and Mandatory Declassification Requests.

FY 2008 Plans:
- Submit annual reports to the President and the Congress.
- Continue to oversee DoD/DOE relationship regarding the survivability and surety of the national nuclear stockpile.
- Continue as DoD Sigma 15 Approval Authority (Interface with DOE/NNSA).
- Address Freedom of Information Act and Mandatory Declassification Requests.

FY 2009 Plans:
- Submit annual reports to the President and the Congress.
- Continue to oversee DoD/DOE relationship regarding the survivability and surety of the national nuclear stockpile.
- Continue as DoD Sigma 15 Approval Authority (Interface with DOE/NNSA).
- Address Freedom of Information Act and Mandatory Declassification Requests.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			R-1 Item Nomenclature: Support to Networks and Information Integration, 0605170D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	16.607	11.055	14.723	15.024	15.130	15.314	15.497
Command Information Superiority Architecture, P170	5.429	5.528	5.612	5.762	5.815	5.907	5.999
Defense Architecture Repository, P170	1.249	1.271	1.290	1.325	1.337	1.359	1.380
Integrated Planning and Management, P170	2.009	2.045	2.076	2.132	2.152	2.186	2.219
Support to NII Mission Requirements, P170	7.920	2.211	5.745	5.805	5.826	5.862	5.899

A. Mission Description and Budget Item Justification:

This program element supports studies in the areas of networks, information integration, defense-wide command and control (C2), and communications. This program is funded under Budget Activity 6, RDT&E Management Support because it includes studies and analysis in support of RDT&E efforts.

Program Accomplishments and Plans:

FY 2007 Accomplishments: ($7.920 million)

- Continued to pursue research on new approaches to military and civil-military command and control suitable for 21st Century coalition operations including stability and reconstruction.
- Continued to fund the Edge Institute at the Navy Post Graduate School (NPS) and selected research efforts at other universities .
- Continued, in collaboration with allies and NATO partners, the development and testing of metrics and a conceptual framework suitable for assessing network-centric coalition operations.
- Supported JFCOM and other DoD organizations in the design and conduct of Multinational Experiment 5
- Continued to work with the DoD community and international partners to improve the understanding of Information Age command and control related concepts, technologies, and experiments.
- Conducted annual Command and Control Research and Technology Symposia.
- Conducted workshops to explore command and control related issues.
- Continued to develop manuscripts for widely read and respected C2 publications and outreach program.
- Maintained and expanded C2 research community website
- Began campaign of experimentation related to information sharing, collaboration, and trust.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Support to Networks and Information Integration, 0605170D8Z

Congressional Add for the **Pacific Disaster Center** (PDC) continues to expand its expertise and influence in Information and Communication Technologies (ICT) and enterprise data management practices throughout the Asia-Pacific Region during FY2007. Some specific highlights for 2007 are:

- **Disaster Data Inventory:** A new web-based inventory released by the PDC will help emergency managers to catalogue and share disaster-related data in South-East Asia. ASEAN countries have been working together on the project over the past two years. It will be made available to the Association of Southeast Asian Nations' Committee on Disaster Management. The PDC and the ASEAN Secretariat will work now to train emergency managers in the high risk area on mitigation and preparedness techniques.

- **National Disaster Warning Center, Thailand:** Major milestones achieved are: A Concept of Operations Report and an Information and Communication Technology Gap Analysis; In-country multi-agency workshops to solicit feedback from key stakeholders were conducted to finalize and obtain acceptance of both of these deliverables; and PDC submitted a proposal to the U.S. Trade and Development Agency for augmenting the prototype Decision Support System (currently designed for earthquake and tsunami hazards) to include flooding.

- **Earthquakes and Megacities Initiative:** Intensive fieldwork was conducted in Metro Manila including four "Metro Manila Internet Map Viewer" training sessions hosted at the National Defense College of the Philippines. Over 100 local and national government officials received training on this newly-developed risk communications tool. These methods will be expanded to include other SE Asia nations.

- **New PDC Website**: A new version of the PDC public website was released. Enhanced functionality includes the addition of "MyPDC"—which allows users to customize the look-and-feel of the website's home page—and a reorganized navigation scheme. There were nearly 200 new registered users of the new website by the end of this quarter. The goal for FY2007 will be further enhance the site and gain increased value to the emergency management community.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Support to Networks and Information Integration, 0605170D8Z

- **Hawaii County Remote Information Systems:** PDC submitted a final draft of the Hawaii County Remote Information Service Implementation Plan to the County. The Implementation Plan details strategies and recommendations for internalizing the web-based Hawaii County Remote Information Service within the County itself. PDC will continue to work with counties in the State to improve the information availability and usefulness to all users.

FY 2008 Plans ($2.211 million)

- Continue to pursue research on new approaches to military and civil-military command and control suitable for 21st Century coalition operations including stability and reconstruction.
- Continue to fund the Edge Institute at the Navy Post Graduate School (NPS) and selected research efforts at other universities.
- Continue, in collaboration with allies and NATO partners, the development and testing of metrics and a conceptual framework suitable for assessing network-centric coalition operations.
- Support JFCOM and other DoD organizations in the design and conduct of experiments
- Continue to work with the DoD community and international partners to improve the understanding of Information Age command and control related concepts, technologies, and experiments.
- Conduct 12th International Command and Control Research and Technology Symposia.
- Conduct workshops to explore command and control related issues.
- Continue to develop manuscripts for widely read and respected C2 publications and outreach program.
- Maintain and expand C2 research community website
- Continue campaign of experimentation related to information sharing, collaboration, and trust.

FY 2009 Plans ($5.745 million)

- $3.500 million transferred from the Air Force for Global Positioning System (GPS) User Equipment Synchronization to conduct OASD/NII oversight of Global Positioning System (GPS) management and planning activities required for the National Space-Based Positioning, Navigation and Timing Executive Committee. Responsibilities include managing and developing the National Five-year Plan; supervising studies and analyses in support of the DEPSECDEF; establishing civil and commercial requirements and costs; reporting to Congress on the status of GPS; developing and publishing the Federal Radionavigation Plan, GPS Security Policy, international and NAVWAR interagency agreements; and providing GPS performance standard, spectrum defense and international strategy briefing and presentation support as required.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Support to Networks and Information Integration, 0605170D8Z

- Continue to pursue research on new approaches to military and civil-military command and control suitable for 21st Century coalition operations including stability and reconstruction.
- Continue to fund the Edge Institute at the Navy Post Graduate School (NPS) and selected research efforts at other universities.
- Continue, in collaboration with allies and NATO partners, the development and testing of metrics and a conceptual framework suitable for assessing command and control in the context of network-centric coalition operations.
- Support JFCOM and other DoD organizations in the design and conduct of experiments
- Continue to work with the DoD community and international partners to improve the understanding of Information Age command and control related concepts, technologies, and experiments.
- Conduct 13th International Command and Control Research and Technology Symposia.
- Conduct workshops to explore command and control related issues.
- Continue to develop manuscripts for widely read and respected C2 publications and outreach program.
- Maintain and expand C2 research community website

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget	16.642	11.152	11.242
Current Program and Budget Review	16.607	11.055	14.723
Total Adjustments	0.035	-0.097	3.481
Congressional Reductions	0	-0.097	0
Congressional Increases	0	0	0
Other Adjustments	0.035	0	3.481

Change Summary Explanation:
FY 2007: Rounding adjustment at Department level $0.035 million.
FY 2008: FFRDC -$0.026 million, Contractor Efficiencies -$0.018 million, Economic Assumptions -$.0053 million.
FY 2009: Program adjustments of 3.481 million due to inflation.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Support to Networks and Information Integration, 0605170D8Z

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
O&M, DW (PE0902198D8Z)	3.937	4.506	4.966	4.996	4.741	4.829	4.916	Continuing	32.891

D. Acquisition Strategy: N/A

E. Performance Metrics:

- Community participation in command and control research program (CCRP) events.
- Number of requests for CCRP publications.
- Number of international countries engaged in net centric discussions and collaborative efforts.
- Successfully sponsored symposia/workshops to discuss command and control research initiatives.

CISA Performance is based on the number of initiatives that transition to the net-centric environment to support operations. Measures include:

- Timely development and issuance of policy, guidance, processes, and technologies to build, populate, govern, operate, and protect the Network.

- Policies developed and issued for GIG design, architecture content management, implementation, and operations.

DARS Performance Metrics:

- Timely development and issuance of policy, guidance, processes, and technologies to build, populate, govern, operate, and protect the Network.

- Policies developed and issued for GIG design, architecture content management, implementation, and operations.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Support to Networks and Information Integration, 0605170D8Z

C2 Integrated Planning & Management Performance Metrics:
- Successfully develop, coordinate, and publish DOD C2 policies and operational concepts.
- Establishment of an information integration and decision portfolio of C2 services and applications to demonstrate selected capabilities.
- Development of Dynamic Operational Communities of Interest services based on the capabilities provided by the NCES Program.

Establishment of an ontological framework and XML data model to permit the meta-tagging of information integration decision portfolio data at the strategic and national C2 level in a manner consistent with other DoD data strategies and modeling efforts.

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Command Information Superiority Architecture (CISA), P170				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Command Information Superiority Architecture (CISA), P170	5.429	5.528	5.612	5.762	5.815	5.907	5.999
RDT&E Articles Quantity	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

Program Description: The CISA program provides the Unified Commands with a structured planning process based on Information Technology (IT) best business practices to define current and objective Command capabilities for IT support to assigned missions in a net-centric environment. CISA is the DoD program that provides architectures in compliance with the Clinger-Cohen Act, OMB Circular A-130, E-Gov Act and other related higher level guidance from the Federal CIO Council and the Federal Enterprise Architecture Program Management Office, which mandates the development and use of architectures as validation for IT investment decisions. The CISA program develops and maintains the Global Information Grid Enterprise Architecture, the Department's enterprise architecture as directed by Title 40. It supports the development of the framework, processes, and standards for developing and maintaining a DoD federated enterprise architecture. CISA is the leading developer for the net-centric reference model, the standard evaluation guide used by DoD Program Managers at all echelons of command for transitioning DoD programs to the net-centric environment. The CISA program supports the development of architectural standard tools and systems, including the DoD Architectural Framework manual and artifacts as well as facilitating the effective use of architectures in IT portfolio management. Develop and maintain key GIG policy and guidance documents that drive the acquisition, transition to and operation of a net-centric GIG; the implementation of policy/guidance through a set of critical supporting activities such as IT standards management, and DoD transition to Internet Protocol version 6 (IPv6); Real Time Service and IP convergence and enforcing policy through key enterprise governance mechanisms. Review and assess Command and Control, Computers, Communications and Intelligence Support Plans / Information Support Plans for the DoD CIO, identifying interoperability, supportability, net-centric and integration issues.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	5.429	5.528	5.612
RDT&E Articles Quantity	0	0	0

FY 2007 Accomplishments: ($5.429 million)
- Developed DoD CIO Strategic Plan

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number Command Information Superiority Architecture (CISA), P170

- Developed Overarching DoD CIO policy framework and core policies
    - Initiated total review of overarching GIG Policy Documents
    - Drafted new policies and instructions
- Developed Net-Centric GIG Networks Operations Strategy
- Developed and published the GIG Architectural Vision
- Supported JFCOM / CENTCOM "Best of Breed" Architecture Development
- Participated in the International Defense Enterprise Architecture Specification development and support architecture interoperability within the international community

Completed DoD Architecture Framework (DoDAF) Version 1.5 and initiated DoDAF 2.0 scoping

- Updated and maintain the Core Architecture Data Model (CADM) to be inline with the DoDAF
- Completed and published DoD Enterprise Architecture Federation Strategy
- Completed NCOW Reference Model V1.2
- Expanded interactive use of architecture data for dynamic assembly of COCOM architectures to meet mission demands and changes for Unified Command Plans (UCPs)
- Evolved the ISP analysis tool into a Web-based model to identify and analyze interoperability, supportability, net-centric, and integration issues
- - Refined existing voice network policy as necessary. Develop Real Time Services policy and guidance to support voice, video and data convergence to IP across DoD in a secure, interoperable manner
- - Published DoD Net-Centric GIG Computing Infrastructure Strategy and developed draft GIG Computing Infrastructure Policy Instruction
- Developed policy and guidance needed for an effective configuration management approach across GIG by using pilot efforts to develop and extend lessons learned such as appropriate configuration items, configuration tools, and configuration control bodies

FY 2008 Plans ($5.528 million)

- Review and revise all GIG related policies to support net-centric operations. Cancel policies as needed. Provide additional guidance, where needed. Deconflict and manage GIG policies and guidance and provide tools so they can be easily accessible and understandable by users

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number Command Information Superiority Architecture (CISA), P170

- Continue to support the evolution of GIG NetOps and configuration management concepts to improve IA, information sharing and interoperability. Incorporate, as appropriate, portfolio management into these mechanisms
- Continue to refine overall governance paradigm. Monitor and assess Component compliance with GIG policy and guidance. Evaluate and help resolve issues
- Implement COCOM Mobil Architecture Support Team Concept
- Continue develop the Federated Enterprise Architecture Framework
- Continue update of DoDAF
- Continue development of GIG NCOW Reference Models
- Continue updates to the CADM
- Continue develop and provide integrated set of COCOM Net-Centric assessment capabilities for implementing transition plans
- Continue develop of the International Defence Enterprise Architecture Specification (IDEAS) Data Model
- Continue support of the ISP tools analysis development

