Exhibit R-2, RDT&E Budget Item Justification				Date: February 2007				
Appropriation/Budget Activity RDT&E Defense-Wide, BA 6				R-1 Item Nomenclature: Special Technical Support PE 0603704D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	19.683	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

Special Technology Support to Intelligence and Light Forces is a classified program. See the Congressional Justification Book for program details.

Program Accomplishments and Plans:

FY 2006 Accomplishments:

- Mission Support $19.683M

FY 2007 Plans: N/A

FY 2008 Plans: N/A

FY 2009 Plans: N/A

B. **Program Change Summary:** (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President's Budget Submission)

	FY 2006	FY 2007	FY 2008	FY2009
Previous President's Budget	20.977	0	0	0
Current President's Budget	19.683	0	0	0
Total Adjustments	-1.294			

Congressional program reductions	
Congressional rescissions	
Congressional increases	
Other Adjustments	-1.294

FY 2006: Congressional add transferred to other activity
FY 2007: Funding transferred out of USD-I

C. Other Program Funding Summary: Not Applicable

D. Acquisition Strategy: Not Applicable

E. Performance Metrics: Classified

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: PROJECT TITLE:

GENERAL COMMENTS: As directed in the National Defense Authorization Act for FY 2005, all RDT&E funding for U.S. Joint Forces Command (USJFCOM) moved from Navy Program Elements (PEs) to Defense-Wide PEs starting in FY 2007. This move affected both PE 0603727N and 0804758N. These programs are not new starts.

COST: (Dollars in Thousands)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE		70,824	51,752	43,404	41,483	41,767	42,360	42,946
JOINT NATIONAL TRAINING CAPABILITY (JNTC) Project Code P758		34,906	30,715	25,667	26,454	27,404	27,879	28,353
JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TC AoA) Project Code P759		10,700	10,303	8,080	5,255	4,637	4,580	4,524
JOINT COMBINED TRAINING CENTRE (JCTC) Project Code P760		5,000	0	0	0	0	0	0
JOINT SIMULATION SYSTEMS (JSS) Project Code P761		11,991	10,734	9,657	9,774	9,726	9,901	10,069
JOINT INFORMATION OPERATIONS RANGE (JIOR) Project Code P762		8,227	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: As directed in the National Defense Authorization Act for FY 2005, RDT&E funds moved from Navy PEs to Defense-Wide starting in FY 2007.

These RDT&E 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 (COCOMs), coalition partners, and interagencies by creating a realistic battle space environment in which to train as a Joint Warfighting force to meet emerging mission requirements including the

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: PROJECT TITLE:

Long War. These investments support the Secretary of Defense's (SECDEF) T2 initiative to enable and enhance Joint Warfighting readiness by training as we intend to fight. The elements associated with this are:

- Joint National Training Capability (JNTC)
- Training Capability Analysis of Alternatives (TC AoA)
- Joint Combined Training Centre (JCTC)
- Joint Simulation Systems (JSS)
- Joint Information Operations Range (JIOR)

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 operating training environment through an integrated network of training sites and nodes. JNTC provides the common standards, architecture, and development processes required to link the other training transformation programs within this program element. By leveraging existing training programs or initiating specific actions, JNTC is providing credible opposing force capabilities, expanded access to assets typically unavailable in 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 enhance current and future Joint training capabilities.

TC AoA: The TC AoA 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 the alternatives. Specifically, the TC AoA 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 COCOMs in the SECDEF 2004 TC AoA study. These efforts increase warfighter Joint training capabilities with improved constructive simulations, streamlined acquisition processes, and leverages industry training methodologies and technologies to provide on-demand Joint training tailored to COCOM requirements for Joint Task Force headquarters staffs and individuals.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: PROJECT TITLE:

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 Joint/Combined Training Centre (JCTC) in Australia. This enables linkage of JCTC to Department of Defense's (DoD) JNTC, leveraging training capabilities and providing the environment to exercise Coalition mission essential tasks.

JSS: In 2003, SECDEF tasked USJFCOM with the responsibility for continued development of JSS software. Significant investments completed the transition and integration of selected residual JSS capabilities into the Joint Force Trainer Toolkit (JFTT). This effort provides warfighters with enhanced Joint LVC based training capabilities resident in the JFTT.

JIOR: The JIOR 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 and defense technologies using selected offensive electronic warfare capabilities. This environment enables the COCOM's warfighters to visualize and 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. Transferred out starting FY 2008.

B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 President's Budget Submission	0	72,897	64,433	55,793
Congressional Action	0	-1,665	0	0
Congressional Undistributed	0	-408	0	0
Program Adjustments (transfer out of JIOR program)	0	0	-12,681	-12,389
Current BES/President's Budget Submission	0	70,824	51,752	43,404

PROGRAM CHANGE SUMMARY EXPLANATION: Funds moved from Navy PE 0603727N and 0804758N to Defense-Wide starting in FY 2007.

Technical: Not applicable.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: PROJECT TITLE:

Schedule: Not applicable.

C. Other Program Funding Summary: Not applicable.

D. ACQUISITION STRATEGY: Not applicable.

E. PERFORMANCE METRICS:

Performance metrics apply to four of the five projects (JNTC, TC AoA, JCTC, and JSS) of the Joint Force Trainer RDT&E program through the USJFCOM Joint War Fighting Center (JWFC) Joint Force Trainer Technology Planning Board. The board consists of senior technical, operational, program manager, and stakeholder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. The board evaluates the efficacy of development efforts based upon achievement of performance metrics and votes on whether or not to continue the effort. This process ensures 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?

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P758 PROJECT TITLE: JOINT NATIONAL TRAINING CAPABILITY (JNTC)

COST: (Dollars in Thousands)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
JOINT NATIONAL TRAINING CAPABILITY (JNTC) Project Code P758								
	0	34,906	30,715	25,667	26,454	27,404	27,879	28,353

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 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 COCOMs 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 battlespace. 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 feeds into the Common Operational Picture. These funds provide critical Joint/Coalition Service members and interagency partners 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. FY 2006 ACCOMPLISHMENTS (under the Navy's PE 0603727):

- Established the JNTC/ATT Laboratory's initial infrastructure support for a robust RDT&E lab environment to support the JNTC certification program and the LVC test-bed. The certification program provided the standards and architecture for 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, LVC technologies, knowledge management, information management, and training systems operations research.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P758 PROJECT TITLE: JOINT NATIONAL TRAINING CAPABILITY (JNTC)

FY 2006 ACCOMPLISHMENTS CONTINUED:

- The LVC test-bed enabled new training Concept of Operations efficiently streamlining the mechanism of planning and conducting complex Joint training events. It also provided the capability to identify, evaluate, and resolve training system shortfalls. This test-bed laboratory interacts with other facilities through distributed communication links.
- Developed the Initial Capabilities Document for the Joint Rapid Distributed Database Development Capability (JRD3C) and implemented it into the Joint Capability Improvement Document System process.
- Designed, developed, tested, and evaluated JRD3C 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, simulated terrain, and virtual training capabilities.

	FY 2006	FY 2007	FY 2008	FY 2009
JOINT NATIONAL TRAINING CENTER (JNTC) ADVANCED TRAINING TECHNOLOGY (ATT) P758	0	34,906	30,715	25,667

FY 2007 Plans: Perform the Research, development, test, evaluation and integration of new or improved technologies, standards, processes, and concepts that support the Joint National Training Capability as follows:

- New and emerging technologies to include: immersive virtual technologies, story driven training, light simulation/federations, massive-multiplayer online games, training objective driven simulations, embedded training, and Joint community unique simulations.
- Enhance and integrate space domain representations into Joint training environment.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P758 PROJECT TITLE: JOINT NATIONAL TRAINING CAPABILITY (JNTC)

FY 2007 Plans Continued:

- Develop and integrate Messaging, Collaboration, Discovery, Mediation, and Information Assurance/Security Net-Centric Enterprise Services (NCES) for training applications to Global Information Grid (GIG) Infrastructure.
- Joint Instrumentation Capabilities: Initiate Joint Urban Operations Instrumentation Implementation Plan.
- Joint C4I Systems and Communications Capabilities: Provide for Peer to Peer connectivity between the Joint Training and Experimentation Network (JTEN) to the Defense Research and Engineering Network (DREN).
- OPFOR Capabilities: Expanded development of Multi-Spectral Threat Emitter (MTES) and Man Portable Air Defense (MANPADS) systems. Continue development of Direction Finding/Signals Intelligent (DF/SIGINT) Systems and transition Initial Systems into production. Initiate Chemical Biological Radiological/Nuclear and Explosive (CBRNE) Tools Development. Continue development of GPS Micro-Jammers. Transition initial variants into production. Initiate development of Maritime Threat Systems. Expand development of Virtual Joint Suppression of Enemy Air Defenses (V-JSEAD) to include additional systems.
- Live, Virtual, and Constructive (and their integration) Capabilities: Continuing development and transition to fielding of LVC Common Gateway to maximize commonality and supportability of gateways. 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 (JTC TRS) Virtual Trainer.
- After Action Review Capabilities: Conclude requirements analysis and begin prototyping of Joint After Action Review Capability.
- Information / Knowledge Management Capabilities: Continue the development of the Collaborative Information Environment (CIE) tools, ensuring transition to the Net Centric Enterprise Solution, when available. Continue the development of the Certification and Accreditation Repository System tracking the mitigation shortfalls and the development of solution sets.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P758 PROJECT TITLE: JOINT NATIONAL TRAINING CAPABILITY (JNTC)

FY 2008 Plans: Perform the Research, development, test, evaluation and integration of new or improved technologies, standards, processes, and concepts that support the Joint National Training Capability as follows:

- New and emerging technologies to include: immersive virtual technologies, story driven training, light simulation/federations, massive-multiplayer online games, training objective driven simulations, embedded training, and Joint community unique simulations.
- Enhance and integrate space domain representations into Joint training environment.
- Perform migration testing and transition of Messaging, Collaboration, Discovery, Mediation, and Information Assurance/Security NCES for training applications to GIG Infrastructure. Develop and Integrate Application, Enterprise Service Management, Storage, and User Assistant NCES for training applications to GIG Infrastructure.
- Joint Instrumentation Capabilities: Develop Joint Urban Operations Instrumentation integration.
- Joint C4I Systems and Communications Capabilities: Transition to operations the Peer to Peer connectivity between the Joint Training and Experimentation Network (JTEN) to the Defense Research and Engineering Network (DREN), and begin development of like capability for the Navy's Continuous Training Environment network.
- OPFOR Capabilities: Continue development of MTES and MANPADS systems. Transition initial variants into production. Initiate upgrade development of C3 Battle Management Systems. Continue development of Maritime Threat Systems. Transition initial systems into production. Continue V-JSEAD development. Transition initial network into appropriate exercises.
- 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 (JTC TRS) Virtual Trainer
- After Action Review Capabilities: Demonstrate/Test and transition Joint After Action Review 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.

FY 2009 Plans: Perform the Research, development, test, evaluation and integration of new or improved technologies, standards, processes, and concepts that the support the Joint National Training Capability as follows:

- New and emerging technologies to include: immersive virtual technologies, story driven training, light simulation/federations, massive-multiplayer online games, training objective driven simulations, embedded training, and Joint community unique simulations.
- Enhance and integrate space domain representations into Joint training environment.
- Complete transition of Messaging, Collaboration, Discovery, Mediation, and Information Assurance/Security NCES for training applications to GIG Infrastructure. Perform migration testing and transition of Application, Enterprise Service Management, Storage, and User Assistant NCES for training applications to GIG Infrastructure.
- Joint Instrumentation Capabilities: Develop Joint Urban Operations Instrumentation integration.
- Joint C4I Systems and Communications Capabilities: Transition to operations the Peer to Peer connectivity between the JTEN and the Navy's Continuous Training Environment network. Begin development of capability to link to SIPRNET.
- OPFOR Capabilities: Continue development of MTES and MANPADS systems. Transition developed variants into production. Continue development of V-JSEAD. Transition expanded network into appropriate exercises. Complete DF/SIGINT development. Transition developed variants into production. Continue Maritime Threat System development. Transition developed variants into production.
- Live, Virtual, and Constructive (and their integration) capabilities.
- Information/Knowledge Management Capabilities: 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.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P758 PROJECT TITLE: JOINT NATIONAL TRAINING CAPABILITY (JNTC)

C. OTHER PROGRAM FUNDING SUMMARY: As directed in the National Defense Authorization Act for FY 2005, RDT&E funds moved from Navy PE 0603727 to Defense-Wide starting in FY 2007. Related RDT&E funding under Navy PE 0603727:

Project Number & Title	FY 2006 Actual (under Navy)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
Related RDT&E: 0603727N, Joint Experimentation	44,523	0	0	0

D. ACQUISITION STRATEGY: Not applicable.

E. MAJOR PERFORMERS:

Recipients	**City/State**	**Description**
No performer in this PE received, or will receive in FY 2007/08/09 more than 15% of the program or $10 million.		

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P759 PROJECT TITLE: JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TCAoA)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TC AoA) Project Code P759								
	0	10,700	10,303	8,080	5,255	4,637	4,580	4,524

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 is the lead in the development and operation of systems and architectures that directly support distributed Joint training requirements of other COCOMs, Joint Task Forces (JTFs), and Defense Agencies. The underlying premise of TC AoA centers on privatization of training support and development with 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 is a government-led Consortium with industry and academia that ensure 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. FY 2006 ACCOMPLISHMENTS (under the Navy's PE 0603727):

- Developed combat support agencies training in support of the Joint Training Policy.
- Innovated some training methods other than use of large-scale constructive simulations.
- Provided COCOMs with expertise in Joint Training Systems, Joint Interagency, and Joint Lessons Learned. This enabling capability gives each COCOM developmental Subject Matter Experts for the integration of these emerging capabilities with Modeling and Simulation Technology.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P759 PROJECT TITLE: JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TCAoA)

	FY 2006	FY 2007	FY 2008	FY 2009
JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TC AoA) P759	0	10,700	10,303	8,080

FY 2007 Plans:

- Form governance and execution management groups to review the effectiveness of the tools and the providers.
- Develop contract models for Light Simulations and Light Federations.
- Develop program assessment/exit criteria.
- Identify sites/program for training implementation.
- Develop, initiate, and target a Training Support Provider acquisition plan.
- Identify capabilities shortfalls for targeted market-maker incentive investments.
- Fund select development/integration proposals.
- Select Training Support Providers in 1st quarter FY 2007.

FY 2008 Plans:

- Continue Training Support Providers Plan of Action and Milestones (POA&M) of FY 2007 start-up target.
- Start training with continuous cycle of training evaluation.
- Conduct objective third-party evaluation process and methods feedback to Governance and Execution Management Groups.
- Incorporate changes/enhancements to capability as training progresses.

FY 2009 Plans:

- Expand training with continuous cycle of training evaluation.
- Continue objective third party evaluation process and methods feedback to Governance and Execution Management Groups.
- Incorporate changes/enhancements to capability as training progresses.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P759 PROJECT TITLE: JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TCAoA)

C. OTHER PROGRAM FUNDING SUMMARY: As directed in the National Defense Authorization Act for FY 2005, RDT&E funds moved from Navy PE 0603727 to Defense-Wide starting in FY 2007. Related RDT&E funding under Navy PE 0603727:

Project Number & Title	FY 2006 Actual (under Navy)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
Related RDT&E: 0603727N, Joint Experimentation	2,052	0	0	0

D. ACQUISITION STRATEGY: Not applicable.

E. MAJOR PERFORMERS:

Recipients	City/State	Description
No performer in this PE received, or will receive in FY 2007/08/09 more than 15% of the program or $10 million.		

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P760 PROJECT TITLE: JOINT COMBINED TRAINING CENTRE (JCTC)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
JOINT COMBINED TRAINING CENTRE (JCTC) Project Code P760								
	0	5,000	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: At the July 2004 AUSMIN, the SECDEF signed an Australian – United States Joint Statement of Principles of Interoperability and affirmed the development of a 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 (GJTI) via United States Pacific Command's (USPACOM) Gaming and Simulation Facility (GSF) and eventually USPACOM's Pacific Warfighting Center as a cooperative collection of training sites, nodes, simulations, and events. This strategic initiative has AU$23 Million commitment from Australia that requires U.S. funding enhancement to prevent possible withdrawal from Australia of this project thus reducing coalition readiness in emerging world situations.

B. FY 2006 ACCOMPLISHMENTS (under the Navy's PE 0603727):

- Initiated connectivity to the U.S. JNTC Joint Training and Experimentation Network (JTEN).
- Determined what US capabilities will be trained in Australian range spaces, in support of US Joint Task Force Certification requirements.
- Defined the Initial Operating Capabilities and Full Operating Capabilities.
- Determined what Joint Context requirements were needed for incorporation into the bi-lateral training environment.

	FY 2006	FY 2007	FY 2008	FY 2009
JOINT COMBINED TRAINING CENTRE (JCTC) P760	0	5,000	0	0

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P760 PROJECT TITLE: JOINT COMBINED TRAINING CENTRE (JCTC)

FY 2007 Plans:

- Commission a Program Study and/or a series of planning and design studies of desired capabilities as described in the JCTC Enabling Study. These studies establish 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 explore resolution to the policy and technical requirements to satisfy Multinational Information Sharing for authorizing network interconnection.
- Establish connectivity between USPACOM and Australia JCTC Management Center.
- Prepare instrumented ranges as described in the JCTC scoping study to support a proof of concept demonstration.
- Lease and transport supporting architecture for a deployable and/or permanent live, virtual, and constructive environment to support proof of concept demonstration.

FY 2008 Plans: Not applicable.

FY 2009 Plans: Not applicable.

C. OTHER PROGRAM FUNDING SUMMARY: As directed in the National Defense Authorization Act for FY 2005, RDT&E funds moved from Navy PE 0603727 to Defense-Wide starting in FY 2007. Related RDT&E funding under Navy PE 0603727:

Project Number & Title	FY 2006 Actual (under Navy)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
Related RDT&E: 0603727N, Joint Experimentation				
	4,000	0	0	0

D. ACQUISITION STRATEGY: Not applicable.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P760 PROJECT TITLE: JOINT COMBINED TRAINING CENTRE (JCTC)

E. MAJOR PERFORMERS:

Recipients	City/State	Description
No performer in this PE received, or will receive in FY 2007/08/09 more than 15% of the program or $10 million.		

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P761 PROJECT TITLE: JOINT SIMULATIONS SYSTEMS (JSS)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
JOINT SIMULATION SYSTEMS (JSS) Project Code P761								
	0	11,991	10,734	9,657	9,774	9,726	9,901	10,069

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Secretary of Defense Program Decision Memorandum (dated 12 Dec 2003) 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 (TC AoA). As a result of the TC AoA 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 the Joint, Live, Virtual and Constructive (JLVC) and Joint Multi-Resolution Model training architectures. In accordance with Unified Command Plan 04, USJFCOM J7/JWFC leads the development, integration, and operation of systems and architectures that directly support distributed Joint training requirements of other COCOMs, Joint Task Forces (JTFs), and Defense Agencies.

B. FY 2006 ACCOMPLISHMENTS (under the Navy's PE 0603727): The accomplishments listed below increased the fidelity and capabilities of the Long War training to the COCOMs.