FY 2009 Plans ($5.612 million)
- Review and revise GIG related policies to support net-centric operations.
- Continue to support the evolution of GIG NetOps and configuration management concepts to improve IA, information sharing and interoperability. Incorporate, as appropriate, portfolio management into these mechanisms
- Continue to refine overall governance paradigm. Monitor and assess Component compliance with GIG policy and guidance.
- Continue COCOM Mobil Architecture Support Team Support
- Continue progression of development of Net Centric DoD Architecture Framework
- Continue support of GIG NCOW Reference Models
- Continue support to the CADM

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
O&M, DW (PE0902198D8Z)	3.937	4.506	4.966	4.996	4.741	4.829	4.916	Continuing	32.891

D. Acquisition Strategy: N/A

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Defense Architecture Repository Systems (DARS), P170				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
DARS, P170	1.249	1.271	1.290	1.325	1.337	1.359	1.380
RDT&E Articles Quantity	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

DARS is the Department's enterprise registry, catalog and navigation map for enterprise architecture. It serves as the Department's primary catalog of architecture data holdings and provides users the ability to register holdings metadata and search, retrieve, and use DoD architecture data in federated architecture data repositories across DoD. DARS provides a key component of the Department's net-centric data management capability by federating enterprise architecture data across the Department. It enables alignment of program architecture components with the Federal Enterprise Architecture Business Reference Model - consistent with OMB directives for exhibit 300s - via the DoD Business Reference Model. DARS implements a federated search capability and metadata catalog that will interoperate with the Department's Net-Centric Enterprise Discovery Service and enterprise content metadata catalog. Architecture metadata is searchable using the DARS federated discovery web service. The discovery search results provide links to architecture data that is retrievable based on user roles and access permissions. Implementations are accessible on both the NIPRNET (unclassified) and SIPRNET (Collateral Classified). Key features of the DARS program focus on: (1) Making architecture data visible, accessible, trusted, understandable, and interoperable (2) enabling reuse of validated architecture data to build "composite" integrated architectures; (3) enabling architecture analysis; and, (4) integrating architecture data into the DoD mainstream decision-making processes. DARS goals for FY 2007 are aggressive and include implementing an automated metadata registration web service. The Department of the Air Force, Army, and Navy CIO's are collaborating in the development of DARS federation web services via the Federated Joint Architecture Working Group under the auspices of the DoD Enterprise Architecture Summit to ensure DoD-wide access to and usability of all components of the composite DoD enterprise architecture model. New DARS releases are scheduled every three to four months during FY 2007.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	1.249	1.271	1.290
RDT&E Articles Quantity	0	0	0

FY 2007 Accomplishments: ($1.249 million)
- Supported the Department's federated approach to Enterprise Architecture
- Continued the expansion DARS as part of a Net-Centric environment for data exchange

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number Defense Architecture Repository Systems (DARS), P170

- Continued expansion of DARS integration into the "Core Enterprise Services" of Net-Centric Enterprise Services (NCES)
- Implemented changes required to DARS from the new DoD Architecture Framework to include Net-Centric and Service-Oriented Architecture impacts on architecture products, support for executable architectures, JCIDS, and Portfolio Management
- Updated DARS database to conform to new CADM 2.0 standard
- Supported architecture data exchange evolution from CADM 1.0X to 2.0 using new data exchange standards
- Implemented configuration management policies and processes for "authoritative data sources"
- Implemented additional registry services to include holdings linking and alignment requirements
- Supported federation client implementation in federation participants
- Converted all DARS functionality to web services
- Implemented Service Orient Architecture (SOA) for enterprise architecture data management
- Implemented DoD Architecture Framework (DoDAF) view quality assessment services
- Implemented Java Message Services (JMS) for asynchronous transactions
- Implemented support for disconnected confederate repositories
- Implemented capability for DoD Program managers to use DARS data to build OMB exhibit 300s and exhibit 53s.
- Explored expansion of DARS data exchange capabilities to related decision support domains including modeling and simulation systems, logistics, program management, and budgetary systems
- Explored implementation of a "rules based model" to establish "earned value" for architecture data and architectures

FY 2008 Plans ($1.271 million)
- Continue to implement capabilities required to meet changes to the DoD Architecture Framework (DoDAF) that will include capabilities to expand the "dynamic" assembly of architectures based on mission or process requirements or "tailorable packages based on architecture data for assistance in decision making (DARS 7.0)
- Continue integration of DARS data services into "Core Enterprise Services"
- Fully integrate DARS data harvesting capabilities into a Federated Data-Centric environment

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number Defense Architecture Repository Systems (DARS), P170

FY 2009 Plans ($1.290 million)
- Continue Operation and Maintenance of DARS
- Continue to implement capabilities required to meet changes to the DoD Architecture Framework (DoDAF)
- Continue integration of DARS data services into “Core Enterprise Services”
- Continue integration of DARS data harvesting capabilities into a Federated Data-Centric environment

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Integrated Planning and Management, P170				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Integrated Planning and Management, P170	2.009	2.045	2.076	2.132	2.152	2.186	2.219
RDT&E Articles Quantity	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

Provide a single integrated C2 structure across the Department of Defense supporting every echelon of command from national to tactical. Transform the existing set of dedicated, single purpose command and control (C2) systems into an integrated framework to support the flow of information into the command structure and enhance decision. Assure policies and a strategy for a unified, flexible, and adaptable full-spectrum command and control capability for warfighters and senior leaders within a globally connected common information environment (CIE). Support the Joint Staff, JFCOM, and STRATCOM in development of an information integration and decision portfolio of services and applications that will decompose existing C2 programs of record into essential capabilities supporting Joint Operating Concepts and Joint Mission Essential Functions.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	2.009	2.045	2.076
RDT&E Articles Quantity	0	0	0

FY 2007 Accomplished ($2.009 million)
- Continued all efforts initiated in FY 2006. Update C2 documents as appropriate.
- Developed technical standards required to integrate or migrate C2 systems for senior leadership into a net-centric environment.
- Assisted the COCOMS/Services in articulating C2 net-centric concepts and top level requirements that must be addressed by the JCIDS process.
- Worked with Joint Staff, Services and COCOMs on the development of C2 Capability Portfolio Management.
- Continued development of C2-related ontologies, taxnonomies, and registries.
- Began identifying C2 gaps and overlaps. Develop a plan to influence programs of record.

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number Defense Architecture Repository Systems (DARS), P170

FY 2008 Plans ($2.045 million)
- As the net-centric environment evolves, update published C2 policies and concepts.
- Build on all previous efforts to accomplish C2 capability gap, shortfall, and overlap assessments and institutionalize the process.
- Influence Programs of Record based on identified gaps and overlaps
- Continue portfolio management activities.

FY 2009 Planned ($2.076 million)
- Work with the Joint Staff, Services and COCOMs to evolve portfolio management into a seamless set of C2 Capabilities (ie services, applications and data management)
- Begin the development of mutually dependent programs of record across the net-centric C2 environment.
- Finalize the data strategy for C2 in key mission areas.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			R-1 Item Nomenclature: General Support to USD(Intelligence), PE 0605200D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	5.715	4.534	4.379	6.246	6.559	6.866	7.075
Intelligence Support, P200	1.218	0	0	0	0	0	0
Resource Database Support, P200	0	0.297	0.313	0.315	0.316	0.321	0.326
Information Operations, P200	4.497	0	0	0	0	0	0
Developmental Activities, P200	0	1.378	1.018	2.842	3.203	3.406	3.609
Operations Integration	0	2.859	3.048	3.089	3.040	3.139	3.140

A. Mission Description and Budget Item Justification:

Intelligence and Resource Database Support are technical and resource management activities that serve the OUSD(I) organization. Information Operations contains classified efforts. Developmental Activities provides innovative approaches to address intelligence, intelligence related capabilities, and intelligence sharing. Operations Integration focuses on technologies and their applications on activities of the OUSD(I).

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget	5.605	4.574	4.387
Current Budget Estimates Submission	5.715	4.534	4.379
Total Adjustments	0	-0.040	0
Congressional reductions	0	0	0
Congressional increases	0	0	0
Other adjustments	0.110	-0.040	-0.008

Change Summary Explanation:

FY 2007: Department increase
FY 2008: Department decrease
FY 2009: Department decrease

1. FY 2008 funding totals do not include $26.374 million in pending request for current FY2008 GWOT requirements.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: General Support to USD(Intelligence), PE 0605200D8Z

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics:

Intelligence Support: Classified

Resource Database Support: Accuracy and completeness of financial data captured for all Intelligence elements within the DoD in support of SecDef, OMB and Congress

Information Operations: Classified

Developmental Activities: Classified

Operations Integration: Classified

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Intelligence Support, P200				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Intelligence Support, P200	1.218	0	0	0	0	0	0
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

This program focuses on technologies and their applications on activities of the OUSD(I), and includes evaluations of concepts, technology development, and feasibility studies related to intelligence processes, shortfalls, and requirements, and affects intelligence policy, planning and operational guidance.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	1.218	0	0
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: Mission Support $1.218

FY 2008 Plans: N/A

FY 2009 Plans: N/A

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Resource Database Support, P200				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Resource Database Support, P200	0	0.297	0.313	0.315	0.316	0.321	0.326
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

Provides on and offsite operational, technical and process support, to include development of major improvements to the existing mechanisms/applications used by OUSD(I) to meet PPBE requirements and the timely and accurate production of MIP Congressional Justification Book (CJB). Supports transition from current applications and databases to an integrated automated resource management system.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	0	0.297	0.313
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: Continue to develop automated database functionality/capability to support PPBE, CPBS and MIP business processes and MIP CJB requirements.

FY 2009 Plans: Continue design and development of MIP taxonomy to support MIP business processes and CJB requirements within PPBE.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: Dreamhammer, Inc., Santa Monica, CA

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Information Operations, P200				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Information Operations, P200	4.497	0	0	0	0	0	0
RDT&E Articles Quantity	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

Information Operations contains classified programs.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	4.497	0	0
RDT&E Articles Quantity	0	0	0

FY 2007 Accomplishments: Details are provided in the Congressional Justification Book.

FY 2008 Plans: N/A

FY 2009 Plans: N/A

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Developmental Activities, P200				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Developmental Activities, P200	0	1.378	1.018	2.842	3.203	3.406	3.609
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

This program focuses on developmental technologies, methodologies, and capabilities. These activities will provide unique and innovative approaches to address intelligence, intelligence related capabilities, and intelligence sharing initiatives.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	0	1.378	1.018
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: Mission Support $1.378

FY 2009 Plans: Mission Support $1.018

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: Classified

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Operations Integration, P200				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Operations Integration, P200	0	2.859	3.048	3.089	3.040	3.139	3.140
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

This program focuses on technologies and their applications on activities of the OUSD(I). It includes evaluation of concepts, technology development and feasibility studies related to intelligence processes, shortfalls, and requirements that affect intelligence policy, planning and operational guidance.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	0	2.859	3.048
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: Mission Support $2.859

FY 2009 Plans: Mission Support $3.048

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: Classified

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605502D8Z - Small Business Innovative Research (SBIR)**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P502	Small Business Innovative Research (SBIR)	42.805						

A. Mission Description and Budget Item Justification: Not applicable for this item.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics: Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605502D8Z - Small Business Innovative Research (SBIR)**	**P502**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P502	Small Business Innovative Research (SBIR)	42.805						

A. Mission Description and Budget Item Justification: Not applicable for this item.

B. Accomplishments/Planned Program: Not Applicable.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605790D8Z - Small Business Innovative Research (SBIR)Challenge Admin**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P518 SBIR Administration	4.423	3.135	2.165	2.193	2.240	2.298	2.358

A. Mission Description and Budget Item Justification: (U) The Small Business Innovation Research (SBIR) Program and the Small Business Technology Transfer (STTR) Program fund approximately $1.264 billion annually in mission oriented research and development projects at small technology companies. The purpose of the program is to stimulate the development of new technologies to improve U.S. military and economic capabilities. The SBIR/STTR Program is mandated by public laws (PL) 97-219, PL 99-443, PL 102-564, PL 106-554, and PL 107-50 and is codified in 15 USC 638. The Department of Defense (DoD) SBIR/STTR Program competitively funds scientific and technical innovation to specifically address the needs of participating DoD components.

(U) DoD components participating in the SBIR Program include the: Army , Navy, Air Force, Defense Advanced Research Projects Agency (DARPA), Missile Defense Agency (MDA), Defense Threat Reduction Agency (DTRA), U.S. Special Operations Command (SOCOM), Joint Science & Technology Office for Chemical & Biological Defense, National Geospatial-Intelligence Agency (NGA), the Defense Logistics Agency (DLA), the Defense MicroElectronics Activity (DMEA) and the Office of Secretary of Defense (OSD) through the Director, Defense Research & Engineering (DDR&E). DoD components participating in the STTR Program include the: Army, Navy, Air Force, DARPA, MDA, and OSD.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	4.422	2.162	2.168
Current BES/President's Budget (FY 2009)	4.423	3.135	2.165
Total Adjustments	0.001	0.973	-0.003
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases		1.000	
Reprogrammings			
SBIR/STTR Transfer		-0.087	
Other	0.001	0.060	

FY08 Congressional increases are not directly associated with the administration of the program.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics: Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605790D8Z - Small Business Innovative Research (SBIR)Challenge Admin**	**P518**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P518 SBIR Administration	4.423	3.135	2.165	2.193	2.240	2.298	2.358

A. Mission Description and Budget Item Justification: (U) The SBIR/STTR Program is executed in three phases. The purpose of Phase I is to determine, insofar as possible, the scientific technical and commercial merit, and feasibility of ideas submitted under the SBIR/STTR Program. Phase II awards are made to firms that have been awarded a Phase I contract on the basis of the results of their Phase I effort and the scientific, technical, and commercial merit of the Phase II proposal. Phase II is the principal research or research and development effort and is expected to produce a well-defined deliverable prototype. Phase III SBIR/STTR efforts derive from, extend or conclude Phase I or Phase II efforts, and are not funded with SBIR/STTR funds. Under Phase III, companies participating in the SBIR/STTR Program are expected to obtain funding from the private sector and/or non-SBIR/STTR government sources to develop the prototype into a viable product or non-R&D service for sale in military and/or private sector markets.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Small Business Innovation Research Administration	4.423	3.135	2.165

(U) Since PL 102-564 prohibits the use of any of the SBIR budget to fund administrative costs of the program, program element (PE) 0605790D8Z is the only source of funds for the coordination, administration and execution of the Departments SBIR/STTR Program. In addition to funding costs for program administration, coordination and execution, PE 0605790D8Z funds essential elements of the SBIR/STTR Program that are required by law including: (a) the development and maintenance of information systems and software required for the measurement, evaluation, and effective management of the Departments SBIR/STTR R&D Program; (b) outreach to small technology companies, potential investors in such companies, SDBs WOSBs HBCU/MIs and others, to encourage and facilitate their participation in the SBIR/STTR Programs (e.g. conferences, trade shows, etc.); (c) preparation of the SBIR/STTR R&D solicitations and related publications; (d) support efforts such as administration of the various SBIR/STTR process action teams; (e) development and promulgation of guidance and reference materials to DoD contracting officers, technical monitors, and other personnel involved in administering the SBIR/STTR Programs; and (f) responding to requests for information relative to DoDs SBIR/STTR Program that receives about 16,000 proposals yearly and issues over 3,000 contracts.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605798D8Z - Defense Technology Analysis**

	COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
	Total Program Element (PE) Cost		13.608	11.040	11.215	11.432	11.589	11.733
P797	Defense Technology Analysis		5.525	5.700	5.728	5.888	6.006	6.101
P798	DDR&E Support Teams		8.083	5.340	5.487	5.544	5.583	5.632

A. Mission Description and Budget Item Justification: (U) The Director of Defense Research and Engineering (DDR&E) is the principal staff advisor to the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) and the Secretary and Deputy Secretary of Defense for research and engineering matters. In this capacity, the DDR&E has the responsibility to conduct analyses and studies; develop policies; provide technical leadership, oversight and advice; make recommendations; and issue guidance for the DoD Research and Engineering plans and programs. Additionally, the DDR&E provides technical support to the USD(AT&L) on R&E aspects of programs subject to review by the Defense Acquisition Board, to include the conduct of a complete assessment of technology readiness consistent with DoD acquisition policy. This PE is a transfer from DLA to DDR&E for technical oversight, management and execution.

(U) This program element provides mission support to the Office of the DDR&E (ODDR&E). It covers a wide range of studies and analyses in support of the R&E program and impacts the Department's decision to fund RDT&E efforts. The DoD's key expertise for reviewing and guiding research and engineering programs resides in the ODDR&E. The ODDR&E staff augments their responsibilities through their connections to technology experts in various fields throughout academia, industry, and government. This project supports the directed responsibilities by building DDR&E Support Teams (DSTs) of technology experts to conduct program technical assessments. The DSTs will analyze the key engineering problem areas and offer adjustments in the development and test plan; alternate technical approaches; or new technologies that could enable successful development. The DSTs will constitute expert non-advocate reviews and gather advice from the Nation's leading technical experts. Future capabilities will depend on today's R&E investment. Consequently, the mission of the DoD R&E program is to create, demonstrate, prototype, and apply technology that enables affordable and decisive military superiority to defeat any adversary on any battlefield. Pursuing the R&E mission requires attention to: identification and development of new technological opportunities; insertion of new technologies into warfighting systems and operations; and management and evaluation of the effectiveness of technology programs. A successful R&E program is connected to the acquisition Program Managers/Program Executive Officers to ensure the best possible technology is being integrated into acquisition systems.

(U) This program element provides engineering, scientific and analytical support to the Office of the Deputy Under Secretary of Defense (Science and Technology) (ODUSD(S&T)) in its responsibility for direction, overall quality, and content of the Science and Technology (S&T) program and ensures that the technology being developed is affordable and minimizes system development risk. The primary purpose of this program element is to facilitate the development of the S&T program and conduct assessments and analyses of the S&T program to ensure maximum utilization of Research and Development funds to accomplish the overall objectives of the S&T program. Funds are required for technical and analytical support, equipment, supplies, travel, and publications.

(U) Technology Integration activities advance international science and technology (S&T) cooperation of specific projects of bilateral or multilateral interest. It provides the management support for U.S. participation in NATOs Research and Technology Organization (RTO) and The Technical Cooperative Program (TTCP). Technology Integration oversees, coordinates and reviews RTO and TTCP activities in which the U.S. has an interest including ongoing and proposed collaborative programs, technical symposia and conferences, and standard operating procedures. This effort will leverage Tri-Service S&T dollars through new and ongoing international partnerships. Technology Integration also provides selective funding support for administration, travel, conferences, and technical evaluations related to RTO activities carried out by the Services and other

organizations.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)		11.927	11.060
Current BES/President's Budget (FY 2009)		13.608	11.040
Total Adjustments		1.681	-0.020
Congressional Program Reductions		-0.119	
Congressional Rescissions			
Congressional Increases		1.800	
Reprogrammings			
SBIR/STTR Transfer			
Other			-0.020

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
08						

Comment: Performance metrics are reflected in the number and quality of studies, technical efforts, and support to the ODDR&E.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605798D8Z - Defense Technology Analysis**	**P797**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P797	Defense Technology Analysis		5.525	5.700	5.728	5.888	6.006	6.101

A. Mission Description and Budget Item Justification: (U) This project provides engineering, scientific and analytical support to the Office of the Deputy Under Secretary of Defense (Science and Technology) (ODUSD(S&T)) in its responsibility for direction, overall quality, and content of the Science and Technology (S&T) program and ensures that the technology being developed is affordable and minimizes system development risk. The primary purpose of this program element is to facilitate the development of the S&T program and conduct assessments and analyses of the S&T program to ensure maximum utilization of Research and Development funds to accomplish the overall objectives of the S&T program. Funds are required for technical and analytical support, equipment, supplies, travel, and publications.

(U) Technology Integration activities advance international science and technology (S&T) cooperation of specific projects of bilateral or multilateral interest. It provides the management support for U.S. participation in NATOs Research and Technology Organization (RTO) and The Technical Cooperative Program (TTCP). Technology Integration oversees, coordinates and reviews RTO and TTCP activities in which the U.S. has an interest including ongoing and proposed collaborative programs, technical symposia and conferences, and standard operating procedures. This effort will leverage Tri-Service S&T investments through new and ongoing international partnerships. Technology Integration also provides selective funding support for administration, travel, conferences, and technical evaluations related to RTO activities carried out by the DoD Components.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
DoD Technical Analysis		5.525	5.700

FY 2008 Plans:

Provide engineering, scientific, analytical, and managerial support to the ODDR&E in developing strategies and plans to exploit and develop technology.

Provide engineering, scientific, analytical, and managerial support to the ODDR&E in conducting analyses, developing policies, making recommendations, and developing guidance for science and technology plans and programs.

Provide engineering, scientific, analytical, and managerial support to the ODDR&E in reviewing proposed and approved science and technology programs and make recommendations to optimize effectiveness of the DoD investments in science and technology.

Provide engineering, scientific, analytical, and managerial support to the ODDR&E in oversight of science and technology issues and initiatives and responding to Congressional special interests.

Through an international technology watch effort, identify ongoing and proposed S&T efforts that could complement efforts or fill shortfalls in meeting U.S. S&T requirements, objectives and goals.

Foster international bilateral and multilateral cooperative agreements in high value science & technology areas with allies, nonaligned nations and former Soviet Block nations. Establish data exchange agreements, engineer and scientist exchange program visits, international technology assessments and new cooperative programs.

Seek opportunities for international cooperation in high priority S&T. Conduct intradepartmental coordination to achieve goals as necessary.

FY 2009 Plans:

Provide engineering, scientific, analytical, and managerial support to the ODDR&E in developing strategies and plans to exploit and develop technology.

Provide engineering, scientific, analytical, and managerial support to the ODDR&E in conducting analyses, developing policies, making recommendations, and developing guidance for science and technology plans and programs.

Provide engineering, scientific, analytical, and managerial support to the ODDR&E in reviewing proposed and approved science and technology programs and make recommendations to optimize effectiveness of the DoD investments in science and technology.

Provide engineering, scientific, analytical, and managerial support to the ODDR&E in oversight of science and technology issues and initiatives and responding to Congressional special interests.

Through an international technology watch effort, identify ongoing and proposed S&T efforts that could complement efforts or fill shortfalls in meeting U.S. S&T requirements, objectives and goals.

Foster international bilateral and multilateral cooperative agreements in high value science & technology areas with allies, nonaligned nations and former Soviet Block nations. Establish data exchange agreements, engineer and scientist exchange program visits, international technology assessments and new cooperative programs.

Seek opportunities for international cooperation in high priority S&T. Conduct intradepartmental coordination to achieve goals as necessary.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605798D8Z - Defense Technology Analysis**	**P798**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P798 DDR&E Support Teams		8.083	5.340	5.487	5.544	5.583	5.632

A. Mission Description and Budget Item Justification: U) The DoDs key expertise for reviewing and guiding research and engineering programs resides in the ODDR&E. The ODDR&E staff augments their responsibilities through their connections to technology experts in various fields throughout academia, industry, and government. This project supports the directed responsibilities by building DDR&E Support Teams (DSTs) of technology experts to conduct program technical health check-ups. The DSTs will analyze the key engineering problem areas and offer adjustments in the development and test plan; alternate technical approaches; or new technologies that could enable successful development. The DSTs will constitute expert non-advocate reviews and gather advice from the Nations leading technical experts. Future capabilities will depend on todays R&E investment. Consequently, the mission of the DoD R&E program is to create, demonstrate, prototype, and apply technology that enables affordable and decisive military superiority to defeat any adversary on any battlefield. Pursuing the R&E mission requires attention to: identification and development of new technological opportunities; insertion of new technologies into warfighting systems and operations; and management and evaluation of the effectiveness of technology programs. A successful R&E program is connected to the acquisition Program Managers/Program Executive Officers to ensure the best possible technology is being integrated into acquisition systems.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
DDR&E Support Teams		8.083	5.340

FY 2008 Plans: (U) For selected acquisition programs and efforts, review in technical detail the respective program issues and offer technical solutions to program managers. Assessing the maturity of technology that is a candidate for transitioning to an acquisition program is important for efficient and timely fielding of improved military systems. The execution of a technology maturity assessment at all acquisition milestone decisions is now formally required by the Defense Acquisition Board. It is essential that the R&E community maintain close ties with the acquisition Program Managers and Program Executive Officers to enable the best possible technology maturity assessments.