- Initiated increased intelligence capability for the Joint-Live, Virtual Constructive (JLVC) Federation, developed additional logistics capability for JLVC, enhanced the After Action Review tool for JLVC, and increased size and scale of JLVC.
- Established a Verification, Validation, and Accreditation Cell at the Joint Development Integration Facility.
- Established a Data Production Cell for Terrain and Database development, improving terrain simulation in the Joint Theater Level Simulation (JTLS). Developed requirements for level II terrain for use in future exercises (two-year development effort).
- Increased maritime capability in JTLS.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P761 PROJECT TITLE: JOINT SIMULATIONS SYSTEMS (JSS)

FY 2006 ACCOMPLISHMENTS CONTINUED:

- Integrate JSS Theater Battle Management Core System adapter with Joint Multi-Resolution Model (JMRM). Complete and ready for use for Terminal Fury 06 exercise.
- Built Run Time Manager Command, Control, Communications, Computers, and Intelligence (C4I) interface completed for FY 2006 COCOM exercises to stimulate real-world C4I info.
- Developed High Level Architecture (HLA) Interface with Multiple Unified Simulation Environment/Air Force Synthetic Environment for Reconnaissance and Surveillance unmanned aerial vehicle simulation.
- Purchased Run Time Infrastructure for testing and developmental support during Terminal Fury 06.
- Developed HLA Interface for Tactical Simulations (TACSIM).
- Developed HLA Interface with Missile Defense Space Tool for Terminal Fury 06.
- Developed Entity Level Server for Joint Theater Level Simulation (JTLS) for use in the JMRM Federation.
- Developed web-enabled JTLS for use in all future COCOM exercises.
- Funded analysis and documentation for weapons effects data for Joint Conflict and Tactical Simulations (JCATS) as authoritative data repository for all Joint exercises.
- Integrated After/Action Report tool for JMRM.
- Developed and integrated a JMRM Federation diagnostic tool, Simulation Interoperability Test Harness.

	FY 2006	FY 2007	FY 2008	FY 2009
JOINT SIMULATION SYSTEM (JSS) P761	0	11,991	10,734	9,657

FY 2007 Plans:

- Initiate research and development to incorporate Effects Based Operations and Information Operations into the Joint Conflict and Tactical Simulation (JCATS).
- Merge federation object models for the JLVC and JMRM federations.
- Increase fidelity and capability of the Joint Theater Level Simulation.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P761 PROJECT TITLE: JOINT SIMULATIONS SYSTEMS (JSS)

- Improve common operating picture, while increasing the research and development of irregular warfare capabilities.
- Integrate, enhance, and/or reengineer selected existing JSS capabilities into Joint Force Trainer Toolkit
    - Decision support tools
    - Modeling and Simulation (M&S) interfaces to command and control systems
    - Software utilities for rapidly translating and building simulation databases

FY 2008 Plans:

- Develop a rapidly reconfigurable M&S architecture that will allow delivery of Joint training to the warfighter in a more proficient and effective cost model than currently capable.
- Develop interfaces for delivery of M&S data into future command and control systems, such as Joint Command and Control (JC2) systems, and the replacement for Global Command and Control System (GCCS).

FY 2009 Plans:

- Continue development of a rapidly reconfigurable M&S architecture that will allow delivery of Joint training to the warfighter with focus on minimizing time and cost than current capabilities allow.
- Continue development of interfaces for delivery of M&S data into future command and control systems such as JC2 systems, and the replacement for GCCS.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P761 PROJECT TITLE: JOINT SIMULATIONS SYSTEMS (JSS)

C. OTHER PROGRAM FUNDING SUMMARY: As directed in the National Defense Authorization Act for FY 2005, RDT&E funds moved from Navy PE 0603727 to Defense-Wide starting in FY 2007. Related RDT&E funding under Navy PE 0603727:

Project Number & Title	FY 2006 Actual (under Navy)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
Related RDT&E: 0603727N, Joint Experimentation	12,648	0	0	0

D. ACQUISITION STRATEGY: Not applicable

E. MAJOR PERFORMERS:

Recipients	**City/State**	**Description**
No performer in this PE received, or will receive in FY 2007/08/09 more than 15% of the program or $10 million.		

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P762 PROJECT TITLE: JOINT INFORMATION OPERATIONS RANGE (JIOR)

Project Number & Title	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
JOINT INFORMATION OPERATIONS RANGE (JIOR) Project Code P762								
	0	8,227	0	0	0	0	0	0

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 (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 November 2005 established the requirement for creating a cooperative IO range among military services under the leadership of USJFCOM.

The basis of the functional structure of the Joint 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 capabilities are employed. Creation of a "virtual range" based on persistent connections significantly reduces the amount of lead-time required to establish the electronic infrastructure for 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: computer network operations, electronic warfare, operational security, psychological operations, and military deception.

The objective of the Joint IO Range is to establish a secure, flexible, seamless, and realistic test, training, and exercise environment for developing and operationalizing IO weapon systems and their associated tactics, techniques, and procedures. It allows for effective and thorough Service and COCOM-sponsored training and exercises in a realistic environment representative of actual combat targets and

systems. Creating this capability requires a concerted effort across the IO community to achieve an interoperable infrastructure incorporating representative operational environments, resources, capabilities, and intelligence necessary to effectively evaluate, characterize, and certify IO weapon systems and tactics. The IO Range provides an environment enabling the Services and COCOMs to visualize and 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.

B. FY 2006 ACCOMPLISHMENTS (under the Navy's PE 0804758): JIOR links existing Service, Agency, and Department of Energy range capabilities, enhances those capabilities, creates new capabilities where they do not exist, and provides Services and Joint warfighters a robust, realistic environment for test, training, tactics development, exercising computer network attacks, computer network defense, and electronic warfare capabilities.

- The Joint IO Range achieved initial capability in July 2006. Ten sites were linked together to create a new, transformational, IO Range capability (USJFCOM serves as the Lead Agent).
- Computer Network Attack (CNA) capabilities, as the initial focus of the range, were tested and implemented.
- Development of an Electronic Warfare study began.

	FY 2006	FY 2007	FY 2008	FY 2009
JOINT INFORMATION OPERATIONS RANGE (JIOR)	0	8,227	0	0

FY 2007 Plans:

- Demonstrate an IO "use case" in a COCOM exercise to test readiness for future events.
- Test and evaluate IO Range concepts during a minimum of two (2) test events.
- Develop, test, and evaluate IO Range concepts during a minimum of two COCOM-sponsored events.
- Develop and publish a Computer Network Defense (CND) study.
- Publish the Electronic Warfare (EW) study begun in FY 06.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P762 PROJECT TITLE: JOINT INFORMATION OPERATIONS RANGE (JIOR)

- In late FY07, begin to implement CND and EW as part of the expansion to full spectrum IO.
- Conduct the research and analysis to select an additional ten IO Range sites (#11-20) to continue expansion of the Range towards full capability.
- Begin development of Performance Metrics to continuously evaluate the IO Range and Site performances.
- Develop a Psychological Operations (PSYOP) study in late FY07.

FY 2008 Plans:

- Develop, test, and evaluate IO Range concepts during a minimum of six (6) Joint training events.
- Test and evaluate IO Range concepts during a minimum of three (3) test events.
- Develop and fully implement a scheduling tool and data repository.
- Publish the PSYOP study begun in FY 07.
- Implement PSYOP capabilities.
- Initiate spiral implementation of IO capabilities (CNA, CND, EW, and PSYOP) at the IO Range sites.
- Expand customer access to the IO Range capabilities.

FY 2009 Plans:

- Develop, test, and evaluate IO Range concepts during a minimum of nine (9) Joint training events.
- Test and evaluate IO Range concepts during a minimum of four (4) test events.
- Development toward full spectrum IO will continue to evolve with the addition of a more robust set of Electronic Attack (EA) targets.
- Continue the spiral implementation of IO capabilities (CNA, CND, EW, and PSYOP) at the IO Range sites. This continuing effort supports progress toward reaching full capability in FY 2011 in which twenty (20) persistent IO Range sites will be connected and integrated for IO Range use and operation.
- Develop and publish an Operational Security (OPSEC) study.

BUDGET ACTIVITY: 06
PROGRAM ELEMENT: 0603757D8Z PROGRAM ELEMENT TITLE: TRAINING TRANSFORMATION (T2)
PROJECT NUMBER: P762 PROJECT TITLE: JOINT INFORMATION OPERATIONS RANGE (JIOR)

C. OTHER PROGRAM FUNDING SUMMARY: As directed in the National Defense Authorization Act for FY 2005, RDT&E funds moved from Navy PE 0804758 to Defense-Wide starting in FY 2007. Related RDT&E funding under Navy PE 0804758:

Project Number & Title	FY 2006 Actual (under Navy)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
Related RDT&E: 060372N, Joint Experimentation	9,750	0	0	0

D. ACQUISITION STRATEGY: Not applicable.

E. MAJOR PERFORMERS:

Recipients	**City/State**	**Description**
No performer in this PE received, or will receive in FY 2007/08/09 more than 15% of the program or $10 million.		

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0604140D8Z - Capital Asset Management System-Military Equipment (CAMS-ME)**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost		4.602	0.000	0.000	0.000	0.000	0.000	0.000	0.000
P141	Capital Asset Management System-Military Equipment (CAMS-ME)	4.602	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Budget Item Justification: CAMS-ME has been approved by the Finance and Accounting, Logistics, and Acquisition Domains as the Mid-Term Systems Solution for reporting the value of military equipment (ME). As part of the Department's enterprise system solution for valuing and reporting ME, CAMS-ME will maintain the work in process (WIP) cost, calculate the value of ME, and depreciate delivered ME end items over the course of their useful lives. CAMS-ME will be developed by the Department of the Navy working with OUSD(AT&L), and with Air Force and Army assistance, to ensure that all ME valuation requirements are met.

Implementation of CAMS-ME will:
Provide reliable and accurate information to decision makers
- Total acquisition cost of assets will be consistently determined
- Decision makers will get comparable information over time and between programs
- It will allow better investment planning for replacements

Increase public confidence in the Department's ability to account for its assets and help achieve a clean audit opinion.
Bring the Department into compliance with the Chief Financial Officers Act of 1990 and the Federal Financial Management Improvement Act of 1996.

The RDT&E budget funds business process modeling & analysis, configuration management, system engineering, reports design, hosting implementation, and software development costs for the CAMS-ME DoD-wide Enterprise Solution.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	4.736	0.000	0.000	0.000
Current BES/President's Budget (FY 2008/2009)	4.602	0.000	0.000	0.000
Total Adjustments	-0.134	0.000	0.000	0.000
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0604140D8Z - Capital Asset Management System-Military Equipment (CAMS-ME)**

Reprogrammings				
SBIR/STTR Transfer				
Other	-0.134			

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Performance Metrics: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0604140D8Z - Capital Asset Management System-Military Equipment (CAMS-ME)**	**P141**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P141	Capital Asset Management System-Military Equipment (CAMS-ME)	4.602	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Project Justification: CAMS-ME has been approved by the Finance and Accounting, Logistics, and Acquisition Domains as the Mid-Term Systems Solution for reporting the value of military equipment (ME). As part of the Department's enterprise system solution for valuing and reporting ME, CAMS-ME will maintain the work in process (WIP) cost, calculate the value of ME, and depreciate delivered ME end items over the course of their useful lives. CAMS-ME will be developed by the Department of the Navy working with OUSD(AT&L), and with Air Force and Army assistance, to ensure that all ME valuation requirements are met.

Implementation of CAMS-ME will:
Provide reliable and accurate information to decision makers
- Total acquisition cost of assets will be consistently determined
- Decision makers will get comparable information over time and between programs
- It will allow better investment planning for replacements

Increase public confidence in the Department's ability to account for its assets and help achieve a clean audit opinion.
Bring the Department into compliance with the Chief Financial Officers Act of 1990 and the Federal Financial Management Improvement Act of 1996.

The RDT&E budget funds business process modeling & analysis, configuration management, system engineering, reports design, hosting implementation, and software development costs for the CAMS-ME DoD-wide Enterprise Solution.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Capital Asset Management System	4.602	0.000	0.000	0.000

FY 2006 Plan: Capital Asset Management System-Military Equipment (CAMS-ME)
- Migrate from the baseline valuation tool release 1 to release 2
- Primary purpose is to change from calculating asset values at the program level (phase 1) to a contract level (phase 2)
- Will be used by the P&E Policy Office, and DoD Components for maintaining and updating the baseline and for valuing military equipment assets delivered under contracts awarded post 10/1/2006
- The system will include the functionality described in phase 1 and will have added capabilities to calculate asset and program Work-In-Process values using data obtained from the contract (e.g., asset values

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0604140D8Z - Capital Asset Management System-Military Equipment (CAMS-ME)**	PROJECT **P141**

calculated using average contract value) and values for certain identifiable Government Furnished Property items embedded in the military equipment end items.
- Will have the capability to exclude (e.g. spares) or separately account for (e.g. ground support equipment) ancillary ME items
- The automation of the system will be limited to a number of interfaces to receive disbursement data at the contract level.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.

Exhibit R-2, RDT&E Budget Item Justification							Date: January 2007	
Appropriation/Budget Activity RDT&E/Budget Activity 6				R-1 Item Nomenclature: PE 0604774D8Z Defense Readiness Reporting System				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	15.229	13.146	11.886	11.405	11.536	4.287	6.436	6.586

A. Mission Description and Budget Item Justification:

This funding supports Defense Planning Guidance (DPG) directing 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) establishes a capabilities-based, adaptive, near real-time readiness information system for the DoD. This system is being designed to measure the readiness of military forces and supporting infrastructure to meet missions and goals assigned by the Secretary of Defense. DRRS also hosts information and applications used to support Joint Forces Command (JFCOM) in their role as the Joint Force Provider.

The transformation of readiness reporting into a new comprehensive readiness system presents a number of significant challenges. First, there are thousands of new potential reporting entities to include in DRRS, such as Services, Active and Reserve component units, installations, depots, ports, and major elements of the industrial base. These entities must not only define and implement reporting based on specific readiness metrics, but they must make their readiness status continuously available in near real time to DRRS. Second, the current National Military Strategy (NMS) makes substantially more complex demands on readiness reporting. Instead of basing readiness on traditional MTW-based scenarios, the NMS asks us to contemplate readiness for an entire range of operational forms, and to design DRRS to assess global readiness impact based on our integrated ability to project and sustain a mix of constructed forces in simultaneous engagements. Finally, OIF/OEF sourcing challenges mean that force managers need applications that will query the entire Department for suitable, available organizations to meet current needs. The need for these applications and the underlying data are a top priority for the DRRS project.

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 to leverage and extend current readiness information systems. This system is based on intelligent agents, dynamic databases, semantic middleware, and publish/subscribe concepts; providing a logically uniform view into the multiple databases and information sources that feed DRRS. Crucially, through this type of advanced information environment, we dramatically expand the range of readiness queries that DRRS can able to handle. This environment supports a suite of analysis tools that allow users to explore the consequences of readiness deficiencies in terms of the ability to generate forces and assess transportation feasibility as it pertains to specific scenarios. These tools and tool suites harness the power of the information environment to make possible the kind of quick-turnaround, excursion-driven readiness assessment that is at the heart of DRRS.

B. Program Change Summary: None

	FY 2006	FY 2007	FY 2008	FY2009
Previous President's Budget	13.171	9.942	2.862	3.087
Current FY 2008 President's Budget	13.475	10.246	11.886	11.405
Adjustments to Appropriated Value				
Congressional program reductions	none	none	none	none
Congressional rescissions	none	none	none	none
Congressional increases	2.0	2.9	none	none
Reprogrammings	none	none	none	none
SBIR/STTR Transfer	none	none	none	none
Other	-0.255	none	none	none
Current Budget Estimate Submission:	15.229	13.146	11.986	11.405

C. Other Program Funding Summary: None.

D. (not required)

E. Metrics:

The FY 2007 DRRS metrics are:

- 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.

	Exhibit R-2a, RDT&E Project Justification						Date: September 2006	
Appropriation/Budget Activity RDT&E. Defense-wide BA 6				PE-0604774D8Z Defense Readiness Reporting System				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	15.229	13.146	11.886	11.405	11.536	4.287	6.436	6.586

This funding supports Defense Planning Guidance (DPG) directing 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) establishes a capabilities-based, adaptive, near real-time readiness information system for the DoD. This system is being designed to measure the readiness of military forces and supporting infrastructure to meet missions and goals assigned by the Secretary of Defense. DRRS also hosts information and applications used to support Joint Forces Command (JFCOM), Northern Command (NORTHCOM) and Strategic Command (STRATCOM) in their roles as the Joint Force Providers.

The transformation of readiness reporting into a new comprehensive readiness system presents a number of significant challenges. First, there are thousands of new potential reporting entities to include in DRRS, such as Active and Reserve component units, agencies, Combatant Commanders, installations, depots, ports, and major elements of the industrial base. These new entities must not only define and implement reporting based on specific readiness metrics, but they must make their readiness status continuously available in near real time to DRRS. Second, the current National Military Strategy makes substantially more complex demands on readiness reporting. Instead of basing readiness on traditional MTW-based scenarios, the NMS asks us to contemplate readiness for an entire range of operational forms, and to design DRRS to assess global readiness impact based on our integrated ability to project and sustain a mix of constructed forces in simultaneous engagements. Finally, OIF/OEF sourcing challenges mean that force managers need applications that will query the entire Department for suitable, available organizations to meet current needs. The need for these applications and the underlying data are a top priority for the DRRS project.

The realization of DRRS will require integrating a host of key technologies in order to achieve an information system that will support massive-scale distributed, collaborative dynamic readiness reporting and continuous tool-based assessment. The primary technical goal is the creation of a high-reliability, secure integrated readiness data environment that will leverage and extend current readiness information systems. This system will be based on intelligent agents, dynamic databases, semantic middleware, and publish/subscribe concepts; and will provide a logically uniform view into the multiple databases and information sources that will feed DRRS. Crucially, through this type of advanced information environment, we will dramatically expand the range of readiness queries that DRRS will be able to handle. Coupled to this data environment will be a set of high-speed scenario-oriented tools that support ad hoc queries and drilldown, and an advanced workflow system that can assemble existing and new scenario and assessment tools into high-level task-specific query processes. These tools and tool suites will harness the power of the information environment to make possible the kind of quick-turnaround, excursion-driven readiness assessment that is at the heart of DRRS.

B. Accomplishments/Planned Program

Defense Readiness Reporting System		FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost		15.229	10.322	2.986	3.005
RDT&E Articles Quantity *(as applicable)		N/A	N/A	N/A	N/A

FY 2006 Accomplishments:

- Expanded resource information, joint force providers tools and organizational METL reporting
- Began transition from GSORTS to ESORTS
- Continued ESORTS deployment to installations and other parts of the infrastructure
- Launched an unclassified DRRS tool for training
- Developed a Mobile DRRS
- All of the Services have identified and developed METs for their organizations
- Completed web-based scenario assessment and adaptive planning tools
- Developed customizable Resource displays
- Integrated with related communities and efforts
- Implemented initial primary Risk Assessment applications
- Implemented first phase of the Distributed Data Environment
- Expanded Force Allocation software
- Complete initial transportation feasibility tools

FY 2007 Plans:

- Complete Transition of GSORTS to ESORTS
- Field Service ESORTS input tools
- Complete integration of National Guard and Reserves to include JFHQ-State readiness
- Develop and field a Language Readiness Index capability
- Develop and field capability to identify potential Reserve organizations from a pool of remaining forces
- Begin development of the Global Visibility Tool to support GFM
- Field Business Intelligence tool to enhance ad hoc query capability
- Expand mobility and transportation models; complete Distributed Data Environment
- Full risk and scenario assessment capability
- Complete risk assessment tools including collaborative software
- Complete Distributed Data environment and an extensive use of web services
- On-line global RFF / RFC capability

- JCA Assessment
- Joint task force readiness capability to assess current operations and war plans
- Integrate with DHS National Preparedness System
- Integrate JTIMS into DRRS

FY 2008 Plans:

- Continue development and begin fielding of the Global Visibility Tool to support GFM
- Software lifecycle support
- Continued refinement of data architecture
- Data quality improvement
- Data latency improvement
- Continue development and fielding of capabilities identified in FY07

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0604875D8Z - Joint Systems Architecture Development**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost		10.473	9.337	14.437	14.336	14.822	14.745	14.732	14.764
P875	Joint Systems Architecture Development (JSAD)	10.473	9.337	9.705	9.479	9.448	9.450	9.450	9.450
P876	Portfolio Systems Acquisition (PSA)	0.000	0.000	4.732	4.857	5.374	5.295	5.282	5.314

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 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	10.780	9.390	9.705	9.479
Current BES/President's Budget (FY 2008/2009)	10.473	9.337	14.437	14.336
Total Adjustments	-0.307	-0.053	4.732	4.857
Congressional Program Reductions		-0.058		

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 6

PE NUMBER AND TITLE
0604875D8Z - Joint Systems Architecture Development

Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer	-0.307			
Other		0.005	4.732	4.857

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

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: FY 2007:
- Complete the Concept Decision/Time Defined Acquisition Pilots (4 planned).
- Complete all FY 2007 Evaluation of Alternatives activities in section 2.2.1 of FY 2007 Acquisition, Technology & Logistics (AT&L) Strategic Goals Implementation Plan (3 planned).
- Complete two Investment Balance reviews (2 planned).
- Complete Integrated Air Missile Defense version 2 Roadmap and Conventional Engagement Capability (CEC) Roadmap (2 planned).

FY 2008:
- Complete all FY 2008 Concept Decision/Time Defined Acquisition activities under section 2.1.1 of FY 2007 AT&L Strategic Goals Implementation Plan (3 planned).
- Complete all FY 2008 Evaluation of Alternatives activities in section 2.2.1 of FY 2008 AT&L Strategic Goals Implementation Plan (3 planned).
- Complete three Investment Balance reviews (3 planned).

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)	Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0604875D8Z - Joint Systems Architecture Development**

- Demonstrate open and transparent data/information management exchanges between OSD, Joint Staff, and Components.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0604875D8Z - Joint Systems Architecture Development**	**P875**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P875	Joint Systems Architecture Development (JSAD)	10.473	9.337	9.705	9.479	9.448	9.450	9.450	9.450

A. Mission Description and Project 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:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
JSAD:	10.473	0.000	0.000	0.000

(U) FY 2006 Accomplishments

Capability Based Analyses (CBAs) - Performed CBAs to support Joint Functional Capability Boards and front-end systems engineering planning, specifically:
- Performed Electronic Warfare (EW) Functional Area Analysis in support of an EW Capabilities Based Assessment (CBA) to support the identification of EW capability gaps.
- Conducted analysis of force mobility concepts and capabilities across the Department, including the Seabasing CBA.
- Completed the Integrated Fire Control (IFC) military utility assessment, resulting in issue paper to fund implementation of IFC kill chain.
- Special Access studies and analyses supported multiple Department-level decisions.
- Initiated Next Generation Long Range Strike study.
- Completed study of Joint Unmanned Combat Air System (JUCAS) to understand the implications of JUCAS program restructure.
- Performed Joint Battle Management Command and Control (JBMC2) legacy assessment of the Army Battle Command System (ABCS) to determine whether to phase-out ABCS, make it interoperable, or maintain the system as is.

Roadmaps - Developed roadmaps to support warfighting capability-based analyses conducted by the Joint Staff and Combatant Commanders, specifically:

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0604875D8Z - Joint Systems Architecture Development**	**P875**

- Updated the EW Roadmap to articulate the Department's plans and investment strategy to fill EW capability gaps; performed first order analysis to identify electronic attack capabilities required to dominate the electromagnetic spectrum in future warfare.
- Completed version two of the Integrated Air and Missile Defense (IAMD) Roadmap.
- Developed Conventional Engagement Capability Roadmap and companion Joint Conventional Munitions Database (JCMD). Used by Services and Joint Staff for capability area and weapons inventory analysis.
- Updated Joint Battle Management Command and Control (JBMC2) Roadmap.
- Updated Joint Network Fires Roadmap to ensure that Defense Science Board recommendations are fully implemented.

Support Tools and Guidance - Developed the systems engineering methods, systems data, and tools to improve DoD's overall system of systems assessment capability, specifically:
- Led development of Evaluation of Alternatives (EoA) pilots to determine best means to enhance requirements, programming and acquisition decision making process.
- Updated Matrix Mapping Tool and expanded user base to support capability-based planning and system of system modeling analysis.
- Provide program support reviews, system engineering support to Acquisition Category (ACAT) ID/IAM programs.
- Developed computer models to demonstrate the integration of Single Integrated Air Picture data with ground information to provide a fused view of the battlespace.

Objectives: Capabilities documented, gaps and needs identified, guidance developed for investment decisions, acquisition support tools and processes developed, new acquisition processes identified
Artifacts: Capability Based Analyses, Roadmaps, Tools, Reviews

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Plans for FY 07/08/09	0.000	9.337	9.705	9.479

(U) Capability Based Analyses - Continue to perform Capability Based Assessments (CBA) to support Joint Functional Capability Boards and front-end systems engineering planning, specifically:
- Perform selected Functional Needs Assessments (FNA) for in-depth analysis of Electronic Warfare (EW)capability gaps. Perform and update Functional Solutions Analysis (FSA) to identify material and non-material solutions for capability gaps identified during FNA.
- Continue analysis of EW capability cost and performance trades, EW platform sufficiency to meet current and future missions, and EW operational effects.
- Continue force mobility analysis and update Department plans and investment strategy to address intra-theater mobility programs.
- Analyze new and emerging electronic attack missions and targets and provide options for optimum platform delivery of various operational effects.
- Complete Next Generation Long Range Strike study to inform Service and DoD budget decisions.
- Conduct follow-on Joint Unmanned Combat Air System study to inform Department on desired capabilities and implementation options.
- Perform additional Joint Battle Management Command and Control (JBMC2) legacy assessments.

Roadmaps - Continue to develop roadmaps to support warfighting capability-based analyses conducted by the Joint Staff and Combatant Commanders, specifically:
- Update the EW Roadmap to reflect the Department's EW resource investment strategy.
- Update the Integrated Air Missile Defense Roadmap to address ballistic and cruise missile defense capabilities and identify key synchronization and interoperability issues.
- JBMC2 Roadmap - update to review blue force tracking findings, development of Joint Close Air Support mission thread.
- Rename Joint Networked Fires Roadmap to Joint Integrated Fires, develop Joint fires mission thread.

Support Tools and Guidance - Continue to develop the systems engineering methods, systems data, and tools to improve DoD's overall system of systems assessment capability, specifically:

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0604875D8Z - Joint Systems Architecture Development**	PROJECT **P875**

- Conduct analysis of EoA pilots to establish changes to Department's overall system acquisition process.
- Continue development of JCMD to support capability area reviews of land attack weapons.
- Update Matrix Mapping Tool to further support capability-based planning and verification of proposed joint capabilities.
- FY07 Defense Acquisition Board for Single Integrated Air Picture.
- Provide program support reviews, system engineering support to Acquisition Category (ACAT) ID/IAM programs.
- Develop strategy/architecture to integrate multi-sensor inputs from air, ground, and sea domains to provide unambiguous tracks and targets.

Objectives: Capabilities documented, gaps and needs identified, guidance developed for investment decisions, acquisition support tools and processes developed, new acquisition processes piloted and implemented.
Artifacts: Capability Based Analyses, Roadmaps, Tools, Reviews

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0604875D8Z - Joint Systems Architecture Development**	**P876**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P876	Portfolio Systems Acquisition (PSA)	0.000	0.000	4.732	4.857	5.374	5.295	5.282	5.314

A. Mission Description and Project Justification: The Department's 2005 Quadrennial Defense Review 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:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2008/2009 Plans:	0.000	0.000	4.732	4.857

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, and capital budgeting activities. This project will fund analysis in several portfolio areas including rotary wing aviation modernization, unmanned systems, impacts of natural disasters on our critical shipbuilding infrastructure, joint conventional munitions, 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.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0604875D8Z - Joint Systems Architecture Development**	PROJECT **P876**

Exhibit R-2, RDT&E Budget Item Justification							February 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense Wide (0400), Budget Activity 6			R-1 ITEM NOMENCLATURE 0604940D8Z/Central Test and Evaluation Investment Development (CTEIP)					
$ in Millions	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
PE 0604940D8Z	136.917	137.648	133.772	134.095	137.462	139.586	141.764	143.949

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

Since its inception in FY 1990, this program element has been, and continues to be, used to fund the development of critically needed, high priority Test and Evaluation (T&E) capabilities for joint/multi-Service requirements. The Central Test and Evaluation Investment Program (CTEIP) uses a corporate investment approach to combine Service and Defense 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 an ongoing operational test program (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. The investments include the demonstration and transition of advanced technologies into test capabilities needed to test increasingly complex and sophisticated weapon systems. 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 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.

The CTEIP program is funded within the RDT&E Management Support Budget Activity because it 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 2006 Accomplishments:

JIM Projects:

- Completed the development and demonstration of time-space-position information (TSPI), flight termination/safe and arm (FTSA), and telemetry functions on advanced missile platforms under the Joint Advanced Missile Instrumentation project.
- Completed the Communications, Navigation, and Identification follow-on effort under the Joint Installed Systems Test Facility Product Improvements project to provide improved installed systems capabilities needed to support next generation aircraft testing.

- Completed concept development and initiated systems development for 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.

- Completed the Digital Video Laboratory project to provide digital video data analysis and reporting capability.
- Completed the Electromagnetic Environmental Effects Generating System project to provide a multi-Service test facility capable of assessing actual performance of a full-scale, fixed, or rotary-winged aircraft completely immersed in a user-specified radio frequency environment.
- 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.
- Terminated systems development of the Enhanced Range Applications Project to provide a state-of-the-art Airborne Range Data System that supports next generation data collection requirements.
- Continued systems development for the Joint Mobile Infrared Countermeasures Test System project to provide infrared spectrum test instrumentation for open air ranges.
- Continued systems development of the Land and Sea Vulnerability Test Capability project to provide an instrumented land-sea interface test capability at the Aberdeen Test Center.
- Continued systems development of the Contamination Avoidance Detector Test Suite project to provide 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 (JC4ISR) project to develop a capability to test increasingly complex multi-discipline data fusion concepts.
- Continued the Infrared Sensor Stimulator product improvement and continued 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.
- 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 concept 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.

- Continued concept development for the Subminiature Flight Safety System to provide a warhead compatible, universal, subminiature, low-cost flight termination system.

- Continued concept development for the Integrated Network Enhanced Telemetry project to develop a network-enhanced telemetry capability for T&E ranges and facilities.
- Continued systems 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.
- Continued systems development of spiral 1 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 systems development of the Enhanced Flight Termination System project to develop a UHF digital flight termination system for DoD unmanned flight vehicles.
- Continued the Joint Gulf Range Complex Upgrade project to provide upgraded range control capabilities at the Gulf Range.
- Continued 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.
- Continued the Tri-Service and CTEIP support projects.
- 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 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 the Unmanned Systems Testbed project to provide capabilities for using unmanned systems in training, operational exercises, and test and evaluation.
- Continued 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 concept development for the Interactive Electronic Attack project to provide an interactive electronic attack radio frequency capability to test electronic warfare, communications, 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 that will provide timeslot dependent attenuation of Link-16 terminal output.
- Initiated 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.
- Initiated 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.

Resource Enhancement Project:

- Completed the Information Assurance Susceptibility Testing for Global Air Traffic Management (GATM) Avionics subproject, which expanded the Air Force Flight Test Center GATM information assurance test capability to support beyond of sight information assurance testing and ground system information assurance testing..
- Completed the development of the Decontamination Ground Truth Instrumentation subproject, which provides the capability to measure the effectiveness of decontamination materials and processes for chemical and biological warfare simulants and interferents.
- Completed the Distributed Operational Test Command Center subproject, which provides a distributed test control capability that integrates communications, data processing and test monitoring, and visual display systems into a single integrated capability.
- Completed the Test Control Communications Capability subproject, which provides an integrated communications suite of hardware, software, and firmware protocols to provide realistic command, control, and communications testing.
- Completed the Magnetic Silencing Facility subproject, which provides improved magnetic component calibration to ensure adequate operational testing of the advanced degaussing system on new ship classes.
- Completed the Portable Oceanographic Environmental Sensors Instrumentation Suite subproject, which provides an instrumentation suite for remote monitoring of environmental conditions during operational testing of amphibious weapon systems.
- Completed the Torpedo Proximity Scoring System subproject, which developed a reliable and flexible prototype instrumentation system to support torpedo defensive system testing and evaluation requirements.

- Completed software development and initiated validation efforts for the Air and Missile Defense Operational Test Suite subproject, which will provide data collection, transfer, and analyses capabilities required to conduct Combatant Commanders' Integrated Command and Control System and Ground-Based Midcourse Defense operational and interoperability testing.

- Completed requirements analysis and hardware procurement and initiated software development for the Shootable Remote Threat Ground Targets subproject, which will provide an operational representative environment with controllable and flexible scenarios to be used for the Laser Joint Direct Attack Munition Operational Test.
- Continued software development, hardware procurement and system integration for the Advanced System Endgame Methodology for Actual Threat Systems subproject, which will provide enhanced measurement capabilities of an aircraft's capability to evade/counter an XM-43A threat system through all phases of engagement.
- Continued software development and system integration of the Advanced Capability Mobile Flight Mission Simulator subproject, which will provide more realistic Tactical Ballistic Missile threat scenario simulations to allow for batallion level testing during the PATRIOT Limited User Test.
- Continued system engineering and software development efforts for the Probability of Raid Annihilation Testbed Common Threat and Environment Capability subproject, which is developing a common set of threat and natural environment representations for consistent assessment of ship self defense systems across ship classes.
- Initiated the Infrared Man-Portable Air Defense System (MANPADS) Real Time Casualty Assessment Simulator subproject to provide added realism to assess tactics, techniques, and procedures to test the survivability of the Armed Reconnaissance Helicopter against MANPADS.
- Initiated the Portable Underwater Tracking System subproject to provide real-time time space position information during operational testing of systems under test operating in a shallow water minefield with various in-volume and bottom mines or in littoral regions.
- Initiated the Intelligence Broadcast Operational Test Suite subproject to provide a semi-automated test capability in static, flyaway, and distributed network configurations critical to operational testing of the Integrated Broadcast Service.
- Initiated the Radio Frequency Monitoring and Data Analysis System subproject to provide a modular, high-performance receiving system for monitoring all RF signals on an electronic warfare range in order to satisfy the need for definitive ground truth of target signals and interfering signals during operational tests.
- Initiated the development of the AGM-88E Anti Radiation Missile Air Defense Array subproject to provide the capability to mimic enemy Air Defense Units to test the effectiveness of the Advanced Anti-Radiation Guided Missile (AARGM) to suppress and destroy enemy air defense systems.
- Initiated the development of the Command and Control Data Analysis Capability subproject to provide the capability to stimulate the Air and Space Operations Center Battle Control System and to collect data to determine its effectiveness in an operationally realistic environment.
- Initiated the Chemical Agent Plume Tracking Capability subproject to provide a field referee capability to assess the Joint Service Lightweight Standoff Chemical Agent Detector's ability to accurately track and predict chemical agent stimulant plume transport and dispersion.

- Initiated the Digital Signal Environment Verification Tool subproject to provide the capability to assess the Prophet System's and future U.S. Electronic Warfare Systems' ability to detect the presence of modern threat RF digital communications signals in a realistically simulated battlespace.
- Initiated the development of the Fluorescence Aerosol Particle Sensor subproject to provide enhanced real-time referee capabilities for detection and collection of new and existing biological warfare threat agent simulants in the presence of naturally occurring background particles in realistic field environments.

FY 2007 Plans:

JIM Projects:

- Complete the Land and Sea Vulnerability Test Capability project to provide an instrumented land-sea interface test capability at the Aberdeen Test Center.
- Complete the Joint Gulf Range Complex Upgrade project to provide upgraded range control capabilities at the Gulf Range.
- Complete development of the Infrared Sensor Stimulator product improvement and 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 concept 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.
- Complete concept development and initiate demonstration phase for the Subminiature Flight Safety System to provide a warhead compatible, universal, subminiature, low-cost flight termination system.
- Complete concept development for the Integrated Network Enhanced Telemetry project to develop a network-enhanced telemetry capability for T&E ranges and facilities.
- 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 spiral 1 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 Enhanced Flight Termination System project to develop a UHF digital flight termination system for DoD unmanned flight vehicles.
- Complete the Unmanned Systems Testbed project to provide capabilities for using unmanned systems in training, operational exercises, and test and evaluation.
- 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 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.
- Complete concept development and initiate systems 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.
- Complete concept development and initiate systems 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 and initiate systems 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 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 systems development of the Joint Mobile Infrared Countermeasures Test System project to provide infrared spectrum test instrumentation for open air ranges.
- Continue 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.
- Continue systems development of 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.
- 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 C4ISR project to develop a capability to test increasingly complex multi-discipline data fusion concepts.
- 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.
- 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 the Tri-Service and CTEIP support projects.
- 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.
- Initiate concept development and risk reduction 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.
- Initiate and 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.

Resource Enhancement Project:
- Complete 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.
- Complete the testing and validation efforts for the Advanced System Endgame Methodology for Actual Threat Systems subproject.
- Complete the integration and 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 the testing and validation of the Portable Underwater Tracking System to be used in the Operational Evaluation of the Virginia Class Submarines.
- Complete the Integrated Broadcast Operational Test Suite subproject to provide a DoD-wide intelligence broadcast operational test capability to test the Integrated Broadcast Service (IBS).
- Complete the validation and testing of the Air and Missile Defense Operational Test Suite to be used for Ground-Course Missile Defense operational and interoperability testing.
- Complete integration, verification, and validation efforts for the Shootable Remote Threat Ground Target subproject.
- Complete system integration and test of the Radio Frequency Monitoring and Data Analysis System subproject.
- Complete the integration, verification, validation, and training for the Command and Control Data Analysis Capability subproject.
- Continue system integration, testing, and validation efforts for the Probability of Raid Annihilation Common Threat and Environment Capability subproject.
- Continue and systems engineering and development efforts for the Chemical Agent Plume Tracking Capability subproject.