FY 2009 Plans: (U) For selected acquisition programs and efforts, review in technical detail the respective program issues and offer technical solutions to program managers. Assessing the maturity of technology that is a candidate for transitioning to an acquisition program is important for efficient and timely fielding of improved military systems. The execution of a technology maturity assessment at all acquisition milestone decisions is now formally required by the Defense Acquisition Board. It is essential that the R&E community maintain close ties with the acquisition Program Managers and Program Executive Officers to enable the best possible technology maturity assessments.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605799D8Z - Force Transformation**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Office of Force Transformation	50.985	20.407	20.701	21.361	21.679	22.022	22.362

A. Mission Description and Budget Item Justification: (U) This funding request supports the activities of Force Transformation under the Department of Defense Research & Engineering (DDR&E), Rapid Reaction Technology Office, in the Operational Experimentation Division. The request is intended to support transformational RDT&E activities. Within these activities, the office is expecting to sponsor groundbreaking research and prototyping, as well as operational experimentation in selected areas that are considered vital to the advancement of transformation within the OSD (DOD). Funding will be used to meld innovative warfighting concepts with cutting-edge technologies to help transform military operations by rapidly fielding experimental prototypes in anticipation of commanders urgent needs.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	48.947	20.585	20.738
Current BES/President's Budget (FY 2009)	50.985	20.407	20.701
Total Adjustments	2.038	-0.178	-0.037
Congressional Program Reductions		-0.178	
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-1.371		
Other	3.409		-0.037

Change Summary Explanation: In FY 2007, GWOT supplemental funding ($3.409 million) has been displayed although it is actually for PE 0305125D8Z.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics: Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605799D8Z - Force Transformation**	**P799**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P799 Office of Force Transformation	50.985	20.407	20.701	21.361	21.679	22.022	22.362

A. Mission Description and Budget Item Justification: The Office of Force Transformation will catalyze transformational activities such as experimentation and exploration of the ramifications of new concepts and technologies and their combination. Activities include; research, testing, studies, analysis and development of transformation articles (prototype-like system surrogates) that will enable advanced experimentation for the co-evolution of concepts and technologies. Examples of such activities include: 1) the continued development and fielding of a prototype full-spectrum effects platform under the Wolf Pack initiative for use in urban operations that will have an integrated set of both lethal and non-lethal tactical capabilities, as well as a distributed network of advanced and highly mobile platforms, that provide options to the ground warrior beyond those currently available in Iraq, or any other urban engagement, giving the warrior the most effective means to engage across the mission spectrum. This concept/technology pairing attempts to create a new engagement model by shrinking the enemy_s engagement zone in both time and space while expanding ours to create maximum advantage; 2) the development of a transformational Tactical Relay Mirror System capability to re-direct laser energy for tactical applications/effects in which laser energy is re-directed from a ground-based laser through the use of a mirror-relay system carried by an airborne platform such as UAVs or airships. This system will extend the future use of lasers by ground commanders with a semi-persistent, ISR-strike platform that would perform all functions across the find-fix-track-target-engage (at the speed of light) - assess kill chain; 3) the development of a micro-satellite system that is responsive to the needs of the operational and tactical commander, which includes the critical design of a standardized bus for tactical satellite operations and the development of operationally responsive payload and a universal user interface in both the SIPR (DOD use) and NIPR (Interagency/NGO use) called VMOC (Virtual Mission Operations Center). VMOC will allow SIPR users to task an array of distant sensors and all users the ability to use real-time overhead products. 4) the conduct of technical performance trials and operational experimentation of the Stiletto advanced composite high-speed craft that addresses the military and interagency(USCG and Homeland Security) needs to develop engineering and operational solutions for effective littoral operations with distributed adaptive networked forces; and finally, 5) the exploration of an array of transformational capabilities addressing urgent personal countermeasures requirements, to include the development of optical augmentation systems capable of detecting various optical sensors, including human eyeballs, after which an integrated system could track these sensors followed by non-lethal through lethal engagement, thus providing the warfighter, particularly in the urban environment, with an ability to have the highest level of situational awareness.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Wolf Pack Platoon	12.750	5.000	5.000

FY 2007 Accomplishments: The Wolf Pack project developed, integrated, and tested C4 architecture and vehicle subsystems to include UAVs, UGVs, multi-spectral sensors, lethal / non-lethal weapons, counter-IED, electronic warfare, acoustic shot detection and advanced maintenance diagnostic systems. Quarterly C2 experiments were conducted with USSOCOM and the Naval Postgraduate School. A draft concept of employment (to include cooperative engagement, dispersed operations and increased situational awareness below the current digital divide) was developed and war gamed with US Army and US Marine Corps stakeholders. Safety plans were developed, technical manuals prepared and operating forces trained on all systems. Final engineering integration and testing begins.

FY 2008 Plans: Testing on integrated systems is completed to rapid fielding standards of safe, suitable and sustainable. Vehicle platforms, subsystems and concepts of employment are delivered to

Marine Forces Pacific for two scheduled month-long, field experiments with operating forces at Twentynine Palms, California. Quarterly experiments with USSOCOM and the Naval Postgraduate School continue. Engineering and employment modifications are completed based on warfighter and experimental feedback. A Steering Group composed of US Army, US Marine, and Coalition combat developers and supporting S&T community representatives develop options for spin-out technology in support of current operational issues such as position location information and tactical biometrics as well as for programs like the Joint Light Tactical Vehicle and the Mine Resistant Ambush Protected Vehicle. Initial concept development, technology assessment and experimentation planning for Wolf Pack Platoon Spiral 2 begin, as well as a coordinated field experiment with the CASSANDRA JCTD.

FY 2009 Plans: Wolf Pack Spiral 2 continues, incorporating new technologies such as biometrics, evolving warfighter needs, and specific environments.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Operationally Responsive Space	29.719	2.000	

FY 2007 Accomplishments: During FY 2007, Operationally Responsive Space prepared the TacSat-1 ($1 million to NRL) satellite for launch scheduled May 07, but the launch was cancelled in order to evaluate potential modifications to the satellite and to allow time for the SpaceX Falcon launch vehicle to complete its testing. TacSat-2 ($0 to AFRL) launched Jan 07. TacSat-3 ($5 million to AFRL Congressional Plus Up) continued design and assembly. Force Transformation funding prototype satellite bus standards through a government-industry team. TacSat-4 ($15 million to NRL Congressional Plus Up) continued the design process into assembly. Launch is scheduled for Oct 08. VMOC & Operational Experimentation ($1.5 million to NRL) continued development as data portal and applications with TacSats, Stiletto and Wolf Pack. Payload Technology Development (FY06 $17 million to NRL): seven projects selected for below $500K category, four projects selected for $500K-$1M category. 3 projects selected for the $2-5 million category. Projects were jointly evaluated by AFRL, NRL, ARL. Satellite Technology/Standard Bus Development ($5million to NRL Congressional Plus Up): Continued development of standard interfaces for satellites and developed the business case for industry adoption of standards. Projects funded focus on bus technology as well as converting UAV/Aircraft sensors for space use.

FY 2008 Plans: Continue evaluating options for launching a modified version of the TacSat-1 satellite, while transitioning activities to the Joint Operationally Responsive Space Office at Kirltland AFB, NM. Complete all 15 Payload Technology Development projects (FY06 $17 million to NRL). Deliver Satellite Technology/Standard Bus Recommendations and Plan to the Joint ORS Office. Explore funding additional ORS technology development and risk reduction work, such as converting UAV/Aircraft sensors for space use. Develop plan to apply model for Satellite Technology/Standard Bus plan for other ORS enablers, such as launch vehicles and range activities.

FY 2009 Plans: ORS activities transition to the Joint ORS Program Office.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Tactical Relay Mirror Systems	4.610	1.050	

FY 2007 Accomplishments: During FY 2007, the prime contractor began assembly of the TRMS pallet. Coordination and design work continued to bring the completed pallet to the Starfire Optical Range at Kirtland AFB, Albuquerque, NM, where it will be suspended from a crane to simulate aerostat operations, and mated with an AFRL source laser (a 25 KW laser is in the process of being acquired) for the conduct of operational field testing. Key labor activities and milestones included payload software development, subcontractor and material hardware procurement oversight, and payload assembly, integration and test. Concurrently, a Boeing internal research and development activity to build a Dual Line of Sight (DLOS) test article was completed. The DLOS assembly will serve as a surrogate, scaled payload module (half scale of TRMS) for target acquisition, optical tracking, beacon tracking, and beam control software development in support of TRMS. TRMS continued wargame socialization with operational forces.

FY 2008 Plans: During FY 2008, funding from this PE will accelerate the TRMS project by approximately one year with advanced procurement of higher-risk parts. Additionally, further

wargaming will be conducted. By the end of FY 2008, the program should be postured to conduct high-power laser tests of the optical path. AFRL has fully embraced the TRMS project so funding for the TRMS project from this PE will be complete in FY 2008 with a service lab taking full ownership of the program.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Stiletto	3.906	2.640	2.681

FY 2007 Accomplishments: During FY 2007 the Stiletto project conducted naval architecture performance trials; continued to advance the design and validation of combatant craft design tools; conducted multiple operational experiments; participated in Trident Warrior 07; made hull, systems, and equipment upgrades to Stiletto; supported SOCOM experimentation; supported SOUTHCOM experimentation; and undertook collaborative efforts to support with the United States Naval Academy naval architecture and networking research. Continued supporting COCOM/Interagency experimentation.

FY 2008 and 2009 Plans: The Stiletto project will continue its operational experimentation through FY 2008 as well as the identification, design and execution of continued upgrades to Stiletto equipment and hull; continue supporting COCOM, Navy and USCG/HS experimentation. Specific experiments with SOUTHCOM are planned and opportunities with PACOM will be evaluated. The Stiletto project will evaluate its plans for FY 09 based upon its accomplishment, progress and opportunities presented during FY 2007 and FY 2008.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Griffin		1.700	2.041

Develop an unmanned surface vessel (USV) with excellent sea keeping capability, shallow draft, high speed, seven days endurance and a modular mission payload. USV with an _electronic keel_ and an experimental quadrimaran hull form which will be the platform to integrate previously tested technologies, sensors and weapon systems.
Objectives are to test quadrimaran hull; advance functionality of USVs; and integrate several unmanned systems.

FY 2008 Plans: Finalize design of USV with quadrimaran hull to builder, award contracts, and complete modeling and craft construction.

FY 2009 Plans: Sensors/weapon integration; operational test and evaluation. One full scale prototype will be ready for evaluation (1st Qtr FY 2009); training / CONOPS manuals to be delivered (FY 2009); and conduct operational testing with an operational command (FY 2009).

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Additional Programs		8.017	10.979

Additional programs to be funded will be assigned in FY 2008 and FY 2009 based on operational requirements and the technical maturity of emerging technologies.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 06	**0605804D8Z - Developmental Test and Evaluation**

	COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
	Total Program Element (PE) Cost	9.155	18.550	20.396	20.845	21.321	19.852	17.459
P804	Developmental Test and Evaluation	9.155	15.893	17.523	18.042	18.468	16.940	14.480
P805	Software Engineering and System Assurance		2.657	2.873	2.803	2.853	2.912	2.979

A. Mission Description and Budget Item Justification: This program supports systems engineering and software technical analysis and engineering evaluation of the Department's weapons systems. Efforts determine the adequacy of system test program structure and development plans, substantiation of technical performance requirements achievement, identification of weapon system cost performance trade-offs/design risks, system certification for Operational Test and Evaluation, and ensures programs are sound, well executed and sufficiently address warfighter requirements. Activities in this program also include system and software test and engineering policies, guidance and development of defense workforce education and training materials, and providing technical analyses and policy guidance for the Department of Defense (DoD) energy programs. This program also funds the evaluation of best practices, procedures, methods and tools to support sound, stable acquisition programs.

FY 2008 will see a significant ram-up in activity as the Departments takes the revitalization of Systems and Software Engineering to the next level. Traction is being gained in implementation of systems engineering and a renewed focus on developmental test and evaluation. The department must redouble its efforts to create Centers of Excellence and increased direct support to program through program support reviews, best practices identification and dissemination and more intensive development T&E prior to Initial Operational Test and Evaluation (IOT&E). New approaches, with associated policy, guidance, education and training are essential in software engineering and systems assurance as the department is becoming increasing dependent on a more globalized information Technology market place.

This program provides necessary modeling and simulation policy and guidance, clarifies the application of distributed simulation standards and works with the DoD modeling and simulation community to identify and prioritize required capabilities and competencies needed to support acquisition modeling and simulations.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	9.150	18.712	20.432
Current BES/President's Budget (FY 2009)	9.155	18.550	20.396
Total Adjustments	0.005	-0.162	-0.036
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			

Other	0.005	-0.162	

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
07	See Below					
08	See Below					
08	See Below					

Comment: FY 2007 Accomplishments:
Baseline: Facilitate Defense Acquisition University (DAU) course re-engineering and fielding of three new test and evaluation courses; and ensure Test & Evaluation (T&E) curriculum represents the education and training requirements necessary to be a viable team member in the acquisition process
Metric: (1) Field TST-201, TST-202V, and TST-203, Field TST-302; and (2) DT&E website upgrade & maintenance plan

FY 2008 Plans:
Baseline: Monitor and facilitate Defense Acquisition University (DAU) course re-engineering and fielding of test and evaluation courses; and Ensure T&E curriculum represents the education and training requirements necessary to be a viable team member in the acquisition process

FY 2009 Plans:
Baseline: Monitor and facilitate DAU course re-engineering and fielding of test and evaluation courses; and ensure T&E curriculum represents the education and training requirements necessary to be a viable team member in the acquisition process

Strategic Goals Supported : Improve Modeling and Simulations (M&S) in Systems Engineering
FY 2007 Accomplishments:
Baseline: Provide necessary Acquisition & Technology (A&T), Systems Engineering (SE), and Developmental Test & Evaluation (DT&E) Modeling & Simulation (M&S) policy

and guidance
Metric: (1) Publish M&S Cross-Cutting Business Plan; (2) Provide necessary A&T, SE, and DT&E M&S policy and guidance; (3) Review Live, Virtual, and Constructive (LVC) architecture standards proposal for application of distributed simulation standards; (4) Develop and submit acquisition M&S project proposals and provide guidance how to evaluate appropriate use of M&S; and (5) Identify the required M&S competencies needed to support acquisition

FY 2008 Plans:
Baseline--Monitor and facilitate DAU CLM on M&S for T&E course
Metric--Provide necessary A&T, SE, and DT&E M&S policy and guidance

FY 2009 Plans:
Baseline--Monitor and facilitate DAU CLM on M&S for T&E course
Metric--Provide necessary A&T, SE, and DT&E M&S policy and guidance

Strategic Goals Supported: DT&E Policy and Guidance
FY 2007 Accomplishments:
Baseline--Formulate an ongoing process to determine DT&E Policy Needs. Determine timeframes and inputs to the policy process. Determine metrics that indicate the policy process is efficient and effective. Determine metrics that the policy process is working. Improve existing and establish new DT&E Policy
Metric--(1) Determine the policy process timeframes and inputs. (2) Provide recommendations for metrics. (3)Update DoD 5000, recommended changes to Title 10; and DAG (4) Refine Test and Evaluation Strategy (TES), Test and Evaluation Master Plan (TEMP) signature process using 6-Sigma process; and (5) Final process charts, timelines, and templates