- Continue target fabrication and target signature collection for the AGM-88E Anti-Radiation Missile Air Defense Array subproject.
- Complete system integration, acceptance testing, and training for the Digital Signal Environment Verification Test Tool subproject.
- Complete development, acceptance testing, verification, and validation of the Fluorescence Aerosol Particle Sensor subproject.
- Initiate the development of the Volumetric Influence Processor subproject to provide the ability to determine submarine and ship susceptibility to underwater electrical potential influence mines.

FY 2008 Plans:

JIM Projects:

- 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 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.
- Complete 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.

- Continue systems development for Directed Energy Test and Evaluation Capability project to provide improved test and evaluation capabilities for directed energy weapons.
- Continue systems development of the Joint C4ISR project to develop a capability to test increasingly complex multi-discipline data fusion concepts.
- Continue the demonstration phase for the Subminiature Flight Safety System to provide a warhead compatible, universal, subminiature, low-cost flight termination system.
- 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 systems 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.
- Continue systems 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.
- Continue concept development and risk reduction 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.
- Initiate systems development for the Integrated Network Enhanced Telemetry project to develop a network-enhanced telemetry capability for T&E ranges and facilities.
- Initiate and complete concept development and initiate systems 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 concept development for the Horizontal Fast Rise Electromagnetic Pulse (EMP) Pulser project to provide the required EMP testing environment for large aircraft under test.

<u>Resource Enhancement Project:</u>

- 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 integration, system testing, and validation of the Chemical Agent Plume Tracking Capability test tool to support the Joint Services Lightweight Standoff Chemical Agent Detector System’s OT.
- 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.

- Continue the development and complete component and system testing for the Volumetric Influence Processor subproject.
- 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 risk reduction and initiate systems development for the Common Range Integrated Instrumentation System project to develop a common range instrumentation system to address next generation range data requirements.
- 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 systems development for the Horizontal Fast Rise Electromagnetic Pulse (EMP) Pulser project to provide the required EMP testing environment for large aircraft under test.
- 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 demonstration phase for the Subminiature Flight Safety System to provide a warhead compatible, universal, subminiature, low-cost flight termination system.
- Continue 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 systems 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 systems 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.
- Continue systems 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.
- 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.
- Initiate concept development for the Free Space Optical Telemetry project to develop and demonstrate the utilization of laser-based free space optics as an alternative to RF telemetry.
- Initiate concept development for an urban environment test capability.
- Initiate 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.

Resource Enhancement Project:

- Complete verification, validation and accreditation efforts for the Volumetric Influence Processor subproject.
- 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 EW suites in a dynamic environment.
- Initiate improvements to existing Real Time Casualty Assessment instrumentation.

B. (U) PROGRAM CHANGE SUMMARY

	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	138.918	130.290	138.236	137.771
Current President's Budget:	136.917	137.648	133.772	134.095
Total Adjustments:	(2.001)	7.358	(4.464)	(3.676)
Congressional Program Adjustments:				
Congressional Rescissions:				
Congressional Increases:		8.150		
Other Program Adjustments:	(2.001)	(0.792)	(4.464)	(3.676)

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)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0604943D8Z - Thermal Vicar**

Cost ($ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost	6.958	7.449	7.822	7.847	8.002	8.177	8.382	8.593
P943 Thermal Vicar	6.958	7.449	7.822	7.847	8.002	8.177	8.382	8.593

A. Mission Description and Budget Item Justification: PE 0604943D8Z, Thermal Vicar, program is submitted separately as a Special Access Program.

B. Program Change Summary Not Applicable.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Performance Metrics: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0604943D8Z - Thermal Vicar**	**P943**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P943	Thermal Vicar	6.958	7.449	7.822	7.847	8.002	8.177	8.382	8.593

A. Mission Description and Project Justification: PE 0604943D8Z, Thermal Vicar, program is submitted separately as a Special Access Program.

B. Accomplishments/Planned Program: Not Applicable.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.

Exhibit R-2, RDT&E Budget Item Justification								February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense Wide (0400), Budget Activity 6			R-1 ITEM NOMENCLATURE 0605100D8Z/Joint Mission Environment Test Capability (JMETC)					
$ in Millions	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
PE 0605100D8Z	0.000	10.539	6.925	8.850	9.613	10.416	10.579	10.742

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Joint Mission Environment Test Capability (JMETC) Program provides for distributed testing of systems acquisitions for informed milestone decisions. The JMETC program will implement the infrastructure capabilities defined in the Testing in a Joint Environment Roadmap to provide testers and developers a robust nation-wide distributed, persistent capability to "Test like We Fight." JMETC provides a collaborative 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 networking 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. A mature JMETC will provide the ability to lower the cost and speed development of major programs, and will provide significant added value to ACAT II/III/IV 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 interoperability 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 the Global Information Grid (GIG) as that capability matures.

By linking distributed facilities, JMETC allows customers to efficiently evaluate their war fighting capability in a realistic joint environment. This capability 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.

JMETC's institutional funding builds, maintains, and operates the JMETC, and pays for persistent availability of national connectivity for testing; data communications middleware; identification and enforcement 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; composability 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 (universal data transport solution set). System engineering, training, and experimentation will all benefit from a universal 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 Plans:

Provide support to on-going programs, particularly Single Integrated Air Picture (SIAP), Network Enabled Command Capability (NECC), and Army Cross-Command Collaborative Environment (3CE) Future Combat System (FCS). Collaborate with the Air Force Integrated Collaborative Environment (AF-ICE) to demonstrate efficiencies through use of the JMETC provided infrastructure. Continue outreach efforts to programs such as Multi-Mission Aircraft (MMA), DD1000, CV 21, FCS, Joint Strike Fighter (JSF), Global Hawk, and Littoral Combat Ship. Initiate phase 1 (FY 2007-FY 2011), which will provide a core JMETC infrastructure foundation capable of supporting real-time test events as follows:

- Establish persistent network connections on existing Department networks with a JMETC Virtual Private Network (VPN) and security agreement, and expand the needed communication bandwidth. Integrate initial test sites to the network in FY 2007. Connections will be determined on the basis of projected test schedules and will be accomplished using the Secure Defense Research and Engineering Network (SDREN).
- Establish Initial Customer Support to provide single-face-to-the-customer support for use of the JMETC. Customer Support will be a central resource that provides programs and test facilities with information about system capabilities and limitations; available nodes; models and simulations; and JMETC standards, interfaces, and tools.
- Customer Support will assist acquisition program managers and test organizations, as requested, in designing their test plans to exploit the joint mission infrastructure capabilities, and facilitate scheduling.
- Maintain common Test and Training Enabling Architecture (TENA) integration software. Optimize the common middleware for embedded instrumentation applications as an organic component of the weapon system or net-centric

capability, to enable easier conduct of distributed testing throughout the acquisition process – from the laboratory, to the open-air range, and to the battlefield.

- Expand the TENA common, open interface standards to accommodate additional test laboratories, open-air ranges, system integration facilities, and simulations. Common interface standards streamline the ability to integrate multiple distributed laboratories, ranges, and simulations for specific test events, and enable alignment of the technical architecture for testing with the JNTC to promote interoperability and reusability among test and training assets.
- Provide tools and utilities with functionality that allows the joint mission infrastructure to serve as a useful test environment and to operate efficiently to enable event planning, integration, and analysis. Include an assessment of existing Service tools for joint application, assess commercially available software tools for utilization with the standard support tools, and, if necessary, promote development of new tools to satisfy shortfalls. Design analysis tools to assist evaluators in tracing the root cause of problems discovered to the individual causal system, during large system-of-systems test events.
- Initiate the Reuse Repository to store software interfaces, tools, utilities, and test metadata making all available to the test community for reuse. Through reuse, improve efficiency in the infrastructure to support systems and net-centric capabilities that is either a part of the joint mission infrastructure, or interfaces with the joint mission infrastructure.

FY 2008 Plans:

Continue support to ongoing programs, particularly SIAP and NECC. Sustain initial test sites integrated in FY 2007 in the JMETC VPN and security agreement. 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. Initiate limited support to programs such as JSF Operational Assessment, FCS Limited User Test, and MMA, as customer funding permits. Continue outreach efforts to programs such as DD1000, CV 21, Global Hawk, 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 improvements to the Reuse Repository and Data Archive as funding permits.

FY 2009 Plans:

Continue support to on-going programs, particularly SIAP, and NECC. Provide support to JSF and FCS for their distributed test events. Continue collaboration with AF-ICE and Navy DEP distributed test events to leverage efficiencies through use of the JMETC provided infrastructure. Seek to initiate customer funded support to programs such as CV21, Global Hawk, and Littoral Combat Ship to assist in planning and executing distributed test events required to demonstrate joint interoperability. Continue

out reach efforts to new programs with requirements to demonstrate compliance with Net-Ready Key Performance Parameters. Continue to facilitate development and incorporation of the highest priority improvements to the core JMETC products (middleware and standards for data transport). Continue development of the Reuse Repository and Data Archive, with the JMETC Users Group setting the priorities.

B. (U) PROGRAM CHANGE SUMMARY

	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget:	0.000	10.600	7.156	9.093
Current President's Budget:	0.000	10.539	6.925	8.850
Total Adjustments:			(.231)	(.243)
Congressional Program Adjustments:				
Congressional Rescissions:				
Congressional Increases:				
Other Program Adjustments:		(.061)	(.231)	(.243)

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

D. (U) ACQUISITION STRATEGY N/A.

E. (U) PERFORMANCE METRICS

- Establishment of initial capability to support test programs, providing distributed capability to test systems and demonstrating required joint capability.
- Successful use of integration software compatible with the JNTC and Joint Training infrastructure.
- Percentage of joint distributed tests that use JMETC components to accomplish the integration.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605104D8Z - Technical Studies, Support & Analysis**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost		30.397	36.131	31.263	34.571	33.229	37.401	37.084	36.955
P421	Technical Studies, Support & Analysis	30.397	36.131	31.263	34.571	33.229	37.401	37.084	36.955

A. Mission Description and Budget Item Justification: This program is a primary 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 complex multifaceted international, political, technological, economic, military, and acquisition environments in which defense decisions and opportunities take place. 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. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	32.549	30.339	31.735	31.878
Current BES/President's Budget (FY 2008/2009)	30.397	36.131	31.263	34.571
Total Adjustments	-2.152	5.792	-0.472	2.693
Congressional Program Reductions		-0.208		
Congressional Rescissions				
Congressional Increases		6.000		
Reprogrammings	0.245			
SBIR/STTR Transfer				
Other	-2.397		-0.472	2.693

There were congressional additions in FY 2007 for the Prompt Global Strike Study ($5.0 million) and the Capabilities Study for IED Detection ($1.0 million).

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**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 2008 BA	FY 2008 BA Assoc w/Metrics	Percent FY 2008 BA Assoc w/Metrics
$31,263K	$31,263K	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 Department's strategic goals, especially the objectives stipulated in the Quadrennial Defense Review.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605104D8Z - Technical Studies, Support & Analysis**	**P421**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P421	Technical Studies, Support & Analysis	30.397	36.131	31.263	34.571	33.229	37.401	37.084	36.955

A. Mission Description and Project Justification: This program is a primary 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 complex multifaceted international political, technological, economic, military, and acquisition environments in which defense decisions and opportunities take place. With the persistently complex current security, threat, and economic environment, the need for objective analyses and forward looking planning for the mid and long-range is vital.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Technical Support to OSD and the Joint Staff: FY 2006 Accomplishments	30.397	0.000	0.000	0.000

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

Electronic warfare capabilities and investment strategies, improving fuel efficiency of weapons systems, joint safety review process improvement, security of IT systems, integrated air and missile defense, joint air dominance, global strike capabilities, conventional munitions requirements, systems and software engineering policies, the domestic software industrial base, tracking capabilities of high-value targets, support to various Defense Science Board task forces, evolving technologies and the acquisition process, explosives safety and testing processes, land attack capability requirements and optimization, fusing technology, materiel planning with alliance partners, maritime stockpile planning, unmanned combat systems investment planning, rotary wing systems capabilities and requirements, effects and assistance of regulatory requirements on DoD acquisition policies, technical and non-technical cost drivers influencing System of Systems efforts, estimating system integration costs for large-scale C4ISR systems, improvement of domestic shipbuilding capabilities, export controls and the health of the defense industrial base, effects from use of non-US component suppliers, various sector-specific industrial base assessments, reviews of defense industry mergers and acquisitions, international cooperative R&D programs, NATO policy planning, effects of force transformation on allied industrial base restructuring, industry technology transfer with small businesses, and DoD contracting with businesses owned by service-disabled veterans

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

Special Operations Forces manning, systems dynamic modeling of the Global War on Terrorism, tactical aviation capabilities, airborne electronic attack, impact of equipment prepositioning, strategic airlift and tanker requirements, Future Combat Systems network components, homeland defense response and consequence management capabilities, the defense health program, medical readiness, SIGINT sensor systems, space radar capabilities supporting the DoD and the intelligence community, improving the efficiency of supply chains, capabilities-based risk management, naval force structure, allied burden

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605104D8Z - Technical Studies, Support & Analysis**	**P421**

sharing, development and operation and maintenance costs for major weapons systems, unconventional warfare and counterinsurgency operations, earned value management within DoD, deployment of expeditionary forces, portfolio risks among current space programs, operations tempo resource requirements, and process improvement planning for the Quadrennial Defense Review (QDR)

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, WMD defense including defense against evolving biological and chemical threats, irregular warfare, cyber power theory and cyber defense, space policy development and national space strategy, foreign space systems capabilities, international space cooperation, countering and reducing ideological support for terrorism, use of the internet in terrorism, developing guidance for stability operations, and strategic-level simulations of areas of interest for members of Congress and high-level executive branch decision-makers

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

Personnel retention, civilian compensation losses by service-disabled veterans, recruiting among young adults, ameliorating stresses on families of deployed military personnel, management of wounded personnel, family relationships among newly returned personnel, modeling workforce characteristics of enlisted personnel and their impact on promotions, and medical readiness force structure

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

Information assurance and the domestic commercial sector; information sharing capabilities in regional stability operations; networking engineering support; improving the availability of low-cost GPS receivers in the field; intelligence training and education requirements within the DoD Intelligence Components; Intelligence, Surveillance and Reconnaissance capabilities

Technical Support for the Joint Staff:
Studies and analyses supporting unmanned aerial systems, DoD emergency preparedness, space and missile assets, unconventional warfare and counter-insurgency operations, forward-deployed force postures and expeditionary warfare, coalition battle management command and control, and capability and risk assessments within planning scenarios

Other activities:

Congressional addition for Capabilities Study for IED Detection ($1 million in FY 2006) and NDU Technology Pilot Program ($1 million in FY 2006)

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Technical Support to OSD and the Joint Staff: FY 2007 Program	0.000	36.131	0.000	0.000

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

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605104D8Z - Technical Studies, Support & Analysis**	**P421**

Continued studies on electronic warfare capabilities, airlift and sealift, security of IT systems and software, air and missile defense, air dominance, global strike capabilities, conventional munitions requirements, remaufacturing of defense assets, DoD use of commercial issems, systems and software engineering policies, high-value targeting, support to various Defense Science Board task forces, evolving technologies and the acquisition process, land attack capability requirements and optimization, fusing technology, materiel planning, mine countermeasures for naval platforms, the global shipbuilding environment, operational availability, aviation safety, unmanned combat systems investment planning, rotary wing systems, DoD acquisition policies and execution management, global defense market changes and their effect on domestic and allied industry, depot maintenance core requirements, logistics systems modernization policies, various sector-specific industrial base assessments, reviews of defense industry mergers and acquisitions, 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 and their implications for homeland defense and civil support/consequence management, building coalition capabilities and partnerships, various aspects of requirements and technologies for the Future Combat Systems, mitigating wartime stress and repair requirements on military systems and equipment, analyses of attrition among coalition forces, tactical and strategic mobility requirements and tanker fleet recapitalization, extended QDR analyses of tactical aviation forces, optimizing the force structure mix among unmanned aerial vehicles and attack/reconnaissance helicopters, investment strategies among intelligence collection capabilities and their contributions to counterterrorism and other high-value target missions, strengthening human intelligence capabilities and leveraging their effects among other ISR assets, airborne layer platforms and ground wide area network operations in major combat operations, operations research for airborne ISR platforms, improving space radar capabilities for high resolution terrain information and advanced geospatial intelligence collection, SIGINT geolocation accuracy, medical cost and readiness projections, modeling littoral combat capabilities, sea-basing requirements, software cost management and analyses, performance-base logistics, contributions of allied forces, the long-term trends and affordability of the defense program, DoD information assurance capabilities, personnel compensation and retention, catastrophic planning scenarios, joint campaign capabilities assessment, operations and support costs, weapons systems remanufacturing and depot repair costs, forecasting force and infrastructure resource requirements and integrating developing requirements into the defense program, and commodities price volatility and subsequent effects upon program costs.

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, WMD defense including defense against evolving biological and chemical threats, strategic weapons employment policy, irregular warfare, countering the threat of WMD proliferation through international partnership cooperation efforts and the Proliferation Security Initiative, space policy development and national space strategy, reducing the terrorist threat through cultural understanding and societal analyses of unstable countries, and strategic-level simulations of areas of interest for members of Congress and high-level executive branch decision-makers

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

Effects of compensation on personnel retention, career management of linguists, recruiting among young adults, ameliorating stresses on families of deployed military personnel, management of wounded personnel, family relationships among newly returned personnel, assessing comparative rates of sexual assault with military and civilian populations, modeling workforce characteristics of enlisted personnel and their impact on promotions, and medical readiness force structure

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605104D8Z - Technical Studies, Support & Analysis**	**P421**

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

Command and control in coalition operations, developing net-centric enterprise communication capabilities, developing standards for joint data exchange, DoD information assurance, improving mobility of communications systems, improving information integration between the DoD and the Intelligence Community, strengthening Defense HUMINT, battlespace awareness, intelligence collection and ballistic missile defense, the effects of commercially available imagery, nuclear detection system architecture, optimizing weather satellite development to support imagery collection, and improving security standards and counterintelligence capabilities

Technical Support for the Joint Staff:
Studies and analyses supporting identification of strategic ways and means to dissuade potential adversaries from acquiring or proliferating WMD, risk management of information sharing, global broadcast service coverage, and deterrence of terrorist interaction with narcotics-based non-state entities

Other activities:

Congressional increases for Capabilities Study for IED Detection ($1.0 million in FY 2007) and Prompt Global Strike Study ($5.0 million in FY 2007)

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Technical Support to OSD and the Joint Staff: FY 2008 Plans	0.000	0.000	31.263	0.000

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

Continued studies on electronic warfare capabilities, airlift and sealift, security of IT systems, air and missile defense, air dominance, global strike capabilities, conventional munitions requirements, systems and software engineering policies, high-value targeting, support to various Defense Science Board task forces, evolving technologies and the acquisition process, land attack capability requirements and optimization, fusing technology, materiel planning, mine countermeasures for naval platforms, the global shipbuilding environment, aviation safety, unmanned combat systems investment planning, rotary wing systems, DoD acquisition policies, global defense market changes and their effect on domestic and allied industry, depot maintenance core requirements, logistics systems modernization policies, various sector-specific industrial base assessments, reviews of defense industry mergers and acquisitions, 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 and their implications for homeland defense and civil support/consequence management, identifying requirements for the next Quadrennial Defense Review, capabilities-based planning, the long-term trends and affordability of the defense program, force structure and manpower issues, alternative systems and weapon configurations, C4ISR capabilities and evaluations, 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

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605104D8Z - Technical Studies, Support & Analysis**	**P421**

evaluation among weapons platforms shared among 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 2010 QDR:

Issues and problem areas concerning the Global War on Terrorism, WMD defense including defense against evolving biological and chemical threats, strategic weapons employment policy, irregular warfare, countering the threat of WMD proliferation through international partnership cooperation efforts and the Proliferation Security Initiative, development of defense planning scenarios and improving the contingency planning system, reducing the terrorist threat through cultural understanding and societal analyses of unstable countries, and strategic-level simulations of areas of interest for members of Congress and high-level executive branch decision-makers

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

Effects of monetary and non-monetary incentives on personnel retention, effects of the National Security Personnel System, long-term impact of personnel deployments on 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; DoD information assurance; improving mobility of communications systems; DoD security systems and policies; government-wide authentication systems; and Intelligence, Surveillance and Reconnaissance capabilities

Technical Support for the Joint Staff:
Studies and analyses supporting strategic theater plans and engagement objectives, stability operations, homeland defense consequence management, various assessments relating to the Global War on Terrorism, and upcoming studies directed by the Program Decision Memorandum and Strategic Planning Guidance

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Technical Support to OSD and the Joint Staff: FY 2009 Plans	0.000	0.000	0.000	34.571

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

Continued studies on electronic warfare capabilities, airlift and sealift, security of IT systems, air and missile defense, air dominance, global strike capabilities, conventional munitions requirements, systems and software engineering policies, high-value targeting, evolving technologies and the acquisition process, land attack capability requirements and optimization, fusing technology, materiel planning, mine countermeasures for naval platforms, the global shipbuilding environment, aviation safety, unmanned combat systems investment planning, rotary wing systems, DoD acquisition policies, global defense market changes and their effect on domestic and allied industry, depot maintenance core requirements, logistics systems modernization policies, various sector-specific industrial base assessments, reviews of

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)	Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605104D8Z - Technical Studies, Support & Analysis**	**P421**

defense industry mergers and acquisitions, 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 and their implications for homeland defense and civil support/consequence management, detailed force planning and cost-effectiveness planning supporting the next Quadrennial Defense Review, capabilities-based planning, the long-term trends and affordability of the defense program, force structure and manpower issues, alternative systems and weapon configurations, C4ISR capabilities and evaluations, 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 among weapons platforms shared among 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 2010 QDR:

Issues and problem areas concerning the Global War on Terrorism, WMD defense including defense against evolving biological and chemical threats, strategic weapons employment policy, irregular warfare, countering the threat of WMD proliferation through international partnership cooperation efforts and the Proliferation Security Initiative, development of defense planning scenarios and improving the contingency planning system, reducing the terrorist threat through cultural understanding and societal analyses of unstable countries, and strategic-level simulations of areas of interest for members of Congress and high-level executive branch decision-makers

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

Effects of monetary and non-monetary incentives on personnel retention, effects of the National Security Personnel System, long-term impact of personnel deployments on 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; DoD information assurance; improving mobility of communications systems; DoD security systems and policies; government-wide authentication systems; and Intelligence, Surveillance and Reconnaissance capabilities

Technical Support for the Joint Staff:

Studies and analyses supporting maritime domain awareness, stability operations, pandemic consequence management, various assessments relating to the Global War on Terrorism, and upcoming studies directed by the Program Decision Memorandum and Strategic Planning Guidance

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0605104D8Z - Technical Studies, Support & Analysis**	PROJECT **P421**

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605110D8Z – USD (A&T) Critical Technology Program**

Cost ($ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost	1.911	4.006	4.021	4.014	4.045	4.017	4.070	4.127
P110 Militarily Critical Technology Program	1.911	4.006	4.021	4.014	4.045	4.017	4.070	4.127

A. Mission Description and Budget Item Justification: Military Critical Technology Support transferred from DTRA PE060511BR to AT&L Office of International Technology Security.

The Militarily Critical Technology 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 Technology 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 & Technology List (DSTL): describes military and proliferation significance of future technologies.

The RDT&E program was transferred from the Defense Threat Reduction Agency in December 2004 to continue support for the Military Critical Technology Support Program that is managed under a Task Order by the Institute for Defense Analyses. 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 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	1.967	2.029	2.144	2.126
Current BES/President's Budget (FY 2008/2009)	1.911	4.006	4.021	4.014
Total Adjustments	-0.056	1.977	1.877	1.888
Congressional Program Reductions		-0.023		
Congressional Rescissions				
Congressional Increases		2.000		
Reprogrammings				
SBIR/STTR Transfer				

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605110D8Z – USD (A&T) Critical Technology Program**

Other	-0.056		1.877	1.888

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

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 Technology Program (MCTP) protects critical technologies and denies critical information to adversaries. Increased funding equates into more efficiency and topicality of effect.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605110D8Z – USD (AT&T) Critical Technology Program**	**P110**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P110	Militarily Critical Technology Program	1.911	4.006	4.021	4.014	4.045	4.017	4.070	4.127

A. Mission Description and Project Justification: Specific MCTP activities include:

- Develop and publish in electronic form (including Internet version, both restricted and public) various editions of the MCTL and 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:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Military Critical Technology Program	1.911	4.006	4.021	4.014

FY 2006 Accomplishments: Established a mechanism to review and update at least one half of the categories of technologies on the MCT and DSTL lists annually. Expanded ability to provide technical experts for the Wassenaar Arrangement negotiations during proposal development and to support the negotiations. Increased ability to visit industrial facilities in the US and abroad to access technologies and foreign availability.
Created and administered new technology working groups to respond to new categories of evolving technologies.

FY 2007/2008/2009 Plan: Re-engineer the MCTP processes. Modernize and revitalize the MCTP processes and databases to provide an authoritative, user-friendly, single-source for defining critical technologies of importance to the DoD. Continue stakeholder outreach to the military services, the U.S. departments of State and Commerce, and other agencies as appropriate to coordinate exchange of technical information that becomes the basis for licensing requirements for military and dual-use technologies under the U.S. Arms Export Control Act and the Export Administration Act.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605110D8Z – USD (AT&T) Critical Technology Program**	**P110**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2006 Congressional Reduction	0.000	0.000	0.000	0.000

C. Other Program Funding Summary	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Comment:

D. Acquisition Strategy: Not Applicable.

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 idneitify and define in authoritative terms the broad and enduring critical technology base elements for national security including homeland defense.	15 NOV 2006

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2007	
Appropriation/Budget Activity RDT&E Defense-Wide, BA 6				R-1 Item Nomenclature: Foreign Materiel Acquisition and Exploitation PE 0605117D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	48.788	38.035	52.683	52.911	54.329	54.959	55.873	56.789

A. Mission Description and Budget Item Justification:

Program Accomplishments and Plans:

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.

FY 2006 Accomplishments:

- Mission Support $48.788

FY 2007 Accomplishments:

- Mission Support $38.035

FY 2008 Plans:

- Mission Support $52.683

FY 2009 Plans:

- Mission Support $52.911

B. **Program Change Summary:** (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President's Budget Submission)

	FY 2006	FY 2007	FY 2008	FY2009
Previous President's Budget	55.989	38.253	39.973	39.978
Current President's Budget	48.788	38.035	52.683	52.911
Total Adjustments	- 7.201	-.218	12.710	12.933
Congressional program reductions		-.218		
Congressional rescissions	- 7.201			
Congressional increases				
Internal reprogramming				
Department Adjustments			12.710	12.933

Change Summary Explanation:
FY 2006: $7.201M Congressional rescission
FY 2007: $.218M Congressional reductions
FY 2008: $12.710M Department increase
FY 2009: $12.933M Department increase

C. Other Program Funding Summary: Not Applicable

D. Acquisition Strategy: Not Applicable

E. Performance Metrics: Classified

Exhibit R-2/R-2a, RDT&E Budget Item Justification								February 2007	
Appropriation/Budget Activity Engineering and Manufacturing Development RDT&E, DW, Budget Activity: 6					100 Item Nomenclature: Defense Travel System – PE: 0605124D				
Cost ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		Total Cost
Total PE Cost	25.701	19.612							45.313

A. Mission Description and Budget Item Justification

The Program Management Office (PMO) for the Defense Travel System (DTS) was established to provide procurement management and system fielding support worldwide. The Defense Travel System (DTS) is the Department of Defense's integrated order writing, reservation, and accounting solution for temporary duty travel (TDY) requirements. The purpose of DTS is to reengineer travel management processes to meet unique DOD mission, security and financial system requirements within Federal and DOD policies and regulations. DTS is a key element for DOD to get to a clean audit opinion. DTS was designated as an ACAT IAM Program on May 28, 2002 and is fully compliant with all statutes and regulations for a DoD Major Automated Information System.

Each addition of functionality will build upon the core DTS baseline and provide increased capabilities to DTS users. As an evolutionary acquisition program, the DTS must remain flexible enough to be able to support the iterative process of developing a set of capabilities that will provide a useful and supportable operational system to the Services and Agencies and Department of Defense as a whole.

Accomplishments/Planned Program ($ Millions):

FY 2006 ACCOMPLISHMENTS $19.612:

$4.244 - Continue development, test, and integration of Financial Partner System (FPS) interfaces and software releases, FPS system changes, continue to update Interface Control Documents and Memorandums of Agreement (MOA).

$11.937 -Completed CBA Reconciliation Module and Monroe software release development and testing. Continued to redesign and recode the Travel Manager portion of the DTS. Completed development and testing of usability enhancements and transportation reports functionality.

$2.025 - Program Management and Engineering Support

$.206 - DMDC Archive Development and Test

$1.200 - GEX to Financial Partner System mapping

B. Program Change Summary	FY 2005	FY 2006	FY 2007	
FY 2006/2007 President's Budget	0	20.116	0	
FY 2007 President's Budget	0	19.612	0	
Total Revised Estimate	0	19.612	0	
Total Adjustments		(.504)		
Congressional Adjustments(Distributed)				
Congressional Adjustments(Undistributed)		(.088)		

Current Budget Submit/Budget Estimate

Funding: The change from FY 2006 to FY 2007 is in accordance with *DEPSECDEF Memo "Establishment of the Defense Business Transformation Agency (BTA)"* dated 07 October 2005, which directed the transfer of manpower and other related resources of the PMO-DTS under the newly established acquisition organization, the BTA in FY 2007.

Schedule: Full Operational Capability (FOC) – Objective: September 2006 – Threshold: September 2007

Technical: All of the KPP thresholds are met and four of the six KPP objectives are already met

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: The PMO-DTS has recently updated its acquisition strategy and it is evaluated and coordinated through the Overarching Integrated Product Team (OIPT) Members for signature.

Performance Metrics: Northrop Grumman Mission Systems (NGMS) is the developer of the DTS software. The corporation is under a contractual EVMS reporting requirement for the cost plus incentive fee (CPIF)/ cost plus fixed fee (CPFF) contract for the development of DTS under delivery order 26 (DO26). The cumulative CPI to date (data ending 28 July 2006) is 1.013 and the cumulative SPI to date (data ending 28 July 2006) is 0.970. Cost and schedule performance are green. DO26 is 94.56% complete based on the negotiated contract cost of $32.4M.

The incentives for DO26 are being tracked by cost (30% of fee pool), schedule (40% of fee pool), and quality (30% of fee pool) with upper and lower boundaries to ensure success.

Exhibit R-3, RDT & E, DW Project Cost Analysis			Date: September 2006
Appropriation: RDT&E, DW, Budget Activity: 6	Program Element: 0605124D		Defense Travel System

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
System Engineering & Testing	FFP/T&M	PMO DTS / Arlington, VA				0.80	NA	1.65	May-07		2.45	2.45
Testing	CPFF/FFP	PMO DTS / Arlington, VA				2.085	Apr-07	3.73	Mar-07		5.82	5.82
Development	CPFF/CPIF	PMO DTS / Arlington, VA				5.42	Apr-07	3.06	Mar-07		8.48	8.48
Development for DTS Interface with GEX	T&M	PMO DTS / Arlington, VA				0.9	Jul-06	1.07	Oct-06		1.97	1.97
DTS Travel Reports	N/A	PMO DTS / Arlington, VA				0.98	NA	0	Sep-07		0.98	0.98

PMO DTS transferred to the Defense Business Transformation Agency in mid-FY06. Only those contract costs relevant to the period subsequent to the transfer are shown above.

R-4 Schedule Profile - Item No. 20-3 of 20-4

Exhibit R-4, Schedule Profile			Date: September 2006
Appropriation/Budget Activity RDT&E, DW, Budget Activity: 6		Program Element Number and Name 0605124D - Defense Travel System	Project Number and Name Defense Travel System

Fiscal Year	2001				2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Complete Phase II Fielding																								△												
Full Operational Capability																												△								
Start Block II PDT Development																													△							

R-4a Schedule Profile - Item No. 20-4 of 20-4

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**

Cost ($ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost	36.889	31.812	32.919	34.974	36.058	34.721	35.177	35.672
P130 Foreign Comparative Testing (FCT)	36.889	31.812	32.919	34.974	36.058	34.721	35.177	35.672

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 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. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	37.260	31.995	33.924	35.954
Current BES/President's Budget (FY 2008/2009)	36.889	31.812	32.919	34.974
Total Adjustments	-0.371	-0.183	-1.005	-0.980
Congressional Program Reductions				
Congressional Rescissions		-0.183		

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**

Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer	-0.371			
Other			-1.005	-0.980

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Performance Metrics: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P130	Foreign Comparative Testing (FCT)	36.889	31.812	32.919	34.974	36.058	34.721	35.177	35.672

A. Mission Description and Project 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 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:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
120mm Mortar Propellant (Army)	0.814	0.000	0.000	0.000

Outcome: This project evaluates and qualifies a high-performance Extruded-Impregnated (EI) propellant for long-range mortar systems developed by Rheinmetall/Nitrochemie Wimmis AG of Switzerland. The primary outputs and efficiencies by qualifying EI propellant are increased range over current 120mm mortar systems to support the Army's Future Combat System requirements, elimination of the use of a hazardous/toxic stabilizer, reduction of blast overpressure, increased rate of fire, decreased gun tube wear, and increased propellant shelf life.

FY 2006 Output: Loaded, assembled and packed (LAP) mortar increment containers and ignition cartridges with EI propellant, completed initial evaluation testing and initiated final qualification testing of

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

main charge propellant at Yuma Proving Ground (YPG). Additional outputs from FY 2006 funding include conducting final qualification testing of EI propellant at YPG (slated to occur in FY 2007).

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
1760 Umbilical Cord (Air Force)	0.423	0.000	0.000	0.000

Outcome: Increased reliability and service life of the MIL-STD 1760 interface umbilical by 10 fold. This umbilical transfers guidance information to weapons and is currently a one time use and throw away. The 508th Fighter Support Group at Hill AFB, Utah will evaluate an advanced umbilical connector, developed by EDO MBM Technology, Ltd. of the United Kingdom, which will disengage without being damaged. The current Air Force 1760 connecter is of a "screw on/pop off" design which is experiencing damage during weapon release. The EDO umbilical uses a collar that screws onto the weapon's 1760 connector and an umbilical cable that snaps on/off the collar and is repairable. USAF could save roughly $315 thousand per year on cables for the F-16. Considering that the F-16 is projected to be in use until 2026, the overall life-cycle savings could reach as much as $6.0 million.
The primary outputs and efficiencies to be demonstrated are: (1) that the EDO umbilical connector mates with Mil DTL-38999/20 and /24, (2) that the connectors accept SAE-AS85049 self-locking accessories and (3) that they will disengage without damage from any coupled connector including partially mated
FY 06 Output: Contract for the test articles awarded. Eglin test plan completed. Rather than funding separate tests the testing will be concurrent with programmed testing completing the final demonstration in 3rd Qtr FY07. Completion date and publishing the Final Report planned for 4th Qtr FY 2007. FY 2008 results include the planned transition of the umbilical cord into the Defense Logistic Supply Chain.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
30mm Programmable Air Burst Munition (ABM) (Navy)	1.057	1.756	0.000	0.000

Outcome: This project will test the 30mm ABM for lethality and effectiveness across the full spectrum of combat operations than currently available combat munitions. This capability provides US combat forces greater survivability thru increased lethality to four to six times. This increase in lethality will afford DoD war fighters the capability to engage and defeat 4 to 6 times the number of enemy forces per unit load of ammunition.

FY 2006 Output: Complete 30mm ABM lethality evaluation of the three candidate rounds at the Hawthorne, NV. Draft RFP was issued to the three competing vendors soliciting unit cost for the 30mm ABM rounds and gun programming hardware. This pricing data will be used by the Source Selection Panel (SSP) in the downselect process.

FY 2007 Planned Output: Award contract for qualification ABM rounds with follow-on procurement options. Conduct ABM round qualification testing. Complete qualification testing, secure approval for production, prepare close-out report; execute contract options for ABM cartridges for Service use (slated to occur in FY 2008).

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
3rd Generation Focal Plane Array (Army)	1.194	0.000	0.000	0.000

Outcome: This project is to demonstrate infrared focal plane array performance on low cost substrates equivalent to current performance on bulk substrates. The eighteen month project is under the sponsorship of PM Night Vision for completion of demonstration/testing by 3Q 2007 with subsequent transition to PM NV/RSTA. These focal plane arrays can spiral into 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 and efficiencies to be demonstrated in the Foreign Comparative Test are (1) to decrease the costs of the focal plane array by a factor a four and (2) to increase operating life by a factor of two, thereby decreasing system life costs.

FY 2006 Output: Parts have been procured for the imagers and focal plane arrays at Selex. NVESD has set up the test procedures for the larger format FPAs. Talks have been held between NVESD, Selex

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

and US industry for transition of technology into US industry. Final demonstration has been set up for flight 3Q 2007. Lab testing 2Q FY 2007. Final demonstration scheduled for 3Q

FY 2007. Scheduled completion date is May 2007. The cost per focal plane array (FPA) will decrease by 75% resulting in acquisition savings of $572 million and increases reliability of the FPA by 200% which reduces operating costs by $75 million.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
40 mm Day/Night Tactical Marking Crtg. (SOCOM)	2.779	0.000	0.000	0.000

Outcome: The 40mm Day/Night training cartridges allow soldiers to train as they fight, at night, using their night vision goggles, to easily spot markers and cartridges, a capability not currently available. Primary outputs and efficiencies: This inert training ammunition is less toxic and will reduce range clean up costs by 10-20%, prevents range fires in the impact areas of bases in Southern California and will save over $1M a year in base operations and maintenance funds (one fire alone burned 8,592 acres aboard the base and surrounding community, required 1,300 firefighters, numerous fire trucks, and a dozen aircraft from various agencies to extinguish) as well as save lives and prevent injuries caused by unexploded ordnances. Completion date is 30 Sept 2008.