Baseline--Track and measure TES/TEMP metrics from process owner; and establish DT&E leadership by improving TES/TEMP development
Metric--Publish T&E IPT ground rules

FY 2008 Plans:
Baseline--Monitor and facilitate DT&E Policy Process, provide updates for DoD 5000, DAG, & TES/TEMP improvements

FY 2009 Plans:
Baseline--Monitor and facilitate DT&E Policy Process, provide updates for DoD 5000, DAG, & TES/TEMP improvements

Strategic Goals Supported: Improve Joint Warfighting Capability
FY 2007 Accomplishments
Baseline--(1) Prioritize T&E capabilities needed in the JME; (2) Guide development of T&E infrastructure to support concept development and DT&E in the JME (JMETC); (3) Guide development of T&E methods and processes to support concept development and DT&E in the JME (JTEM); (4) Guide development of T&E policy to support concept development and DT&E in the JME; and (5) Support JT&E Projects that improve Joint Warfighting Capabilities
Metric--(1) JT&E Joint Feasibility Studies (JFS) selected; (2) Version 1 (Draft) JTEM Methods and Processes completed; (3) Publish JMETC Issue Paper; (4) Engage with JME

T&E policy working group; (5) JT&E Program Test Plans (PTP) Signed; and (6) Version 2 (Draft) JTEM methods & processes completed following initial field test

FY 2008 Plans:
Baseline--(1) Draft JME DoD test policy signed; and monitor and facilitate improvements of T&E methods and processes to support concept development and DT&E in the JME (JTEM)

FY 2009 Plans:
Baseline--Monitor and facilitate improvements of T&E methods and processes to support concept development and DT&E in the JME (JTEM)

Strategic Goals Supported: Test Resources/Targets availability to meet T&E requirements
FY 2007 Accomplishments:
Baseline--Ensure targets are sufficiently threat representative and available when needed for developmental testing of weapon systems
Metric--(1) 1st coordinating draft FY 2007 TRMC Strategic Plan; (2) Full Scale Aerial Target Analyses of Alternatives (AoA) completed; (3) Threat D anti-ship missile target Request for Proposals released; (4) FY 2007 TRMC Strategic Plan completed

FY 2008 Plans:
Baseline--Monitor resource availability. Fifth generation full scale aerial target AoA completed.
Metric--Monitor FY 2007 Test Resource Management Center (TRMC), Strategic Plan implementation

FY 2009 Plans:
Basline--Monitor resource availability

Strategic Goals Supported: Technical Readiness and Technology Maturity
FY 2007 Accomplishments:
Baseline--(1) Establish best DT&E practices for Technology Maturity (TM); (2) integrate planning for alternatives to subsystems with immature technology into the System Engineering (SE) process (off-ramps)
T&E changes to accommodate alternative technologies; and (3) Updated DAG Chapter 4 (SE) and Chapter 9 (T&E)
Metric: Update training at DAU, publicize at Program Executive Officer/Systems Command (PEO/SYSCOM) and industry events in FY 2008

FY 2008 Plans:
Baseline--Monitor resource availability
Metric--Update training at DAU, publicize at Program Executive Officer/Systems Command (PEO/SYSCOM) conference and industry events in FY 2008

FY 2009 Plans:
Baseline--Monitor resource availability
Metric--Update training at DAU, publicize at PEO/SYSCOM and industry events in FY 2009

Strategic Goals Supported: Energy - Acquisition Investment Decisions
FY 2007 Accomplishments:
Baseline--Implement policy re valuing energy in 3 pilot programs in acquisition investment decisions
Metric: Energy policy memo released by USD(AT&L); Tactical system energy efficiency efforts will increase combat effectiveness, reduce POL logistical burden and force stress in theater

FY 2008 Plans:
Baseline--Serve as Executive Secretary to Energy DSB; Publish report of findings from DSB; Lead Fully Burdened Cost of Fuel (FBCF) Pilot Program; Develop acquisition policies that will use business process principals to quantify the value of the FBCF Pilot

FY 2009 Plans:

Baseline--Monitor resource availability

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605804D8Z - Developmental Test and Evaluation**	**P804**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P804	Developmental Test and Evaluation	9.155	15.893	17.523	18.042	18.468	16.940	14.480

A. Mission Description and Budget Item Justification: This program supports systems engineering and software technical analysis and engineering evaluation of the Department's weapons systems. Efforts determine the adequacy of system test program structure and development plans, substantiation of technical performance requirements achievement, identification of weapon system cost performance trade-offs/design risks, system certification for Operational Test and Evaluation, and ensures programs are sound, well executed and sufficiently address warfighter requirements. Activities in this program also include system and software test and engineering policies, guidance and development of defense workforce education and training materials, and providing technical analyses and policy guidance for the Department of Defense (DoD) energy programs. This program also funds the evaluation of best practices, procedures, methods and tools to support sound, stable acquisition programs.

FY 2008 will see a significant ram-up in activity as the Departments takes the revitalization of Systems and Software Engineering to the next level. Traction is being gained in implementation of systems engineering and a renewed focus on developmental test and evaluation. The department must redouble its efforts to create Centers of Excellence and increased direct support to program through program support reviews, best practices identification and dissemination and more intensive development T&E prior to Initial Operational Test and Evaluation (IOT&E). New approaches, with associated policy, guidance, education and training are essential in software engineering and systems assurance as the department is becoming increasing dependent on a more globalized information Technology market place.

This program provides necessary modeling and simulation policy and guidance, clarifies the application of distributed simulation standards and works with the DoD modeling and simulation community to identify and prioritize required capabilities and competencies needed to support acquisition modeling and simulations.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2007 Accomplishments:	9.155	15.893	17.523

DT&E Policy and Guidance
Supported Defense Science Board Task Force on Developmental Test and Evaluation;
Tracked and measured Test and Evaluation Strategy/Test and Evaluation Master Plan (TES/TEMP) metrics from process owner improve TES/TEMP development;

Education & Training
Facilitated Defense Acquisition University course re-engineering and fielding of three new test and evaluation courses;
Ensure T&E curriculum represents the education and training requirements necessary to be a viable team member in the acquisition process.

Modeling and Simulations (M&S
Improved M&S in Systems Engineering by providing necessary policy and guidance;
Initiated priority actions in Acquisition M&S Master Plan;.
Provided leadership to the Acquisition Model and Simulation Working Group monthly meetings.

Improved Joint Warfighting Capability
Prioritized T&E capabilities needed in the JME;
Guided development of T&E infrastructure to support concept development and DT&E in the JME (JMETC);
Guided development of T&E methods and processes to support concept development and DT&E in the JME (JTEM);
Guided development of T&E policy to support concept development and DT&E in the JME;
Guided Joint Test and Evaluation Projects that improve Joint Warfighting Capabilities;
Facilitated Test Resources/Targets availability to meet T&E requirements;
Ensured targets are sufficiently threat representative and available when needed for weapon systems developmental testing

Technical Readiness and Technology Maturity
Established best DT&E practices for Technology Maturity (TM)

Energy- Acquisition Investment Decisions
Served as Executive Secretary to Energy Defense Science Board;
Led three there pilot programs to validate methodologies developed to value the fully burdened cost of in acquisition investment decisions

Systems Safety
Incorporated Best Practices from System Safety Guides into appropriate DoD-level documents to ensure their use
Led SOCCOM six Sigma Project to validate business case for Joint Weapon Safety Review Process;
Distributed "AT&L Safety Guidance Memo".

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2008 Plans:			

Policy and Guidance
Implement recommendations of the Defense Science Board Task Force on Developmental Test and Evaluation;
Monitor and facilitate DoD 5000 & Test and Evaluation Strategy (TES) and Test and Evaluation Master Plan (TEMP) revisions required to reduce time to field weapons systems;
Update training at DAU, publicize at Program Executive Officer/Systems Command (PEO/SYSCOM) conference and industry events in FY 2008;
Provide guidance to the Missile Defense Executive Board Test and Evaluation Standing Committee and oversee the Test and Evaluation planning and resource roadmap as it relates to Missile Defense Agency test requirements and test program, and to provide technical recommendations and oversight for the conduct of an integrated T&E program and investment strategy;
Provide necessary System Engineering, Developmental Test and Evaluation, and Modeling and Simulation policy and guidance;

Education & Training
Complete education and training Work Force Analyses; Monitor and facilitate Defense Acquisition University course re-engineering and fielding of test and evaluation courses; Update training at

DAU to ensure T&E curriculum represents the education and training requirements identified in the Work Force Analyses; Define reference curriculum to assure Software Engineers meet DOD requirements.

Modeling and Simulations
Provide tutorial to AS staff on how to advise and assess program technical planning for M&S use;
Participate in defining and developing T&E M&S Acquisition Business Plan;
Deliver acquisition M&S project proposals;
Conduct progress review for M&S for T&E; Select round 2 acquisition M&S project proposals;
Submit final inputs on M&S in Acquisition for Defense Acquisition Group
Review Live Virtual Constructive proposal for application of distributed simulation standards.

Improve Joint Warfighting Capability
Prioritize T&E capabilities needed in the JME
Guide development of T&E infrastructure to support concept development and DT&E in the JME (JMETC);
Guide development of T&E methods and processes to support concept development and DT&E in the JME (JTEM);
Guide development of T&E policy to support concept development and DT&E in the JME;
Guide Joint Test and Evaluation Projects that improve Joint Warfighting Capabilities;
Facilitate Test Resources/Targets availability to meet T&E requirements;
Ensure targets are sufficiently threat representative and available when needed for weapon systems developmental testing.

Technology Maturity
Integrate planning for alternatives to subsystems with immature technology into the System Engineering (SE) process (off-ramps);
Update training at DAU

Energy
Publish report of findings from Energy Defense Science Board Task Force. Lead Fully Burdened Cost of Fuel (FBCF) Pilot Program Develop acquisition policies that will use business process principals to quantify the value of the FBCF Pilot. Implement policy revaluing energy in 3 pilot programs in acquisition investment decisions;
Develop DoD Energy Strategic Plan.
Accelerate outreach, identify promising Science and Technologies, and serve as the Platform Energy Advocate in AT&L, participate in program Evaluation of (EOA) and Concept Decision Reviews, requirements, and acquisition planning. Support Joint Chiefs of Staff in energy key performance parameter (KPP) development.

Systems Safety
Develop "Safety into Joint Capabilities Integration and Development System (JCIDS)" process to provide recommendations that have potential to cost effectively prevent accidents;
Develop "Joint Weapons Safety Review" process that will reduce and minimize cost and time required for joint weapons safety certifications;
Monitor Implementation of SOCCOM Joint Safety Review process and review business case analyses for application in other joint preview processes;
Integrate system safety into appropriate existing Defense Acquisition University courses.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009

FY 2009 Plans:

Monitor and facilitate DAU course re-engineering and fielding of test and evaluation courses; and ensure T&E curriculum represents the education and training requirements necessary to be a viable team member in the acquisition process;
Monitor and facilitate DAU CLM on M&S for T&E course;
Provide necessary A&T, SE, and DT&E M&S policy and guidance;

Policy and Guidance
Monitor and facilitate DoD 5000 & TES/TEMP improvements;
Monitor and facilitate improvements of T&E methods and processes to support concept development and DT&E in the JME (JTEM);
Monitor resource availability;
Update training at DAU, publicize at PEO/SYSCOM and industry events in FY 2009;

Modeling and Simulations (M&S)
Improved M&S in Systems Engineering by providing necessary policy and guidance;
Initiated priority actions in Acquisition M&S Master Plan;
Provided leadership to the Acquisition Model and Simulation Working Group monthly meetings.

Improve Joint Warfighting Capability
Guide development of T&E policy to support concept development and DT&E in the JME;
Guide Joint Test and Evaluation Projects that improve Joint Warfighting Capabilities;
Facilitate Test Resources/Targets availability to meet T&E requirements;
Ensure targets are sufficiently threat representative and available when needed for weapon systems developmental testing

Energy
Monitor implementation of policy to incorporate use of Fully Burdened Cost of Fuel in acquisition;
Develop guidance for implementation of Develop DoD Energy Strategic Plan.
Monitor Defense Acquisition University curriculum and provide updates as necessary so that energy strategic plan goals are included in coursework.