FY 2006 Output: Accepted final day/night training and tactical marking test items; completed Phase I Performance Test; began Phase II Safety Test and environmental impact qualification testing. Additional outputs that will occur in FY 2007 include conducting Phase III Operational User Assessment. Resolution of aeroballistics. Fabrication of test articles. Additional outputs that will occur in FY 2008 include receiving WSESRB (Weapon Systems Explosive Safety Review Board) approval and preparing the FCT Close-out Report. Milestone C Decision is scheduled for 4th Qtr 08

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
40mm Low Velocity HEDP Ammunition (Navy)	0.444	0.000	0.000	0.000

Outcome: A successful FCT will provide the War Fighter with a 50% more accurate 40mm Low Velocity (LV), HEDP round that features greater lethality, new Insensitive Munitions for greater safety, and a new fuze to avoid remediation costs of $50M for unexploded ordnance. Safety issues with the design and production of the current 40mm LV, HEDP round have driven the requirement to field a Weapons System Explosives Safety Review Board (WSESRB) certified cartridge. The USMC will test two candidate cartridges manufactured by Rhinemetall (Nico Pyrotechnik and Arges) in Germany to meet the requirement use in the M79 and M203 weapon systems. A three-year FCT project under sponsorship of the OSD CTO and MARCORSYSCOM. Projected completion of testing and qualification will be CY 2007 with transition to USMC operating forces during CY 2008. The primary outputs and efficiencies to be demonstrated in the FCT Test are: (1) fielded cartridge will feature a high penetration capability against light armored targets; (2) a high fragmentation effect against enemy personnel; (3) integrate a self-destruct mechanism to eliminate instances of unexploded ordnance; (4) avoid RDT&E costs of $8.8M and provide a ROI of 85:1.

FY 2006 Output: Completed the Comparative and Safety/Environmental testing in Unterluess, Germany. Down selection completed and Qualification Test contract option awarded to Nico Pyrotechnik. Completed Systems Safety Working Group and Configuration Management Process to provide safety analysis and determine final round configuration in preparation for the WSESRB. Additional outputs from FY 2006 funding that will occur in FY 2007 include: Manufacture test articles for delivery during the 3rd Qtr. Anticipated completion of the qualification testing during the 4th Qtr. and attain WSESERB certification. Additional outputs from FY 2006 funding that will occur in FY 2008 include: Provide the Technical Test Report. A Milestone C Decision is anticipated during the 2nd Qtr. followed by the Close-out Report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
70 mm (2.75) Rocket Warhead	2.257	1.277	0.000	0.000

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

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 $43M. Completion date is 30 Jun 2008.

FY 2006 Output: Received authorization to proceed with contract negotiations after extensive review of contract actions, sole source justification, and review by USSOCOM legal office; continued development of Test and Evaluation Master Plan.

FY 2007 Planned Output: Receive test articles; begin interim hazard classifications, and Phase I technical and safety testing, as well as insensitive munitions (IM) testing; start WSESRB approval process. Additional outputs that will occur in FY 2008 include: obtain air worthiness certification; complete Phase I testing; obtain WSESRB certification; conduct Phase II Operational and User Assessment. Complete FCT Close-out Report. Obtain Milestone C decision 2nd Qtr 08.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
84 mm Multi-Target Warhead (SOCOM)	0.972	1.458	0.000	0.000

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 $45M in RDT&E and life-cycle costs. Completion date is 30 Sep 2008.

FY 2006 Output: Completed contract preparation and award for test articles; continued test planning; initiated WSESRB approval process.

FY 2007 Planned Output: Initiate hardware integration and delivery; Initiate technical and safety testing; submit Navy WSESRB data package. Additional outputs from the FY 2007 funding that will occur in FY 2008 include: Complete hardware integration; finish technical and safety testing; perform limited user testing; obtain Navy WSESRB approval; complete FCT Close-out Report; obtain Milestone C Decision 3rd Qtr 08.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Flotation Platform (Air Force)	0.476	0.293	0.000	0.000

Outcome: Reduction in the number of work flow days per aircraft (A/C) by ten and save $25 thousand per A/C in rigging costs resulting in annual savings of $3.6 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 06 Output: The shop surface has been machined down to facilitate operation of the platforms; contract for the test article has been awarded and static airframe alignment measurements are being conducted and support requirements are being generated.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

FY 07 Planned Output: Demonstrate successful motion over shop floors with final demonstration date August 2007. Generate Final Report with Completion date planed for September 2007. In FY 2008 the project is planned to transition to production.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Aluminum Alloy 5059 for Armor Applications (Army)	0.454	0.000	0.000	0.000

Outcome: This project is qualifying an improved aluminum developed by Aleris (Corus) of Germany for armored ground systems used in PEO Ground Combat Systems and for use in Future Combat Systems (FCS) applications. Ballistics has confirmed the manufacturers claims for excellent performance among aluminum materials in ballistics, particularly against frag based threats. Procurement Potential: (448) M2 IFVs $ breakout TBD by PEO. A new fleet of FCS MGVs (amount unknown) Other Benefits: Use on other armored platforms and structures. A 2X or greater improvement in time between armored hull overhauls at depots due to corrosion and materials degradation vs. comparable 2XXX and 7XXX aluminum alloy constructed hulls. RDT&E Cost Savings: $2.500 million over 4 years (minimum). O&S Cost Savings: $1.200 billion. Procurement Cost Savings: 25% reduction in cost versus AA5083-H131. Procurement Potential: (448) M2 IFVs $ breakout TBD by PEO.

FY 2006 Output: Based upon successful ballistics, AA5059 has been added to a draft revision to the armor MIL SPEC. The specification "MIL-DTL-46027K" will be the basis for which all future acquisition of AA5059 will be based upon. It will be the qualification standard that is referred to when appearing in contracts. Without the spec, ease of acquisition of the material would be significantly hindered. The draft of the revised SPEC was distributed to the military and industry for comment on 5DEC06. In addition to the ballistic spec, the first of 6 mine blast evaluations to 1.5" thick plate was conducted at Aberdeen Proving Ground in October. The results to date have been successful and represent an improvement over AA5083-H131 and comparable performance to the more expensive and stress corrosion cracking prone AA7039. Additional outcomes from FY 2006 funding that will occur in FY 2007 include: complete the remaining blast tests scheduled in January and February of FY07. To assess the performance of the material in a production environment, welded plates of 1.5" AA5059-H131 were prepared at no additional cost to the project by conventional MIG weld practices as well as using friction stir methods. These plates are scheduled for ballistic shock and mineblast conditions in January and February. The momentum and interest in this material generated by this project has led to development of a new ultra tough AA5059-H136 temper to be used as a spall resistant backing component for add-on composite armor panels for FCS and other appliqué armor packages and again at no additional cost to the project. Ballistic targets of this new temper have been prepared and are awaiting ballistic evaluation. ARL projects project completion by May 2007. The finalized MIL SPEC will follow shortly during 2Q FY 2007.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Amphibious Reconnaissance Insertion Vehicle (ARIV) (SOCOM)	0.537	0.000	0.000	0.000

Outcome: The ARIV will improve reconnaissance and surveillance (R&S) capabilities by extending the operational range, endurance and increased payload for Special Operations Forces. Primary Outputs and efficiencies: This will be accomplished by using the same vehicle to insert over the water and continue to the target on land. Savings of approximately $7M in RDT&E cost avoidance and $6M in procurement savings are expected. Completion date is 30 Sept 2007.

FY 2006 Output: Received funds and awarded test support contract; obtained test articles and vendor technical support; completed Phase I technical validation testing; initiated operational design review; commenced test review and analysis to determine suitability and viability of continuing operational testing. Tested different variations to include the Aquada, the Humdinga, and a "Quad Ski". Determined that a "Quad Ski" variation would better fill SOCOM requirements. Additional outcomes from FY 2006 funding that will occur in FY 2007 include: begin negotiations with Gibbs to enter into Quad Ski production. Gibbs attempting to provide more water borne speed and power while reducing land speed for Quad Ski to better suit SOF mission needs. Will introduce a "Buy, Try, Decide" scenario for additional procurements. Prepare and submit FCT Close-out Report. Milestone C decision for procurement of Quad Ski is expected 2nd Qtr 07.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Area Mine Clearing System (AMCS) (Army)	2.616	1.311	0.000	0.000

Outcome: This project is evaluating and qualifying the area mine clearing capability for the Army's new Combat Engineer Clearance Companies in the Future Engineer Force. The current techniques for clearing large areas of mines are Soldiers using handheld mine detectors and mine probes or explosive breachers and line charges. These methods are problematic because they are time consuming, they leave 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 AT mine blasts. The Army's performance testing will include flailing operations against live anti-tank mines.

FY 2006 Output: Market research and candidate selection completed in February 2006.

FY 2007 Planned Output: The full spectrum of DT/OT testing is planned for 1st and second quarter FY 2007. Cost avoidance in R&D is estimated to be $20.000-40.000 million.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
AT4-CS w/ Enhanced Blast Tandem Warhead (Army)	2.246	2.517	0.291	0.000

Outcome: 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 effects 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 and 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 and 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 8 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.

FY 2006 Output: Completed the draft TEMP, draft requirements, contract solicitation documentation and limited operational experiment in preparation of qualification efforts.

FY 2007 Planned Output: Conduct contract award, finalize test plans and fabricate targets, accept and deliver test assets and initiate training/conduct of developmental and operational tests.

FY 2008 Planned Output: Complete all developmental and operational testing, conduct full system evaluation per the TEMP, prepare a final FCT report and 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. 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% of the unit cost of each weapon by leveraging ammunition and fuzing components from other similar 84mm family weapons. Assuming $3,000 per round savings x 20,000 rounds over 5 years = $60.00 million.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

Close Quarter Battle (CQB) Pistol (SOCOM)	0.180	0.000	0.000	0.000

Outcome: This project is testing and evaluating CQB pistols from foreign vendors that have demonstrated the ability of firing multiple caliber rounds from a single pistol. Primary Outputs and efficiencies: Non-developmental multi-caliber (9mm and .45 cal) pistols with a weight less than 40 ounces and improved accuracy, reliability and ergonomics will be tested to replace the legacy SIG226 battle pistol used by Special Operations Forces (SOF) for the past 15 years. RDT&E, O&S, and procurement savings are projected at $13M. Completion date is 30 Sept 2007.

FY 2006 Output: Prepared Milestone B documentation; prepared new start notification to US Congress; performed "go/no-go" testing on product samples; issued final request for proposal solicitation; obtained safety release to conduct technical evaluation and operational testing. Program put on hold by USSOCOM Commander to resolve issues surrounding the Joint Combat Pistol Requirement merging as one to fill all services need for a replacement pistol. After decision is made, program will either proceed as planned or will be terminated. Additional outcomes from FY 2006 funding that will occur in FY 2007 include: receive low rate production articles; perform technical evaluation and operational test for final production source selection; obtain production and fielding release. Prepare and submit FCT Close-out Report. Milestone C decision is scheduled for 3rd Qtr 07

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Composite Shroud for Landing Craft Air Cushion (LCAC) (Navy)	0.943	0.117	0.000	0.000

Outcome: This project will test composite shrouds that are more easily repairable, and 30% more reliable; thus, reducing life cycle maintenance costs and increasing craft mission availability. The potential US Navy savings of $0.500 million in specification development, $13.500 million in material/labor and R&D costs plus an estimated additional reliability savings of $1.200 million over the life of the LCAC Program.

FY 2006 Outputs: Technical and cost evaluations of the proposal were performed at NSWC PC. The results awarded the contract to FY-Composites was deemed best value for the Navy for production of the composite shroud. A draft test plan outline for the composite shroud was submitted to FY-Composites for review and discussion.

FY07 Planned Output: Critical Design Review follow up with a full scale production of first article test. Additional outcomes from FY 2007 funding that will occur in FY 2007 include: accept delivery of first article test unit, install on a test platform.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Diver Hull Inspection and Navigation System (DHINS) (Navy)	0.846	0.000	0.000	0.000

Outcome: This project will determine suitability for use by U.S. Naval forces conducting Explosive Ordnance Disposal (EOD) diving operations, including searching and inspections of ship hulls and berthing areas. It is an open architecture system that combines video streams from multiple sensors, underwater positioning data and the ship's hull schematics to accurately track and record the diver's underwater movements. A diver hull inspection system is required to enable the rapid and accurate survey of ship hulls for unexploded explosive ordnance objects that might impose a threat to Joint Military Operations.

FY 2006 Outputs: DHINS integration Test report completed. The Program Office received the approval from contracts for sole source procurement of OMA DHINS FCT GUI hardware/software. Additional outcomes from FY 2006 funding that will occur in FY 2007 include: complete the Test Plan and Criteria for final FCT test in 4th Quarter and 1st Quarter FY07. Develop Final Test report and Close Out Report

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

Emergency Battery System (Navy)	0.291	0.000	0.000	0.000

Outcome: A successful FCT will provide the War Fighter with a lightweight, renewable, emergency power source capable of operating computers and communications equipment while minimizing the War Fighters' 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 USMC 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 CTO and MARCORSYSCOM. Projected completion of testing and qualification will be CY 2007 with transition to USMC operating forces during CY 2007. The primary outputs and efficiencies to be demonstrated in the FCT Test 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 $2M and Operational costs of nearly $.5M per year, providing a ROI of 27:1.

FY 2006 Output: Received FCT funding during the 2nd Qtr. Foreign Test Data was obtained. Test Article contracting was completed with MEET of South Korea and InfraTech for MagPower Systems Inc. of Canada. Test Planning was finalized during the 3rd Qtr. Initial test article delivery from MEET is expected during the 4th Qtr. to complete performance testing at the Naval Surface Warfare Center (NSWC), Carderock and initiate field user evaluations through the Marine Corps Warfighting Laboratory. Additional outcomes from FY 2006 funding that will occur in FY 2007 include: test article delivery from MEET and MagPower Systems Inc. anticipated during the 1st Qtr. Performance testing at the NSWC, Carderock and field user evaluations conducted by the Marine Corps Warfighting Laboratory will be completed by the end of the 2nd Qtr. FY07. The technical test report will be provided by the 3rd Qtr. A Milestone C Decision is anticipated for the 3rd Qtr. followed by a Close-out Report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Engine Air Particle Separator (Army)	0.528	0.000	0.000	0.000

Outcome: The Engine Air Particle Separator (EAPS) swirls engine inlet air at a high velocity separating particulate matter via centrifugal force. EAPS is used as mission equipment in dusty/sandy environments and can significantly increase engine life due to decreased erosion of engine components. The EAPS currently used by the U.S. Army is the long can design and requires that EAPS be moved forward on its mounting rails to open the engine cowling when performing maintenance or inspections. The U.K design is a short can that will allow maintenance to be performed without unfastening and moving EAPS. A cost savings based on fifty-one aircraft in country (28 OIF, 23 OEF) would yield $.600 million per aircraft. This savings would be roughly $30.600 million for the units in theater.

FY 2006 Planned Output: After approval of EAPS Short Can ECP, will cut in to the new production contract to start producing Short Can EAPS. Start retrofitting our fielded EAPS with new Cross Shaft Fairing Covers and Shorten to facilitate maintenance. Establish new performance standard for T55-GA714A Engine with the Short Can EAPS in the operators manual for the CH47 aircraft.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Expeditionary Assault Bridge Launcher (Navy)	1.797	0.000	0.000	0.000

Outcome: A successful FCT will provide a river and canyon crossing system, capable of spanning natural and manmade obstacles up to 60 feet for 70-ton class tracked vehicles while moving at the speed of the Marine Air Ground Task Force (MAGTF). To meet this need, the USMC will test the BR90 Expeditious Assault Bridge Launcher from BAE Systems of the United Kingdom to integrate the AVLB with an M1A1 Tank chassis. Three-year project under sponsorship of the OSD Comparative Testing Office (CTO) Foreign Comparative Testing (FCT) Program and the Marine Corps Systems Command (MARCORSYSCOM), with completion of testing and qualification in CY 2008, transition to USMC MAGTF forces during CY 2008. The primary outputs and efficiencies to be demonstrated in the FCT Test are: (1) the AVLB will be capable of maneuvering with USMC armored and mechanized vehicles on the joint/coalition battlefield, (2) share a common M1A1 platform to decrease operation and support costs by $.5M per year, (3) avoid RDT&E costs of $20M and Procurement costs of $18M to achieve a ROI of 40:1.

FY 2006 Output: Initial FCT funding received at the end of the 2nd Qtr. Memorandum of Agreement signed with the Army. Program re-designated as a Joint Program with the Army, lead maintained by the

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

USMC. Completed Preliminary Design Review of the JAB Launcher and finalized the Test Plan. Contract preparation is currently ongoing. Additional outcomes from FY 2006 funding that will occur in FY 2007 include: award test article contract. Test article delivery is anticipated during the 2nd Qtr. Upon delivery, complete the JAB integration and acceptance testing at the Anniston Army Depot in Alabama. Following acceptance, the JAB will perform Technical Testing at the Aberdeen Test Center (ATC) in Maryland. Additionally, in FY 2008, the Marine Corps Operational Test & Evaluation Activity will complete the user evaluation, perform the data analysis and evaluation, and provide the technical test report. A Milestone C Decision is anticipated during the 4th Qtr. FY08 after which the Close-out report will be submitted.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Extended 1553 Databus (Air Force)	2.353	2.071	0.000	0.000

Outcome: Integration of an extended 1553B interface into high-bandwidth demand avionics, which will enable increased throughput rates from 1mega-bit per second (Mb/sec) to an excess of 200 Mb/sec over existing cable. ASC/YS, B-2 Systems Group at WPAFB 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. Deployment of the extended 1553 data bus will save the Air Force approximately $1.600 million per aircraft in lieu of the installation of fiber optic cable.

FY 06 Output: Awarded contract for the test articles. Testing of 1553 performance compliance, and B-2 SIL integration to validate that the technology is capable of supporting B-2 avionics requirements was initiated. These efforts involved verification of basic functionality on all B-2 Mux bus lengths with analysis of signal characteristics in a Mux lab environment. Additional test parameters will involve compliance with MIL-STD 1553C (establishes extended data bus performance specifications).

FY 2007 Planned Output: Validation that the Edgewater solution performs as advertised and that it complies with established MIL-STD 1553C protocols. Testing will exercise selected elements of the B-2 avionics architecture to determine overall system stability while hosting high bandwidth, peak demand, and multi-line drop traffic supported with extended 1553B interfaces. Additional outcomes from FY 2007 funding that will occur in FY 2008 include: complete the final demonstration in 1st Qtr FY08. Completion date and publishing the Final Report planned for 4th Qtr. Transition to platform integration with Northrop Grumman.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
High Frequency Combat Net Radio (Army)	0.512	0.000	0.000	0.000

Outcome: This project will enhance the Joint Tactical Radio System with a higher speed High Frequency data modem that will increase the effectiveness and capabilities of the Joint Tactical Radio System. This project will test and evaluate the Italian based Selex CNR-2000, a Combat Net Radio with both High Frequency (HF) and Very High Frequency (VHF) band capabilities. The results of this evaluation will provide valuable information concerning communications interoperability between EU-NATO Coalition Forces and the US Army CERDEC, Fort Monmouth, NJ, US Army PEO C3T (JTRS), the Joint Program Office (JPO) JTRS, and JTRS Technology Laboratory (JTEL-NED T&E). The primary outputs and efficiencies of this FCT proposal for the High Frequency Radio is technology, likely to be in the form of software. The evaluation will examine the radio's performance and ascertain if the modem functions provide improved performance than known US modems. If successful, a license agreement will be drafted and contract awarded for use of this software. The code would then have to be integrated into the JTRS Ground Mobile Radio HF Waveform program which would be a separate contract/action while avoiding $2.700 million in software development. Transition Manager is JPEO JTRS.

FY 2006 Output: Procured High Frequency radios from Selex Communications while setting up a laboratory and field test bed. Additional outputs from FY 2006 funding that will occur in FY 2007 include: receive fully tested production HF Radios from manufacturer at U.S. Army CERDEC. Laboratory technical tests performed. Operational over-the-air technical tests performed. Test results presented in a final

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

test report. Spiral Output is the potential procurement of HF modem software code for U. S. Army CERDEC's Software Defined Radio Lab experimental platform SDR-4000 in order to demonstrate JTRS HF applicability. Additional radio procurement may occur via existing contract options. Final operational demonstration is 4Q FY 2007. Additionally, in FY 2008, additional radio procurement to be delivered per existing contract. Completion date is May 2008. FCT close-out report and briefing. Improvements: Provides NATO-STANAG compatible HF Modem to US inventory of tactical radios. Procurement savings: Potentially $2.7 million in software development should the HF Modem software code be used under license.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Improved Crew Served Weapon Mounts (ICSWM) (SOCOM)	1.427	0.000	0.000	0.000

Outcome: The Improved Crew Served Weapon Mounts (ICSWM) will provide Special Operations Forces with an improved, un-stabilized gun mount for crew served weapons. Primary Outputs and efficiencies: These mounts will improve accuracy when firing on the move, resulting in less dispersion and reducing the amount of ammunition required to defeat targets. The estimated savings in RDT&E, procurement and Operations and Support Life Cycle is over $41M. Completion date is 31 Dec 2007.

FY 2006 Output: Obtained product sample in response to request for proposal announcement; completed Phase I demonstration of vendor sample; prepared and awarded contract for Phase II adaptive engineering and technical test articles. Additional outcomes from FY 2006 funding that will occur in FY 2007 include: conduct Phase II technical testing; obtain US Navy WSESRB approval and safety release; conduct Phase III operational testing; process production and fielding release documentation; prepare FCT Close-out Report. Milestone C decision is scheduled for 1st Qtr 08.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Improved Limpet Mine (SOCOM)	0.951	0.000	0.000	0.000

Outcome: This project will determine if the improved limpet mine developed by Royal Ordnance of the United Kingdom can destroy or incapacitate enemy vessels and maritime structures with a device that is 50 percent smaller, lighter and 2 to 3 times more effective than the current legacy limpet assembly module. Primary Outputs and efficiencies: The project is being conducted with oversight from the US/UK Advanced Technology Working Group and support from the UK Ministry of Defense. By leveraging on the R&D successes of Royal Ordnance, the US will save approximately $10M and 5 years of R&D. Completion date is to be determined based on receipt of additional funds and successful scaled testing.

FY 2006 Output: Acquired test articles; completed Phase I safety and technical validation and verification testing; successfully completed "at-sea" live-fire testing; initiated Phase III follow on scaled testing of full range vessel anomalies. Shortfall of $485K resulted from unanticipated expenses necessary to obtain comprehensive damage assessment at the completion of the "At Sea Trials". Additional outputs from FY 2006 funding that will occur in FY 2007 include: obtain additional funding to complete scaled testing; review and modify improved limpet assembly module requirement document as necessary. Complete FCT Close-out Report. Milestone C Decision date is still driven by when additional funds become available.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Individual Serviceman Non-Lethal System (Army)	0.648	0.000	0.000	0.000

Outcome: This project is qualifying a compressed air non-lethal system that extends the engagement range out to 100 meters. This system has been urgently released by the Army to Iraq and Afghanistan in support of the GWOT. This system provides the soldier with the capability to disperse crowds and/or mark individuals at ranges up to 100 meters with increased accuracy and rate of fire than existing non-lethal capabilities. The launcher can also be used in an under barrel configuration for the M4/M16 weapon.

FY 2006 Planned Output: Testing to support Milestone C is scheduled for second quarter FY 2006 and the system will achieve Milestone C during fourth quarter FY 2006. Upon reaching Milestone C, the

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

system will be included in the Non Lethal Capabilities Set (NLCS) and will augment the existing capabilities of the soldier in the field. RDT&E Cost avoidance: $2.100 million. Engineering Estimate based on historical ACAT III R&D. Based on 1 per squad and 6 per non-lethal capability set; LCC of ~$2400 per system; Procurement potential up to 6624 systems (Active and NG infantry components); Rule-of-Thumb of 10% RDTE, 30% Procurement, 60% Operations & Maintenance.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
LCAC Lube Oil Cooler (Navy)	0.317	0.000	0.000	0.000

Outcome: This project will evaluate improved corrosion resistant hovercraft lube oil coolers that will reduce life cycle maintenance costs; procurement costs and increase craft mission availability. Potential US Navy savings of $7.600 million in material costs plus an estimated additional maintenance labor savings of $3.000 million over the life of the LCAC program are anticipated. RDT&E cost avoidance of $4.000 million. Total cost savings $14.600 million.

FY 2006 Outputs: A contract was awarded to TTC Norge for procurement of two lube oil cooler test units. A design review and kick-off meeting was held at Naval Surface Warfare Center, Panama City to discuss technical and design issues. Thermal by-pass valves were ordered from the Navy systems and will be provided to TTC Norge as GFE. Completed Critical Design Review and production facility inspection schedule mid August complete the laboratory test outline and begin identifying potential test laboratories Issue delivery order for development of laboratory performance and on-craft testing of the evaluation units. Additional outputs from FY 2006 funding that will occur in FY 2007 include: Manufacture first Article test units and install on test platform continue FCT Hot Weather test and evaluation, perform Cold Weather Test and Evaluation, develop Final Test Report and Close Out Report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Lightweight Prime Mover (Navy)	0.000	0.937	0.000	0.000

Outcome: A successful FCT will provide the USMC with the capability to tow the M777 LW155 howitzer for artillery batteries in support of the Marine Expeditionary Units while meeting the requirements for external transportation via the MV-22 Osprey. The LWPM is a critical and urgent requirement due to changes in USMC tactical doctrine brought about by new threats resulting from the Global War on Terror. The USMC will evaluate foreign, non-developmental, high mobility, off-road vehicles manufactured by Automotive Technik Ltd of UK, Supacat Ltd of UK, and Krauss-Maffei-Wegman of Germany to meet the requirement. A three-year FCT project under sponsorship of the OSD CTO and MARCORSYSCOM. Estimated completion of testing and qualification will be CY 2007 with transition to USMC artillery batteries during CY 2008. The primary outputs and efficiencies to be demonstrated in the FCT Test are: (1) capability to effectively tow the LW155 across the battlefield, on-road and off-road; (2) meet the requirements for the vertical assault element of a Ship-To-Objective Maneuver (STOM) force; and (3) avoid RDT&E costs of $20M, Procurement Costs of $4M, and will realize a ROI of 15:1.

FY 2007 Output: Execute Lockheed Martin/Supacat Ltd LRIP contract with minor modifications to the vehicle to fully meet the USMC requirement. Manufacture of production prototype vehicles is in the process. Production representative test vehicles will be delivered during the 2nd Qtr. Production Qualification Testing consisting of Flight Certification and User Evaluation at Aberdeen Test Center and Ammunition Certification at the Defense Ammunition Center in McAlester, OK will be completed during the 2nd and 3rd Qtrs. The Technical Test Report is anticipated in the 3rd Qtr and a Full Rate Production Decision and Close-Out Report are anticipated during the 4th Qtr.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Link-16, 11B Management Integrator (Navy)	0.507	0.000	0.000	0.000

Outcome: This project will support the implementation of Link-16/Link-11 capability in Special Projects Aircraft (SPA) utilizing the ATAS processor (Zephyr Link program). It will provide situational

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

awareness of friendly Blue Forces and enemy threats, assist in the prevention of fratricide, and improve the timeliness of enemy targeting solutions in support of the Global War on Terrorism (GWOT). Parallels Joint development ventures currently underway on other Ultra Electronics/Advanced Tactical Systems (ATS) Air Defense Systems Integrator (ADSI) programs. Lead service is Navy. The primary outputs and efficiencies to be demonstrated are (1) successful Initial Operational Capability (IOC) Data Link Message Implementation, (2) ATAS airborne processor functionality and (3) Full Operational Capability (FOC) Data Link Message Implementation. Successful execution will result in a cost savings/avoidance of $3.000 million for IOC Data Link message implementation (avoids requirement to develop a new processor). Additionally, estimated savings of $1.300 million will be realized during FOC Data Link message development and integration due to the Joint development ventures currently underway.

FY 2006 Output - Conducted IOC message implementation Navy Center for Tactical Systems Interoperability (NCTSI) Certification/Test. Commenced Joint Interoperability Test Command (JITC) Certification/Test requirement evaluation with Joint Staff. Commenced Datalink Requirements (DLR) and FOC Data Link message implementation and Testing at Ultra Electronics/ATS on the Zephyr Link System. Commenced initial prototype ATAS aircraft installation for field Operational Assessment. Commenced aircraft integration of first IOC production ATAS installation. Commenced interface development for Sea Vue Radar integration.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
MAAWS Illumination Round (SOCOM)	0.020	0.000	0.000	0.000

Outcome: This project will provide USSOCOM with an Illumination Round for the Carl Gustaf system that meets U.S. fuze safety standards and that can be fielded without limitation. Primary Output and efficiencies: Illumination capability is a core requirement of the MAAWS, especially since U.S. Army Special Operations Command (USASOC) and Naval Special Warfare Command (NAVSPECWARCOM) users operate primarily at night. The current Illumination round was fielded under waiver from the U.S. Army Fuze Safety Review Board for a limited quantity. The Illum 545C round will meet all safety standards so that a waiver will no longer be required. By using this Swedish round $15M RDT&E savings will be realized. Additional procurement savings of $5M will occur with a procurement potential of over $5.2M. Completion date was 19 July 2006.
FY06 Output: Safety Confirmation, Production Certification, Production Procurements. Submitted FCT Close-Out Report

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
MK13 Muzzle Break Sound Suppressor (MBSS) (SOCOM)	0.132	0.000	0.000	0.000

Outcome: The ability of a sniper to remain concealed when firing his weapon is paramount to the safety of the shooter. Primary Outputs and efficiencies: This muzzle break suppressor project will comparatively evaluate muzzle break suppressors to determine which can best meet the requirements of SOF snipers. The scope of this project was expanded in FY 2006 to investigate a foreign MBSS candidate for the 7.62mm machine gun (MK48/M240). The cost avoidance associated with this project is estimated at $1.3M. Completion date is 30 Sept 2007.

FY 2006 Output: Completed testing and fielding of a competitive US candidate MK13 MBSS in response to an urgent deployment requirement (based on FCT project baseline development activity); finalized test planning; completed contract for MK48/M240 test units; began technical and operational testing of one foreign respondent candidate solution. Additional outputs from FY 2006 funding that will occur in FY 2007 include: Complete technical and operational testing of multiple US and one foreign candidate solution; complete analysis in support of a procurement decision; submit FCT Close-out Report. Milestone C Decision is scheduled for 3rd Qtr FY07.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Multipurpose Tank Blade System for M1A1 (Navy)	1.046	0.000	0.000	0.000

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

Outcome: A successful FCT will meet an urgent USMC requirement for the M1A1 Main Battle Tank (MBT) to remove roadblocks, create hasty fighting positions, and impose non-kinetic destruction of enemy obstacles in Urban Combat. The USMC will test the MTB System manufactured by Pearson Engineering of the UK to meet this urgent need. A Two-year FCT project under sponsorship of the OSD CTO and the MARCORSYSCOM., with completion of testing and qualification in CY 2007, transition to USMC M1A1 Tank Battalions during CY 2008. The primary outputs and efficiencies to be demonstrated in the FCT Test are: (1) M1A1 MBT assumes the roles of slower moving engineer assets to meet mobility, counter-mobility and vulnerability deficiencies for the MAGTF, (2) reduce the use of the main gun ammunition to reduce the risk of costly damage to equipment and unnecessary collateral damage, (3) avoid RDT&E costs of $3M, Procurement Costs of $1.84M, and provide a ROI of 14:1.

FY 2006 Output: Received FCT funding at the end of the 2nd Qtr. The sole source justification staffing was completed and the test article contract was awarded in the 3rd Qtr. to Pearson Engineering. Pearson has initiated the test article fabrication and is utilizing the current Mine Plow mounting configuration to commence the integration effort. PM Tanks is refining the test plan and has selected ATC as the primary test site for testing. Additional outcomes from FY 2006 funding that will occur in FY 2007 include: Complete test planning during the 1st Qtr. FY07. The completion of test article integration and fabrication is anticipated during the 2nd Qtr. followed by delivery to ATC for Performance and RAM Testing with a parallel User Evaluation. Upon the completion of all testing, a Technical Test Report will be provided by Pearson and ATC. A Milestone C Decision is anticipated during the 3rd Qtr. FY07 followed by a Close-out Report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Multi-Spectral Camouflage Netting (Navy)	0.528	0.000	0.000	0.000

Outcome: A successful FCT will enable the Marine Corps to employ ground forces with a two sided, multi-spectral camouflage net in a single system that protects against night vision and radar detection, while reducing the logistics burden associated with transporting and maintaining two different netting patterns. The USMC will test non-developmental camouflage nets manufactured by Fibrotex Ltd. of Israel, GMA Cover Corp. of Canada, SAAB Barracuda LLC of Sweden. A two-year FCT project under sponsorship of the OSD CTO and MARCORSYSCOM. Estimated completion of testing and qualification will be CY 2007 with transition to USMC operating forces during CY 2008. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) provide two camouflage patterns on opposing sides of one net, resulting in significant reductions in purchase quantity, cost, logistical transportation, and storage requirements; (2) field the full camouflage capability in a reduced time frame; (3) field nets that protect against night vision and radar detection; and (4) avoid procurement costs of $69M, RDT&E costs of $4.8M, and provide a ROI of 157:1.

FY 2006 Output: Completed Operational Field Subtest, Environmental Subtests, Thermal and Near-IR Concealment Data Collection, Visual Concealment Image and Data Collection, and Visual, Thermal, and Near-IR Data Analysis at White Sands Missile Range, New Mexico. Natick conducted Concealment and Material Properties Lab Subtests at Elgin AFB. User Evaluations are in process by the USMC with field units. The test report is in process. Additional outputs from FY 2006 funding that will occur in FY 2007 include: Provide the test report during the 2nd Qtr. A Milestone C Decision is anticipated during the 2nd Qtr followed by the Close-out Report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Naval Active Intercept and Collision Avoidance (Navy)	0.211	0.000	0.000	0.000

Outcome: This project will evaluate a submarine collision avoidance system developed by Sonartech, to support the submarine force's number one priority of collision avoidance and situational awareness. RDT&E cost avoidance of $13.000 Million.

FY 2006 Outputs: Instructed Sonartech Atlas to develop a project recovery plan and submit to the Navy for approval. NAVSEA PMS 401have met with Sonartech Atlas representatives to discuss program changes and the path ahead to determine if NAIRCAS is an executable project. Develop international agreement to allow exchange of information between Sonartech Atlas and NAVSEA. Additional outputs from FY 2006 funding that will occur in FY 2007 include: Identify test platform and proceed with the FCT evaluation. Develop Final Test Report and Close Out Report.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
NINJO (Air Force)	0.117	0.000	0.000	0.000

Outcome: Replace an antiquated, expensive, weather forecasting system with a more economical and robust system. The USAFE Weather Plans and Programs Office, Ramstein AFB, Germany will evaluate the NINJO software developed by the consortium of Ernst Basler and Partners GmbH. The primary outputs and deficiencies to be evaluated will allow forecasters to generate significantly improved pinpoint military forecasts and provide timely weather watches and warnings for U.S. European Command operations. The ROI is $0.220 million per year with a 7 year projected use.

FY 06 Output: Test article contract was awarded and test planning complete. Additional outputs from FY 2006 funding that will occur in FY 2007 include: Verify that the system will display current and last 6 hours of satellite, radar, lightning, and observation data, display current UK Met Office model data, ability to automatically generate graphical weather charts and that it is comparable to USAFE Operational Weather Squadron current software. Additional testing will be conducted to determine the capability for forecasters to easily generate weather graphic charts using the NINJO system. Completing the final demonstration in 3rd Qtr. Transition to U.S. European Command operations. Completion date and publishing the Final Report planned for 3rd Qtr.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Noise Robust Voice Recognition System (Army)	0.581	0.498	0.000	0.000

Outcome: This project is to evaluate a potential candidate speech recognition technology for possible application to Voice-to-Voice machine translation and Voice Activated Command & Control applications. Particular emphasis will be placed on verifying manufacturers claims of "Speaker Independence" and operability in high, impulsive noise environments (gun-fire). The primary outputs and efficiencies to be demonstrated include the capability of the candidate technology to accommodate, with high performance, the regional and ethnic vocal accent diversity of the US Military. To be effective, the candidate technology must demonstrate a minimum 95% phrase recognition rate for 98% of the target user population. In addition the stated performance must be sustained in high vehicular and small-arms fire acoustic environments. The candidate technology will be evaluated in simulated tactical environments, based on field-collected data.

FY 2006 Output: Evaluation plans and requirements were established. Candidate technology was procured. Specialized evaluation software development initiated.

FY 2007 Planned Output: A speech database will be collected, from up to five bases, comprising speech samples from up to 250 Soldier volunteers. Part of this database will be provided to the manufacturer of the candidate technology for the optimization of speech models, which are intended to optimize the performance of the candidate technology for the target user population. The remaining portion of the speech database will be used to evaluate the performance of the optimized technology. Baseline (non-optimized) performance evaluation and optimized performance evaluation will be conducted. Additional outputs from FY 2007 funding that will occur in FY 2008 include: Final Testing - Candidate technology evaluations will be completed and a test report will be prepared.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Pitch Adapting Composite Marine Propeller (Navy)	1.570	0.076	0.000	0.000

Outcome: This project will test composite marine propellers in order to improve vehicle stealth, speed, and propulsion efficiency. In addition, the pitch modification causes a reduction in maintenance costs by reducing cavitation damage, reducing marine growth fouling, and permitting in-water blade replacement.

FY 2006 Outputs: Completed fabrication of the 6-blade unconstrained rigid and flex propellers. Performed unconstrained rigid and flex hardware inspection. Conducted the 1st phase experiment for the unconstrained rigid and flex propellers in the NSWCCD 36 inch water tunnel. Performed test analysis for the 1st phase 36 inch water tunnel test. Test results showed that the propellers performed as predicted. Flexible propellers performed better that rigid propeller in terms of efficiency and cavitations. Preliminary acoustic measurements showed favorable results to flexible propeller and will be confirmed by the

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

2nd phase test.