Systems Safety
Implement "Safety into JCIDS" process and integrate into DoD policies and/or procedures
Implement "Joint Weapons Safety Review" process and integrate into DoD policies and/or procedures

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605804D8Z - Developmental Test and Evaluation**	**P805**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P805	Software Engineering and System Assurance		2.657	2.873	2.803	2.853	2.912	2.979

A. Mission Description and Budget Item Justification: In Fiscal Year (FY) 2008, the Software Intensive Systems funding line will be transferred from PE0603782D8Z to the Developmental Test and Evaluation line and will be renamed Systems Engineering and Software Assurance. This project focuses specifically on the acquisition of software intensive systems, and the developmental test and engineering of software. Efforts in this project are focused on software specific engineering issues such as engineering large scale complex systems from software components, software architecture, design and integration and test practices, prevention of malicious tampering (engineering for software assurance), and development tools, education and guidance for software professionals. Efforts are linked with Major Defense Acquisition Program (MDAP) support activities, and enable development of a core competency and software expertise that is provided directly to our programs. Based on this MDAP support, this project will evaluate software issues, and analyze systemic software issues such that cross-cutting corrective action may be taken. The latter activities help establish a baseline and measure a declining number of software issues in our defense acquisition programs.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2008 Plans:		2.657	2.873

Support Acquisition Success:
- Provide software and system assurance expertise for Acquisition Category (ACAT) ID/IAM and special interest programs

Improve State-of-the-Practice of Software Engineering:
- Identify and address systemic issues related to software
- Publish System Assurance Guidebook
- Conduct pilot application of the System of System (SoS) Engineering Guidebook
- Develop objectives for v2.0 update to the Capability Maturity Model Integration (CMMI)

Provide Software Leadership and Outreach:
- Implement Department/National strategic plan for meeting defense software requirements
- Participate in Service-led software initiatives, e.g., Army Strategic Software Improvement Program and multi-national forums, e.g., Software Intensive Systems Acquisition Improvement Group

Ensure Adequate Software Resources to Meet DoD Needs:
- Develop strategy to address human capital recommendations from Software Industrial Base Study, Software Summit
- Review Defense Acquisition University curriculum and knowledge management services, e.g., Communities of Practice, Best Practices Clearinghouse, for software content and recommend changes

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 06	**0605804D8Z - Developmental Test and Evaluation**	**P805**

Objectives: Tools, techniques identified; program support provided to ACAT ID/IAM and special interest programs; partners established, agenda set;
Artifacts: System of Systems Engineering Guide, Initial software systemic findings, System Assurance Guide, DoD Software Strategic Plan; Conference sponsorship and participation (e.g., Systems and Software Technology Conference, Systems Engineering)

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2009 Plans:			

Support Acquisition Success:
- Provide software and system assurance expertise for ACAT ID/IAM and special interest programs

Improve State-of-the Practice of Software Engineering:
- Identify and address systemic issues related to software
- Establish System Assurance policy for DoD acquisition programs
- Perform v2.0 update to the Capability Maturity Model Integration (CMMI)
- Update System of System (SoS) Engineering Guidebook based on pilot applications

Provide Software Leadership and Outreach:
- Participate in Service-led software initiatives, e.g., Army Strategic Software Improvement Program and multi-national forums, e.g., Software Intensive Systems Acquisition Improvement Group
- Continue Implementation of Department/National strategic plan for meeting defense software requirements

Ensure Adequate Software Resources to Meet DoD Needs:
- Implement human capital recommendations from Software Industrial Base Study, Software Summit

Objectives: Tools, techniques updated; program support provided to ACAT ID/IAM and special interest programs; expanded set of partners, updated agenda
Artifacts: SoS Engineering Guide, CMMI v2.0, DoD Software Strategic Plan; Conference sponsorship and participation (e.g., Systems and Software Technology Conference, Systems Engineering), Updated DAU curriculum with software considerations

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, DW BA 06			R-1 Item Nomenclature OSD Support for Programming Budget, 0606100D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	0	1.739	5.878	5.972	6.114	6.261	6.412
OSD Support for Programming Budget, P101	0	1.739	5.878	5.972	6.114	6.261	6.412

A. Mission Description and Budget Item Justification:

This is a new program that supports the Office of the Director, Program, Analysis & Evaluation (PA&E). It will fund assessments that will help resolve budget and programmatic issues across the full range of the Department's activities. This program initiates analysis and leverages ongoing research and study efforts occurring in the Office of the Secretary of Defense (OSD), Joint Staff (JS), Combatant Commands, the Military Departments, Defense and other federal agencies to analyze, modify, design, and balance Department capabilities.

Projects that support this effort will help inform the leadership on program alternatives, capability concept development, design and cost, the appropriate balance of capabilities across the force, identify how well the Department's expenditures are meeting its goals, and how well the force can implement the Defense strategy.

Other studies in our analytic plan that would be funded from this source include Analytic Agenda preparatory QDR 2009-2010 work to encompass selected model and data development as well as development of new baselines for selected scenarios.
In addition, analytic studies in support of acquisition milestone decisions, quick turn analysis needed in support of Nunn-McCurdy reviews, and other studies as directed by the Secretary of Defense and Congress may also be conducted. For example, in previous years analytic products included research and analysis for the E-10A, Space Radar, BAMS; Nunn-McCurdy reviews for WIN-T, SBIRS, Global Hawk; and Program Review issues for TSAT, AEHF, WGS, ABL, STSS, Battlespace Awareness portfolio, studies for information assurance, Minuteman replacement, and tactical ground communications.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, DW BA 06	R-1 Item Nomenclature OSD Support for Programming Budget, 0606100D8Z

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous Budget Estimates Submission	0	5.750	5.888
Current Budget Estimates Submission	0	1.739	5.878
Total Adjustments			
Congressional program reductions	0	-4.000	0
Congressional reductions (other)	0	-0.011	0
Congressional increases	0	0	0
Other	0	0	-0.010

Change Summary Explanation:

FY 2008

Congressional program reductions:

-$4.000 per FY 2008 Appropriations Conference Report

Congressional reductions (other):

-$0.003 per section 8097 of FY 2008 Appropriations Bill (Contractor Efficiencies)

-$0.008 per section 8104 of FY 2008 Appropriations Bill (Economic Assumptions)

FY 2009

Other:

-$0.010 program adjustments

C. Other Program Funding Summary: N/A

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, DW BA 06	R-1 Item Nomenclature OSD Support for Programming Budget, 0606100D8Z

D. Acquisition Strategy: N/A

E. Performance Metrics:
The products or expected outcomes of this program are studies and analyses to support resource allocation decisions, acquisition decisions, and issues of high interest to the Secretary of Defense. Performance is measured by the quality of the analysis and is monitored through the review of our organizational assessment process. Our primary goal is to ensure that study and analytical products are timely, clear, complete, accurate, responsive, balanced, and objective.

Deliverables would include reports, briefings, and analyses designed to illuminate critical issues facing the Department. This will include recommendations for new modeling techniques, programmatic alternatives, and scenario development. The Department needs to review its current analytical tools, models, and methods to better analyze the issues we face in a new, more complex warfighting environment where we face non-state actors, interactions with coalition, foreign, state, and local law enforcement entities, and non-traditional threats such as improvised explosive devices, chemical and biological warfare agents, and WMD. Warfighting analysis has traditionally been in the kinetic domain of modeling and simulation. The new strategic environment necessitates a re-evaluation of the modeling and simulation, tools, techniques, and data that are used by the analysis community within this environment. We also need to assess our current tools and data to ensure they are congruent and support the new ways in which the Department's leadership is beginning to think about current operations and problems (i.e., capability-portfolio analysis), such that analysis and information best serves the decision-making process.

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, DW BA 06			Project Name and Number OSD Support for Programming Budget, P101				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OSD Support for Programming Budget, P101	0	1.739	5.878	5.972	6.114	6.261	6.412

A. Mission Description and Budget Item Justification:

This is a new program that supports the Office of the Director, Program, Analysis & Evaluation (PA&E). It will fund assessments that will help resolve budget and programmatic issues across the full range of the Department's activities. Using the Analytic Agenda as a basis, it leverages ongoing research and study efforts occurring in the Office of the Secretary of Defense (OSD), Joint Staff (JS), Combatant Commands, the Military Departments, Defense and other federal agencies to analyze, modify, design, and balance Department capabilities.

Projects that support this effort will help inform the leadership on program alternatives, capability concept development, design and cost, the appropriate balance of capabilities across the force, identify how well the Department's expenditures are meeting its goals, and how well the force can implement the Defense strategy.

The current studies in our analytic plan that would be funded from this source include Analytic Agenda preparatory QDR 2009-2010 work. This includes selected model and data development as well as development of new baselines for selected scenarios. Analytic studies in support of acquisition milestone decisions include quick turn analysis needed in support of Nunn-McCurdy reviews, PDM studies, and other studies as directed by Congress. For example, in previous years analytic products included research and analysis for the E-10A, Space Radar, BAMS; Nunn-McCurdy reviews for WIN-T, SBIRS, Global Hawk; and Program Review issues for TSAT, AEHF, WGS, ABL, STSS, Battlespace Awareness portfolio, PDM studies for information assurance, Minuteman replacement, and tactical ground communications.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, DW BA 06	Project Name and Number OSD Support for Programming Budget, P101

B. Accomplishments/Planned Program:

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	0	1.739	5.878
RDT&E Articles Quantity	0	0	0

FY 2007 Accomplishments: N/A

FY 2008 Plans:
This is the first year of the project. PA&E will complete an assessment of joint capabilities needed to support the demands of the US Defense strategy to inform senior decision-maker review of POM 10-15 submissions. Analysis will also be conducted to help capability portfolio managers determine the proper balance in their portfolios. Specific projects that will be conducted in 2008 are as follows:

- *Contribution of Intelligence, Surveillance, and Reconnaissance (ISR) to High-Value Target (HVT) Missions-New Locations:* Determine the right balance and size of Intelligence, Surveillance, and Reconnaissance (ISR) support for SOCOM-related High-Value Target (HVT) missions globally in order to inform DoD investment strategies for GWOT. This will expand the FY07 effort on SOF-related HVT missions in Operation Iraqi Freedom (OIF) to other areas including OEF-Afghanistan, OEF-Pakistan, and the Horn of Africa. Near- and long-term technology implications of certain ISR capabilities will also be assessed. The study will also address the potential to transfer SOCOM TTPs to conventional forces for this mission. In addition to informing long-term capability needs, the results will benefit the warfighter in terms of current ISR performance data. Using rigorous data-analysis, the FY07 study quantified the right balance of ISR capabilities, e.g. Full Motion Video (FMV), HUMINT, SIGINT, for success in HVT missions. Results led to increases in specific FMV capabilities, both in terms of short-term efforts (e.g. SecDEF directed ISR surge and Joint Rapid Acquisition Committee) and longer-term program-of-record enhancements. Results also informed decisions regarding better apportionment of assets, including redistribution of capabilities both into and out of CENTCOM. To broaden exposure, study results were also briefed to members of the SSCI/HPSCI and Senate and House Armed Services Committees. FY08 efforts will continue FY07 efforts to other critical areas in GWOT, which differ from OIF in terms of targets, access, and environment. This study was conducted in collaboration with the Office of the Under Secretary of Defense for Intelligence (OUSD(I)).

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, DW BA 06	Project Name and Number OSD Support for Programming Budget, P101

FY 2008 Plans continued:

- *ISR Support for Conventional Forces and Missions in GWOT:* This study will support OSD long-term resource decisions and CENTCOM short-term ISR operational effectiveness using a data intensive approach that quantitatively links ISR inputs to operational outcomes (e.g. FY07 High-Value-Target ISR study). This effort will involve close collaboration with OUSD(I) as well as CENTCOM and Command elements (J-2, J-3) to obtain large quantities of intelligence and operational data. The study will also analyze supporting aspects of ISR, including Tasking, Processing, Exploitation, and Dissemination (TPED) and communication (e.g. bandwidth).
- *Enhancing Joint Analysis System (JAS) for Key Departmental Studies:* Enhance the JAS to model the Homeland Defense (HD) Interdiction Analytical Baseline Study, which will also support NORTHCOM's HD CBA. JAS and the Combating WMD Analytic Baseline are being used by DTRA for their Campaign X exercises. In addition JAS will be used for a Seabasing study conducted by the Joint Staff.
- *GWOT End State Metrics Research:* This is a joint effort conducted with OSD (Policy). This effort will support the development of regular, comparable, multi-country, national public opinion surveys tailored to the GWOT and the specific information requirements of OSD (Policy). The data and conclusions drawn from these surveys will enable the Department to help determine the most important steps for the DoD and United States Government to take with regard to moving forward in the GWOT. Assessing progress towards achieving the End State Metrics (ESM) of the GWOT is essential for conducting effective planning.
- *Space Situational Awareness:* This year's program review revealed the need for a coherent investment strategy to provide effective Space Situational Awareness (SSA). This study will build on existing studies to determine the right mix of sensors (tracking radars, detection radars, imaging radars, optical systems) and IT tools needed to provide global SSA in a cost effective manner.
- *Force Capabilities Assessment Across Future Planning Scenarios:* This is an analysis of conventional forces in the new defensive planning scenarios to assess risk in the program and identify potential trade areas across ground, naval and air capabilities. This work will take a holistic approach (to include classified programs) in informing the FY10 Presidential Budget. The work will be used to help prioritize investments and to quantify the ability of U.S. forces to respond to emerging threats. The project will also allocate some effort to improving modeling and research tools.

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, DW BA 06	Project Name and Number OSD Support for Programming Budget, P101

FY 2009 Plans:

The requested amount for FY 2008 was $6,000 thousand, but only $1,739 thousand was allocated to the program. Consequently, key studies to inform Defense program alternatives will not be conducted, and additional funding is needed in FY 2009 to build upon studies that will start in FY 2008. The FY 2009 request is to fully restore the program such that analyses can be completed for FY 2008 and FY 2009 efforts. Both FY 2008 unfunded requirements and FY 2009 efforts include the following:

- Continue to expand mission and regional breadth of ISR-support studies, still using data intensive approach that quantitatively links ISR inputs to operational outcomes.
- Complete the second phases of the Space Situational Awareness and Force Capabilities Assessment Across Future Planning Scenarios studies started in FY 2008.
- Studies and assessments to support the FY 2010 Quadrennial Defense Review.
- Continue to enhance the FYDP databases to support analysis in new management frameworks (i.e., joint capability areas)
- Improve the accuracy of combat adjudication models and other simulation tools for studying the full range of combat operations from irregular warfare to large, full scale force-on-force combat. The effort will explore and develop techniques to explicitly account for dependencies and the constraints imposed by spatial and temporal (space and time) separations distinguishing combatants.
- Assess the operational capability of conventional forces in an environment where communications links are degraded or denied. Implement necessary improvements to PA&E models and other simulation tools to better address communications functionality. The emerging EW threat is not well understood, and current models do not adequately capture the impact on force effectiveness, blue or red, in an EW environment where connectivity is denied or degraded.
- Assess enhancements to Special Operations forces for the prosecution of the GWOT as directed by the Secretary of Defense.
- Enhance Cost Analysis Improvement Group cost-related databases at the Defense Cost and Resource Center.
- Improved analytical tools and techniques to support senior leadership on non-traditional military challenges to include irregular warfare, special operations forces, and catastrophic challenges of homeland defense and civil support / consequence management.
- Conduct focused assessments of the contribution of net-centric command and control, and persistent, all-weather intelligence, surveillance, and reconnaissance capabilities to current and future scenarios.

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, DW BA 06	Project Name and Number OSD Support for Programming Budget, P101

FY 2009 Plans continued:

- Examine ground force structure to include manpower, equipment and readiness.
- Assess capacity needed within DoD, as well as the role of agencies and allies in a range of scenarios against Force Planning Construct of homeland defense, irregular warfare/war on terror, and conventional conflict across steady state and surge environments.
- Determine the contribution of DoD forces as part of a local, state, and federal interagency response to current and future homeland defense consequence management scenarios.
- Continue to assess the principle areas identified in the Force Planning Construct across both steady state and surge environments to prepare a detailed assessment of US military capabilities in preparation for the 2010 Quadrennial Defense Review.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A - this is a new start.

Exhibit R-2, RDT&E Budget Item Justification				Date: February 2008			
Appropriation/Budget Activity RDT&E, Dw BA 06			R-1 Item Nomenclature: Support to Information Operations Capability, PE 0303166D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	0	34.590	30.039	30.825	31.583	30.433	31.052
IO Capability Activities, P159	0	3.558	4.613	4.678	4.746	4.819	4.770
IO Range, P159	0	10.600	10.900	11.200	11.600	11.840	12.575
IO Planning Capability – Joint, P159	0	14.360	14.526	14.947	15.237	13.774	13.707
Enhanced Simulation for Information Operations Capabilities (Congressional add)	0	6.072	0	0	0	0	0

A. Mission Description and Budget Item Justification:

These programs are each part of the Defense Department's coordinated effort to integrate Information Operation (IO) test and evaluation capability to assess IO technologies and tactics in a representative operational environment against realistic targets. The IO Roadmap identified the need for a suite of automated data analysis and decision support software tools to facilitate joint-IO planning enabling users to accomplish Intelligence Preparation of the Battle space (IPB), develop IO strategy and candidate IO campaign targets, plan IO missions, and monitor and assess execution. The objectives of the programs are to create a flexible, seamless and persistent environment enabling combatant commanders to achieve the same level of confidence and expertise in employing IO weapons that they have in kinetic weapons; to lead the development of a joint IO analysis, planning, and targeting capability for Service and COCOM IO operational execution; and to transform intelligence support to IO and joint IO training, education, and exercises.

1. Information Operations Capability Activities - Supports the development of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.
2. Information Operations Range (IOR) - IOR will establish a secure, flexible, and seamless environment for the Services and Joint warfighters to test, train, develop tactics, and exercise simulated computer network attack using selected offensive electronic warfare capabilities. This environment enables the COCOM's warfighters to visualize non-kinetic weapons effects, understand the intricate and interactive effects generated by kinetic and non-kinetic weapons and achieve the same level of confidence and expertise in employing IO weapons that they have with kinetic weapons.

Virtual **I**ntegrated **S**upport for the **I**nformation **O**perations e**N**vironment (VisIOn) (formerly called Information Operations Planning Capability - Joint (IOPC-J)) is the future joint IO planning and analysis system, which will integrate and synchronize IO analysis, planning, execution and assessment. VisIOn will support operations at multiple security levels, including coalition operations, across all Services and

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Support to Information Operations Capability, PE 0303166D8Z

3. communities. Additionally, it will reduce duplication of effort, minimize training, speed up processes, and ensure unity of efforts throughout the DoD.
4. Enhanced Simulation for Information Operations Capabilities will provide a software architecture that can bring network management to the Deputy Secretary of Defense Chartered Information Operations Range and VisIOn initiatives. The IO Range and VisIOn programs require the transfer of large amounts of data to accomplish their mission and must mitigate or overcome latency and bandwidth limitation inherent in all networks. These network limitations are especially prevalent in field operations where connectivity to networks is erratic. The DoD leadership recognizes the need to improve efficiency in utilizing non kinetic weapons. Currently, however, the ability to create and operate the realistic operational environment required to support effective integration of these systems is limited because data transfer requirements exceed real world bandwidth limitations. The software architecture will support IO Range and VisIOn objectives to provide analysis, planning, rehearsal, and execution environments for US and coalition forces by enabling large-scale data transfer and providing a central integration point with new standards. This will save considerable time and money by eliminating rewrites of existing simulations and filtering of critical data thus providing a mission critical solution that is needed by DoD now.

Funding from other program elements were consolidated in FY08 under this new non-MIP program element. Funds allocated for IO Range development were transferred from PE 0603757D8Z to support USJFCOM, the Lead Agent for the IO Range. The Deputy Secretary of Defense Memorandum on the IO Range signed 18 November 2005 firmly establishes the requirement for creating a cooperative information operations range among Service Ranges, Agencies, Non-DoD laboratories, and academia under the leadership of Joint Forces Command. In a memo signed 15 November 2006, the Deputy Secretary of Defense designated Commander USJFCOM the DoD Lead Component for the development, integration and sustainment of the Information Operations Planning Capability-Joint (IOPC-J) (now named “VisIOn”) as the department's primary IO mission planning and analysis capability. Transfer IOPC-J (VisIOn) funds from PE 0208021F corresponds with the functional transfer of responsibility for capability development to USJFCOM. Enhanced Simulation for Information Operations Capabilities is a Congressional add in FY08.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Support to Information Operations Capability, PE 0303166D8Z

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget	0	28.652	30.093
Current Budget Estimates Submission	0	34.590	30.039
Total Adjustments	0	5.938	-0.054
Congressional reductions	0	-0.302	0
Congressional increases	0	6.240	0
Other adjustments	0	0	-0.054

Change Summary Explanation:
FY 2007: N/A
FY 2008: Congressional add, Department decrease
FY 2009: FY 2009 reflects program adjustments due to inflation

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: These efforts will use an evolutionary acquisition strategy using contracts awarded after full and open competition.

E. Performance Metrics: Performance metrics are measured through internal management controls and external assessments. Performance metrics include, but are not limited to time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the warfighter to speed up processes faster than current capabilities allow?
- Money – Will the effort enable the warfighter to reduce duplication of effort and to prepare and execute events at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the warfighter to create an environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort ensure unity of efforts throughout the IO Community?

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number IO Capability Activities, P159				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IO Capability Activities, P159	0	3.692	4.613	4.678	4.746	4.819	4.770
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

This capability contains classified programs. Facilitates the development of IO capabilities that support COCOMs and Services executing IO during current and future conflicts. Supports the development of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	0	3.692	4.613
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: The project contains classified efforts. Developed IO capabilities that support COCOMs and Services executing IO during current and future conflicts. Developed of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.

FY 2009 Plans: The project contains classified efforts. Funds the development of IO capabilities that support COCOMs and Services executing IO during current and future conflicts. Supports the development of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number IO Capability Activities, P159				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IO Range, P159	0	10.600	10.900	11.200	11.600	11.840	12.575
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

The National Military Strategy of the United States stresses the importance of integrating Information Operations (IO) capabilities for the success of Joint Operations and Decision Superiority. "Assuring information systems in the face of attack and conducting effective Information Operations" was one of the six critical operational goals in DoD's transformation efforts (2001 Quadrennial Defense Review). The 2003 Department of Defense Information Operations (IO) Roadmap, dated 30 Oct 2003, established a requirement for an integrated range supporting "exercises, testing, and development of IO capabilities." Further direction by OSD identified the need for an "integrated IO test and evaluation capability to assess IO technologies and tactics in a representative operational environment against realistic targets." The FY04-09 Defense Planning Guidance (DPG) stated the need to expand IO training and education for the developing cadre of IO professionals and provide an environment for analysis, testing, training, combat assessments, and measures of effectiveness for more reliable IO capabilities. Deputy SECDEF Memorandum on the IO Range signed 18 Nov 2005 established the requirement for creating a cooperative information operations range among military services under the leadership of USJFCOM.

The Information Operations Range (IO) establishes a secure, flexible, and seamless environment for the Services and Joint warfighters to test, train, develop tactics, and exercise simulated computer network attack using selected offensive electronic warfare capabilities. The basis of the functional structure of the IO Range is the integration of existing ranges, laboratories, information warfare centers, and other Government facilities that currently support IO test, training, exercise, and experimentation events. Capabilities at the selected sites will be securely connected and integrated into the IO Range. A key feature of this concept is the persistent, secure connection that links the sites together, allowing the exchange of data and the visualization of effects as we employ capabilities. Creation of a "virtual range" based on persistent connections significantly reduces the amount of lead-time required to set up each new warfighter event. The long-term goal for the IO Range is to be a full spectrum IO Range comprising: operational security, computer network operations, electronic warfare, psychological operations, and military deception. This environment enables the COCOM's warfighters to visualize non-kinetic weapons effects, understand the intricate and interactive effects generated by kinetic and non-kinetic weapons and achieve the same level of confidence and expertise in employing IO weapons as they have with kinetic weapons.

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number IO Capability Activities, P159

Note: Funds allocated for IO Range development were transferred from PE 0603757D8Z in FY08 to support USJFCOM, the Lead Agent for the IO Range.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	0	10.600	10.900
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans:

- Matured strategic partnerships with stakeholders to maintain and expand IO Range functionality
- Integrated additional IO capabilities into the IO Range
- Enhanced the IO Range security posture to support Service sensitive programs
- Leveraged technology breakthroughs to enhance IO Range capabilities to provide a realistic IO battlespace
- Established formal self-assessment (continuous improvement) programs
- Effectively planned, programmed, budgeted and managed investments in the IO Range program

FY 2009 Plans:

- Develop, test and evaluate IO Range concepts during events based on a list of prioritized requirements and available funding.
- Development toward full spectrum IO will continue to evolve with the addition of a more robust set of Electronic Attack targets.
- Continue the spiral implementation of IO capabilities at the Range sites. This continuing effort supports progress toward reaching full capability in which twenty persistent IO Range sites will be connected and integrated for IO Range use.

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number IO Capability Activities, P159

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: Northrop Grumman Corporation, Booz-Allen Hamilton

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Planning Capability – Joint, P159				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IO Planning Capability – Joint, P159	0	14.360	14.526	14.947	15.237	13.774	13.707
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

National Military Strategy stresses the importance of integrating Information Operations (IO) capabilities for the success of Joint Operations and Decision Superiority. "Assuring information systems in the face of attack and conducting effective Information Operations" was one of the six critical operational goals in DoD's transformation efforts (2001 Quadrennial Defense Review). In a memo signed 15 Nov 2006, the Deputy Secretary of Defense designated Commander USJFCOM the DoD Lead Component for the development, integration and sustainment of the Information Operations Planning Capability-Joint (IOPC-J) as the department's primary IO mission planning and analysis capability.

Virtual **I**ntegrated **S**upport for the **I**nformation **O**perations e**N**vironment (VisIOn) (formerly called Information Operations-Joint (IOPC-J)) is the future Joint IO Planning and analysis system, which will integrate, and synchronize IO analysis, planning, execution and assessment. VisIOn will support operations at multiple security levels, including coalition operations, across all Services and communities. Additionally, it will reduce duplication of effort, minimize training, speed up processes, and ensure unity of efforts throughout the DoD.

Note: Transfer of Information Operations Planning Capability - Joint (IOPC-J) funds from PE 0208021F corresponds with the functional transfer of responsibility for capability development to USJFCOM.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	0	14.360	14.526
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: N/A

Exhibit R-2a, RDT&E Project Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	Project Name and Number IO Planning Capability – Joint, P159

FY 2008 Plans:

- Merge JIAPC and IOPC-J into one program (called VisIOn).
- Initiate development of closed Research and Development network on the IO Range to further refine VisIOn utility.
- Develop VisIOn baseline capability with initial IO analysis and assessment capabilities.
- Initiate support to operations at multiple security levels.

FY 2009 Plans:

- Integrate and synchronize planning, analysis, execution and assessment capabilities into VisIOn in support of COCOMs/Services/Agencies requirements.
- Reduce duplication of effort, minimize and facilitate planning, analysis, execution and assessment, increase process efficiencies and ensure repeatability.
- Apply existing net enabled architectures to enhance IO planning, analysis, execution and assessment.
- Support operations conducted at multiple security levels including coalition operations.
- Integrate integrative analysis methodology with IO planning, analysis, execution and assessment across IO Community.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: The VisIOn risk reduction technology demonstration will be extended in duration and expanded in scope to meet the requirements of the baseline capability risk reduction technology demonstration. This short-term approach will be in addition to the formal acquisition process to develop VisIOn initial capability and full capability. This will include a short "bridging contract" to provide IWPC 4.2/ JIAPC sustainment until VisIOn baseline capability is ready.

Concurrently, the IO JMO will initiate the formal acquisition process to mature and harden the baseline capability for deployment Initial Capability in FY09 leading to full capability.

E. Major Performers: N/A

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Enhanced Simulation for Information Operations Capabilities				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Enhanced Simulation for IO Capabilities	0	6.072	0	0	0	0	0
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

Enhanced Simulation for Information Operations Capabilities is a Congressional add in FY08 providing a software architecture that can bring network management to the Deputy Secretary of Defense Chartered Information Operations Range and VisIOn initiatives. The IO Range and VisIOn programs require the transfer of large amounts of data to accomplish their mission and must mitigate or overcome latency and bandwidth limitation inherent in all networks. These network limitations are especially prevalent in field operations where connectivity to networks is erratic. The DoD leadership recognizes the need to improve efficiency in utilizing non kinetic weapons. Currently, however, the ability to create and operate the realistic operational environment required to support effective integration of these systems is limited because data transfer requirements exceed real world bandwidth limitations. The software architecture will support IO Range and VisIOn objectives to provide analysis, planning, rehearsal, and execution environments for US and coalition forces by enabling large-scale data transfer and providing a central integration point with new standards. This will save considerable time and money by eliminating rewrites of existing simulations and filtering of critical data thus providing a mission critical solution that is needed by DoD now.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	0	14.360	14.526
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: N/A
FY 2008 Plans: Purchase WARP appliances, enterprise software licenses and engineering support for integration of the WARP technology into all Vision and IOR network sites.
FY 2009 Plans: N/A

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: Circadence, Inc.

Exhibit R-2, RDT&E Budget Item Justification						Date: September 2007	
Appropriation/Budget Activity RDT&E, Dw BA 06			R-1 Item Nomenclature: IT Rapid Acquisition, 0303169D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	5.479	5.152	5.254	4.701	5.148	5.229	5.311
IT Rapid Acquisition, P169	5.479	5.152	5.254	4.701	5.148	5.229	5.311

A. Mission Description and Budget Item Justification:

The Department must rapidly transform its processes in order to better support the agile warfighter. This PE is dedicated to Rapid Acquisition Incentives – Net Centricity (RAI-NC) which serve DoD by providing RDT&E proof-of-concept early implementation of key initiatives targeted at advancing and moving the Mission Areas of DoD towards Net Centricity. For example, a coherent and timely transition across DoD Enterprise networks and infrastructure to the next generation of the Internet Protocol, IP version 6 (IPv6) is critical to leveraging the power of information by the business and warfighting mission areas through net-centric operations/warfare. The PE permits accelerating domain support processes thru rapid proof of concept development and early implementation.

RAI-NC provides funding for Net Centric initiatives that directly support and facilitate the transformation of the DoD enterprise. This effort is consistent with the Department's strategic goals to: enable net-centric operations and warfare, reduce costs; improve efficiency; increase effectiveness by improving the efficiency and effectiveness of process redesign; business systems modernization; strategic sourcing; infrastructure reductions; and optimal-sized inventories. The objective of RAI-NC is to accelerate DoD's net centric transformation in support of the warfighter. Fully achieving net-centricity requires the ubiquity, mobility, security and performance achievable through implementation of the value added features of IPv6. The scope of Rapid Acquisition Incentives – Net Centricity encompasses defense policies, processes, people, technologies and systems that guide, perform or support aspects of warfighter support processes within the Department. Each RAI-NC initiative provides proof of concept sustainability, as well as the scalability necessary for Domain enterprise wide implementation that will allow end-to end accessibility to net-centric based decision-making information. Successful implementation will result in more reliable, accurate and timely net centric management information upon which managers can make more effective business decisions in a timely manner for the Department.

RAI-NC enables the acceleration of DoD efforts to implement network centric operational environments while providing a secure, flexible, reliable, affordable, integrated network to achieve high effectiveness in joint and combined operations. This program employs RDT&E funds to plan, develop, prototype and oversee proof of concept initiatives. Successful initiatives with supporting business cases demonstrating the achieved goals and outcomes and mission area support will be allowed to enter full deployment. This program is funded under BA-6, Management Support because it includes studies and analyses in support of R&D efforts.

Exhibit R-2, RDT&E Budget Item Justification	Date: September 2007
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: IT Rapid Acquisition, 0303169D8Z

Program Accomplishments and Plans:

FY 2007 Accomplishments ($5.479 million)

Conducted proofs of concept early implementation that advanced the transformation of DoD processes, further net-centric operations and provided business case based enterprise solutions. RAI-NC efforts focused on enabling a coherent and timely transition across DoD Enterprise networks

and infrastructure to the next generation of the Internet Protocol, IP version 6 (IPv6), that allowed the business and warfighting mission areas toleverage the power of information through net-centric operations/warfare. FY 2007 efforts delivered significant improvements to the Domains and serve as change agents across DoD, thereby accelerating both the timeliness and quality of decision-making and information flow. RAI-NC initiatives accelerated DoD's net-centric transformation in direct support of the warfighter included:

- Identifying and promoting commodity-based software programmable radio technologies to rapidly respond to warfighter requirements and reducing costs.
- Providing for rapid prototyping, test and demonstration of commodity-based software programmable radio solutions utilizing evolving technologies for near and long term solutions.
- Focusing on incorporating solutions from outside programs of records:
  - Modular software programmable radio approach enables incorporation of new offerings such as high band transceiver modules into open architecture designs
  - Encourage and provide a mechanism for test of commercial module upgrade offerings or alternative techniques to enhance capability and reduce cost
  - Foster P3I technology improvements into spirals of programs of records
  - Rapid development and demonstration of specific capabilities
  - Utilize COTS, IRAD, NDI, and CRADA Products
  - Take advantage of exercises and demonstrations to test products
  - Industry, Academia, and Government Lab participation

Exhibit R-2, RDT&E Budget Item Justification	Date: September 2007
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: IT Rapid Acquisition, 0303169D8Z

- Providing migration path to warfighter systems.

FY 2008 Plans ($5.152 million)

While the base IPv6 standards are robust and provide rough parity with IPv4 capabilities, many of the advanced features of IPv6 needed to fully enable net-centricity are still being developed. A DoD-wide development, engineering, testing and evaluation effort provides an opportunity to drive DoD needs into those features and accelerate the availability of products with those needed features (e.g., quality of service, mobility, IP convergence). It is expected that these FY 2008 efforts will deliver significant improvements to the Domains and serve as change agents across DoD, thereby accelerating both the timeliness and quality of decision-making and information flow. RAI-NC initiatives that accelerate DoD's net-centric transformation in direct support of the warfighter will continue to include:

  - Utilize COTS, IRAD, NDI, and CRADA Products
  - Take advantage of exercises and demonstrations to test products
  - Industry, Academia, and Government Lab participation
- Providing migration path to warfighter systems.

FY 2009 Plans ($5.254 million)

RAI-NC initiatives that accelerate DoD's net-centric transformation in direct support of the warfighter will continue to include:

- Continue to promote commodity-based software programmable radio technologies to rapidly respond to warfighter requirements and reducing costs.
- Continue to provide for rapid prototyping, test and demonstration of commodity-based software programmable radio solutions utilizing evolving technologies for near and long term solutions.
- Continue to focus on incorporating solutions from outside programs of records:
  - Modular software programmable radio approach enables incorporation of new offerings such as high band transceiver modules into open architecture designs
  - Encourage and provide a mechanism for test of commercial module upgrade offerings or alternative techniques to enhance capability and reduce cost

Exhibit R-2, RDT&E Budget Item Justification	Date: September 2007
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: IT Rapid Acquisition, 0303169D8Z

- Foster P3I technology improvements into spirals of programs of records
- Rapid development and demonstration of specific capabilities
- Utilize COTS, IRAD, NDI, and CRADA Products
- Take advantage of exercises and demonstrations to test products
- Industry, Academia, and Government Lab participation

- Continue to provide migration path to warfighter systems.

- Continue to support DoD transition to IPv6 and convergence of voice, video and data on IP based DoD networks by coordinated and integrated planning, policy/guidance and oversight

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget	5.061	5.197	5.264
Current Budget Estimates Submission	5.479	5.152	5.254
Total Adjustments	0.418	-0.045	-0.010
Congressional program reductions		-0.045	
Congressional increases			
Reprogrammings			
SIBR/STTR Transfer			
Program Adjustments	0.418		-0.010

Program Change Explanation:
FY 2007: Rounding adjustment at the Department level $0.418 million.
FY 2008: FFRDC -.012 million, Contractor efficiencies -$0.008 million, Economic assumptions -$0.025 million.
FY 2009: Program adjustments of -$0.010 million due to inflation.

Exhibit R-2, RDT&E Budget Item Justification	Date: September 2007
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: IT Rapid Acquisition, 0303169D8Z

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics:

- Timely development and issuance of policy, guidance, processes, and technologies to build, populate, govern, operate, and protect the Network.
- Development of plans and implementation activities for net centric data and IPv6 transformation capabilities.

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			R-1 Item Nomenclature: Intelligence Support to Information Operations, PE 0305193D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	14.234	9.846	17.625	20.798	21.328	21.704	22.079
E-Space Analysis Center	0.797	0.423	0.816	0.840	0.854	0.867	0.881
Human Factors Analysis and Intelligence Integration	11.578	8.436	14.824	17.914	18.395	18.726	19.054
IO Indications and Warning	1.859	0.987	1.985	2.044	2.079	2.111	2.144

A. Mission Description and Budget Item Justification:
Intelligence Support to Information Operations contains classified programs. Details are provided in the classified Congressional Justification Book.

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget	14.048	9.932	17.657
Current Budget Estimates Submission	14.234	9.846	17.625
Total Adjustments	0	-0.086	0
Congressional reductions	0	0	0
Congressional increases	0	0	0
Other adjustments	0.186	-0.086	-0 .032

Change Summary Explanation:
FY 2007: Department increase
FY 2008: Department decrease
FY 2009: Department decrease

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics: Details are provided in the classified Congressional Justification Book.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number E-Space Analysis Center, P194				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
E-Space Analysis Center	0.797	0.423	0.816	0.840	0.854	0.867	0.881
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:
Intelligence Support to Information Operations (E-Space) contains classified programs. Details are provided in the classified Congressional Justification Book.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	0.797	0.423	0.816
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: Details provided in the classified Congressional Justification Book.

FY 2008 Plans: Details provided in the classified Congressional Justification Book

FY 2009 Plans: Details provided in the classified Congressional Justification Book

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: Details provided in the classified Congressional Justification Book

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number Human Factors Analysis and Intelligence Integration				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Human Factors Analysis and Intelligence Integration	11.578	8.436	14.824	17.914	18.395	18.756	19.054
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:
Intelligence Support to Information Operations (Human Factors Analysis) contains classified programs. Details are provided in the classified Congressional Justification Book.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	11.578	8.436	14.824
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: Details provided in the classified Congressional Justification Book.

FY 2008 Plans: Details provided in the classified Congressional Justification Book

FY 2009 Plans: Details provided in the classified Congressional Justification Book

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: Details provided in the classified Congressional Justification Book

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			Project Name and Number IO Indications and Warning				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IO Indications and Warning	1.859	0.987	1.985	2.044	2.079	2.111	2.144
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:
Intelligence Support to Information Operations (IO Indications and Warning) contains classified programs. Details are provided in the classified Congressional Justification Book.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost	1.859	0.987	1.985
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2007 Accomplishments: Details provided in the classified Congressional Justification Book.

FY 2008 Plans: Details provided in the classified Congressional Justification Book

FY 2009 Plans: Details provided in the classified Congressional Justification Book

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: Details provided in the classified Congressional Justification Book

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Dw BA 06			R-1 Item Nomenclature: Warfighting and Intelligence-Related Support, PE 0305400D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	0	0.820	0.831	0.835	0.847	0.861	0.874
Warfighting and Intelligence-Related Support, P400	0	0.820	0.831	0.835	0.847	0.861	0.874

A. Mission Description and Budget Item Justification:

This program supports the alignment of policies and programs with current operational requirements, oversight and sufficiency of special access programs, conduct of various intelligence-related activities and warfighter support efforts, strategies and assessments, and alignment of cutting-edge and emerging technologies for warfighter needs.

Program Accomplishments and Plans:

FY 2007 Accomplishments: N/A

FY 2008 Plans:

- Mission Support $0.820

FY 2009 Plans:

- Mission Support $0.831

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Dw BA 06	R-1 Item Nomenclature: Warfighting and Intelligence-Related Support, PE 0305400D8Z

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget	0	0.827	0.832
Current Program and Budget Review	0	0.820	0.831
Total Adjustments		-0.007	-0.001
Congressional Reductions	0	0	0
Congressional Increases	0	0	0
Other Adjustments	0	-0.007	-0.001

Change Summary Explanation:

FY 2007: N/A
FY 2008: Department decrease
FY 2009: Department decrease

C. Other Program Funding: NA

D. Acquisition Strategy: NA

E. **Performance Metrics:** Classified