FY 2007 Planned Output: Conduct the 2nd phase experiments for the unconstrained rigid and flex propellers in NSWCCD 36 inch water tunnel. Performed 2nd test analysis for the 2nd phase 36 inch water tunnel test. Start to design the flex propeller for ASDS platform. Develop Final Test Report and Close Out Report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Portable Undersea Training Range (Navy)	1.289	0.952	0.000	0.000

Outcome: This project will satisfy a critical need for shallow water and forward-deployed Anti-Submarine Warfare (ASW) training as defined in the PACOM Integrated Priority List (IPL) for FY 2005-2009 and supported by Fleet Forces Command. 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% 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 2006 Output: Procure SKB test item from ACSA, France and transponder hub test item from Nautronix, Australia. The lead service is Navy.

FY 2007 Planned Output: 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. Final operational demonstration of PUTR SKB and transponder HUB during Phase II testing is scheduled for March 2008 at Pacific Missile Range Facility (PMRF).

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Resilient Abrasive-Resistant Skirt for LCAC (Navy)	0.386	0.000	0.000	0.000

Outcome: This project is testing improved HoverCraft Skirt Materials that will reduce life cycle maintenance costs; procurement costs and increase craft mission availability. Potential US Navy savings of $41.400 million in material costs plus an estimated additional maintenance labor savings of $30.000 million over the life of the LCAC program are anticipated. RDT&E cost avoidance of $8.000 million. Total Cost Savings $79.400 million.

FY 2006 Output: Based on the results of Phase I testing, Trolleburg extra-wide material has now been qualified under the current LCAC Project Peculiar Document (PPD) and is officially approved as new alternate source. All Phase II materials for the vendors including the type 1 finger material, and type 3 bag materials were received at Avon Engineered Fabricators. A detailed test plan for the finger installation and testing was completed and provided to the Assault Craft Units (ACUs) and the LCAC Program Office. Additional outputs from FY 2006 funding that will occur in FY 2007 include: Install Phase II test finger sets on LCACs at ACU4 and ACU5 and perform periodic inspections during the in service evaluations. Develop Final Test Report and Close Out Report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Shipboard Mast/Mounted Surveillance Pod (SMSP) (Navy)	0.821	0.561	0.000	0.000

Outcome: To demonstrate the N-channel tuner technology from WinRadio (Australia) and the N-channel digital processing technology from Sundance DSP (Great Britain) resolves US Navy shipboard blind

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

spots in their SIGINT threat warning systems. In addition to being smaller than other conventional beam forming systems, it costs less than 1/5th (< $100.000 K) and works over LANs so we can afford to outfit more warfighters (land, sea or air) with the capability and network them together which enhances the probability of finding terrorists and enemy forces. The primary outputs and efficiencies to be demonstrated in this Foreign Comparative Test (FCT) are (1) detect signals normally masked by shipboard transmitters, (2) provide signal direction relative to ship's 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, (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 2006 Output: Purchased rapid prototyping COTS software tools to support the test fixture that accommodated various test criteria from different surveillance program offices. Purchased equipment and created 2-3 SMSP systems that were field tested by more organizations. The products were tested against existing surveillance technologies located at the Charleston test facility. $3M small business contract established with WinRadio and working towards similar contract with Sundance DSP once hardware configuration finalized and tested. Spiral Output - the WinRadio N-channel tuners successfully provided signal detection and radio direction finding capabilities using low cost COTS PCI digitizers.
FY 2007 Planned Output: Final operational demonstration. Based on successful testing at the Charleston site, SPAWAR, NAVAIR, and MARCORPSYSCOM, will be briefed on the SMSP technology and asked to provide test platforms and test criteria. Contact efforts will be made to brief USSOCOM/SOF, the Army Guardrail and Prophet Program Offices, the USAF RIVETJOINT and UAV BATTLELAB on the results. The USCG will be contacted with the results. Initial demonstrations are slated for Spring/Summer 2007 to expose Navy SIGINT warfighters to the technology potential application and gather their inputs.
FY 2008 Planned Output: Based on inputs from the initial demonstrations, SMSP will be interfaced to the SSEE-F and CCOP SIGINT shipboard surveillance systems for limited operational evaluation during exercises or special SIGINT missions of opportunity. A small business contract will be set up with Sundance DSP to support the fleet requirements plus leave adequate ceiling for other DOD programs. 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 generated to include test results, logistics requirements, installation issues, and training information will be passed on to PMW180 for incorporation into the SSEE-F/CCOP overall documentation. USSOCOM will also be provided the same data for incorporation into their Joint Threat Warning System (JTWS), Air Variant.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Telemetry Buoy for Underwater Comms (TBUCS) (Navy)	1.459	0.703	0.000	0.000

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. Estimated $15.000 million RDT&E cost avoidance for this system.
FY 2006 Outputs: Met with sonobuoy vendors to gather more complete data on current sonobuoy interfaces and concept of operations for system use.Finalized the Systems Requirement Review (SRR), reviewed the objectives of the preliminary statement of work and adopted as requirements. SRR reviewed the statement of work (per the Contracts Data Requirements List) for Phase II which will be agreed upon between the contractor and US Government. Initial start date for the Phase I of TBUCS was moved to October 2006 and project leadership was consolidated under SPAWAR Comms at Speed and Depth with PMW-770 as lead.
FY2007 Planned Output: TBUCS lab testing to occur third/fourth quarter of FY07 and the integration design of the acoustic modem with a submarine deployable buoy will be finalized. Field testing estimated to occur fourth quarter FY07.
FY2008 Planned Output: Final Test Report and Close Out Report

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Unit of Employment Battle Command (Army)	0.354	0.000	0.000	0.000

Outcome: This project is evaluating Battle Command (BC) systems that are Command and Control Information Exchange Data Model (C2IEDM) compliant for application at TRADOC Battle Command Battle Labs. The international community has adopted C2IEDM as the structure for transfer of information between BC systems. To perform experiments with Army BC systems in a relation to a C2IEDM

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

environment, TRADOC requires a surrogate C2IEDM compliant BC system. Based on successful test, TRADOC will incorporate the system to there BC Experimentation Lab and TRADOC experiments. RDT&E Cost Savings: over $1.000-2.000 million. Procurement Potential: over $.300 million per TRADOC Experiment location - potential to $ millions. Implementation Plan/Other Benefits: TRADOC surrogate UE BC system. Potential integration to Army UE BCS.

FY 2006 Output: Procurement, installation, testing and evaluation completed. Submitted FCT close out report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Void Sensing Fuze (Air Force)	0.806	0.000	0.000	0.000

Outcome: Capability to defeat hard and deeply buried targets. The Program Director, Cruise Missile Product Group at Tinker AFB, Oklahoma evaluated a programmable void sensing and layer-counting fuse currently in production by TDW of Germany. The Primary outputs and efficiencies of this evaluation is the potential for employment in the penetrating warhead of the Air Force's Conventional Air-launched Cruise Missile (CALCM) and the Navy's Tomahawk Cruise Missile. This capability will satisfy a long-standing and urgent requirement. The initial procurement for the CALCM is $2.7 million. Additional procurement by the Navy Tomahawk is $12 million. This fuse will also have application with JSOW.

FY 06 Output: 09 August the CALCM was tested with an inert warhead and the test results were more than satisfactory. On 30 August 2006, the second Void Sensing Fuse (VSF) Foreign Comparative Test (FCT) sled test resulted in a failure of the live warhead to detonate at the prescribed location after penetration of the multi-layer target. A Failure Investigation Board (FIB) was immediately convened, and briefed findings to DTRA on 15 September 2006. The FIB was co-chaired by the FCT's Program Manager and an independent official from the Naval Air Warfare Center-Weapons Division China Lake. After reviewing all available physical data, test data, and analysis, the Board concluded that the most likely cause of the no-fire anomaly was failure of test-unique range safety detonator shorting components during target penetration. Failure of production-representative components of the fuse was not deemed a probable cause. As a result, the Board recommended that the test be classified as a "no-test". Additional outputs from FY 2006 funding that will occur in FY 2007 include: Completion date and publishing the Final Report planned for 2nd Qtr. Award contracts to Kaman and Boeing to repackage PIMPF into 3-inch form factor and integrate into AGM-86D. Additionally, outputs from FY 2006 funding that will occur in FY 2008 or FY 2009 include: Transition to procurement of 50 3-inch Void Sensing Fuses and modification kits for CALCM. Anticipated fielding is 3Qtr FY09.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 New Start Projects	0.000	0.000	0.000	0.000

For FY 2007 the FCT program will continue testing activities on 14 projects executing $14.528 million in FY 2007 funding. Remaining funding totalling $16.882 million will initiate 19 new start FCT projects selected from the FY 2007 FCT proposal process. These 19 new start FCT projects have completed the 30 day congressional notification period and are provided below.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
5.0-Inch Steel Strip Laminate (SSL) Rocket Motor Case (Navy)	0.000	0.656	1.462	0.000

Outcome: 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 5.0-Inch Rocket System. The lead service is Navy. 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, and (3) if the project is successful, additional flexibility in using the Zuni during shipboard operations for the Navy/Marine Corps.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

FY 2007 Planned Output: Establish multi-year contract for the SSL Rocket Motor Case. (Technically establishing the contract and paying for the Contracts Branch support is all paid for out of PAN/MC [PIP] funding.) Adapt technology to the Zuni requirements, create a technical data package, and procure raw materials. Conduct Kick-Off meeting. Provide technical support to contract. Conduct initial WSESRB briefing. Create FCT Demonstration Test Plan. Create IM testing SOW and 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. Create local TDP. Award IM testing contract. Obtain IHC. Conduct TRR and IMRB briefs. Create FCT Demonstration Test Report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Delivered PSYOP Radio Broadcast Platform (SOCOM)	0.000	0.937	0.737	0.000

Outcome: This project will evaluate deployment of a FM Broadcast System using a tethered balloon concept. The system to be tested can place an FM Broadcast Transmitter at a predetermined altitude for up to 5 days and transmit PSYOP messages to personnel on the ground. Primary Outputs and efficiencies: The system is designed to be deployed from fighter aircraft by means of a standard Mk-7/20 (PDU-5B) canister. The tethered balloon broadcast system is particularly well-suited for use under an existing cloud base or in darkness. RDT&E cost avoidance for this type of effort is $6M. Combined O&S and procurement cost avoidance is expected to be approximately $1M. Completion date is 30 Dec 2009.

FY07 Planned Output: Solicitation and Down Select of test article. Prepare contract for test articles, receive test articles and conduct analysis and study of vendor data.

FY08 Planned Output: Receive test articles, conduct technical testing, prepare and submit technical test report, perform operational assessment. Prepare and submit test report and prepare decision package. Prepare and submit FCT Close-out report. Milestone C decision is scheduled for 4th Qtr 08.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Anti-Material Rifle - Sniper (SOCOM)	0.000	0.532	0.472	0.000

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: 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 $15M and the collective O&S and procurement cost savings are $9M. This capability will be available to the warfighters more than two years sooner by using weapons already developed. Completion date is 30 Sept 2008.

FY07 Planned Output: Publish solicitation, and perform technical down-select. Certify On-Hand ammunition for testing, contract for foreign test articles, receive ammunition and foreign/domestic test articles.

FY08 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 4th Qtr 08.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
CERAL 3450 (Air Force)	0.000	0.527	0.594	0.000

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

Outcome: 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 (76th PMXG/CC) at Tinker AFB 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% 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 6% carcinogenic chrome, whereas, CERAL 3450 is a "chrome free".

FY 2007 Planned Output: Test planning during 2nd Qtr FY07. Testing and verification commence in 3rd qtr to include Corrosion/Erosion resistance testing, results are better than existing technology when tested in accordance with SO2 Salt Fog Corrosion Test - ASTM G85. Verify that coating can be applied with existing spray hardware and not require facility modification or capital expenditure. Verify that it will meet CPW 731 & CPW 732 material specifications. Verify that it is chrome free and must not introduce any new environmental hazards. Verify that it complies with USAF/A4 &A7 Zero Discharge Depot program goals.

FY 2008 Planned Output: complete testing with final demonstration date end of 3rd qtr. Completion date and final report 4th qtr.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Enhanced Underwater Breathing Apparatus (EUBA) (Navy)	0.000	0.814	0.000	0.000

Outcome: A successful FCT 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. A two-year FCT project under sponsorship of the OSD CTO and MARCORSYSCOM. 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 in the FCT are: (1) The EUBA will increase dive duration by 33% and dive depth by 80% 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 $2M, RDT&E cost avoidance of $1.2M, and a ROI of 20:1.

FY 2007 Planned Output: Complete contracting for test articles and finalize test planning. Receive test articles during the 4th Qtr and forward them to the Navel Experimental Dive Unit (NEDU) at the Naval Surface Warfare Center, Panama City for certification. Complete Phase I, Un-Manned Testing by the end of the 4th Qtr.

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

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Helmut Mounted Cuing System for A-10 (Air Force)	0.000	1.639	1.901	0.000

Outcome: A helmet mounted cuing and display system (HMCS). The Air National Guard Air Force Reserve Command Test Center (AATC) A-10 Section will evaluate an Israeli Helmet mounted cuing system called Eyeball manufactured by Rafael at Haifa Israel. The Eyeball is a relatively inexpensive and easily-integrated helmet mounted cuing and display system (HMCS) that allows the pilot in the A-10 to slew or aim the aircraft sensors, such as a targeting pod or weapon, to the pilot's line-of-sight, decreasing targeting time. Eyeball also closes the information gap between the pilot and aircraft by displaying spatially referenced cues or sensor video directly in front of the pilot's eye (visible inside or outside the aircraft). The primary outputs and efficiencies to be evaluated are interface of the pilot's helmet to aircraft systems and accuracies in slewing and aiming weapons pod/sensors.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

FY 2007 Planned Output: Include test planning with integration l commencing in late in 2nd qtr.

FY 2008 Planned Output: Integration will complete 2nd qtr and logistic update completion is 3rd qtr, Complete testing with final demonstration date end of 3rd qtr. Completion date and final report 4th qtr.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Hostile Forces Tagging, Tracking and Locating (SOCOM)	0.000	0.532	0.570	0.000

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 $24.3M and will result in a $19.5M cost avoidance. Completion date is 30 Sept 2008.

FY07 Planned Outputs: Contract for and receive test articles for Phase I and II; analyze vendor data and conduct initial technical testing. Prepare and submit technical test report. Conduct Phase I operational Test.

FY08 Planned Outputs: Perform Phase II Operational Test, prepare and submit test reports. Prepare decision packets and FCT Close-out Report. Milestone C decision is scheduled for 4th Qtr 08.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Large Polymer Lithium ion Battery (Army)	0.000	0.937	1.307	0.000

Outcome: This project will evaluate the potential for Li-Ion polymer battery cells developed by SKC of the Republic of Korea, Kokam 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.

FY 2007 Planned Output: Purchase/evaluate Li-ion polymer cells using SKC for BB-XX80 type batteries. Based on engineering evaluation, initial batteries constructed for XX90 type battery and BA-8180 type battery. Complete engineering evaluation of cells and obtain initial batteries for XX80 type design batteries. Initiate evaluations on this battery configurations. Complete prep 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 SKC 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 CECOM LRC Battery group to purchase (if FCT successful) battery types. Estimated in a $20 million RDT&E cost avoidance and a $5 million O&S cost savings.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Lightweight Deployable UMTS Communications System (LDUCS) (SOCOM)	0.000	1.294	0.000	0.000

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

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

efficiencies: "QuicLINK" is a downsized third generation (3G) cellular system that can provide high data rates to personal communications devices (PCDs) as well as handle 90 simultaneous voice calls and provide data rates up to 384 kbps over a Wideband Code Division Multiple Access (WCDMA) air interface and will incorporate Robust Header Compression (RoHC) 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 $10M. Combined O&S and Procurement cost avoidance is expected to be $6M. Fielding reduction time is greater than 5 years. Completion date is 30 Sept 2008.

FY 2007 Planned Output: Contract for and receive test articles, prepare lab test plan and instrumentation. Perform laboratory technical test. Additional outputs from FY 2007 funding that will occur in FY 2008 include: 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 FCT Close-out Report. Milestone C Decision is scheduled for 4th Qtr 08.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
MK47 Trainer System (SOCOM)	0.000	0.703	0.796	0.000

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 $57M is realized by firing training ammo instead of expensive programmable airburst ammunition. The objective is to directly improve the readiness of SOF forces by allowing operators to train on MK47 systems and rehearse missions on a highly realistic trainer. Completion date is 30 Sept 2008.

FY07 Planned Output: Publish solicitation and down-select. Contract for, procure and receive test articles. Conduct analysis, study and integration of training system. Analyze and validate vendor data to preclude redundant testing.

FY08 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 FCT Close-out Report. Milestone C Decision is scheduled for 4th Qtr 08.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Mobile Oxygen Ventilation & External Suction System (MOVESS) (Navy)	0.000	1.171	0.594	0.000

Outcome: A successful FCT 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. A two-year project under sponsorship of the OSD CTO and MARCORSYSCOM. 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 in the FCT are: (1) MOVESS is an integrated oxygen, ventilation, and suction device that can meet FDA Approval for fielding; (2) eliminate 90% of the logistics burden, 15% of the cost, and 85% 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 $10M, RDT&E costs of $90M, and provide a ROI of 74:1.

FY 2007 Planned Output: Award the test article contract. Complete the Test Plan by the 3rd Qtr. Anticipate completion of the test article manufacture by the 4th Qtr and initiate FDA Testing at Thornhill Research Institute consisting of Lab Testing, Clinical Testing, and Environmental Testing.

FY 2008 Planned Output: Complete FDA Testing and provide the Test Report during the 1st Qtr. Submit the testing results to the FDA for 510K approval by the 2nd Qtr. Utilize NAVAIR for Air

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

Transportability Testing. Anticipate the Milestone C Decision for 2nd Qtr. and provide the Close-Out Report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Real Time Geospatial Information Sharing (Army)	0.000	1.171	1.188	0.000

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.

FY 2007 & FY 2008 Planned Output: Test plan development, contract award, test article acquisition.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Secure High Capacity Tactical Radio Relay System (Army)	0.000	0.732	0.274	0.000

Outcome: This project will demonstrate & 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%, solely through the introduction of the PTMP capability. In addition, the EriTac radios offer LPI/LPD/AJ modes of operation, providing enhanced communications security when needed. The EriTac system is also easy to set up, operate & maintain, and designed for simple and efficient network management by means of a built-in web server and/or SNMP. Two-year Army lead FCT project, with radio testing being performed from 2Q FY 2007 thru 2Q FY 2008, report preparation & evaluation in 2-3Q FY 2008, and a procurement decision in 4Q FY 2008. The primary outputs and efficiencies to be demonstrated are (1) up to 50% 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.

FY 2007 Planned Output: EriTac radio contract preparation & award with Ericsson (Sweden). Radios (test items) received at US. Army 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. FCT close-out report & briefing. FCT completion date is September 2008. Improvements: 50% reduction in number of radios required in a "star configuration" network, potentially resulting in a greater than 40% reduction in production costs. Procurement savings: $9.1 M. RDT&E Cost Avoidance: $20-30 M & 18-24 months of development to upgrade current Army radios. Life-Cycle O&S Savings: >$5 M, based on 50% reduction in supported radios.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Spatial Disorientation Trainer (Air Force)	0.000	0.410	0.297	0.000

Outcome: A Spatial Disorientation (SD) Trainer. 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 USAF between 1991-2004 represents 37% of fatal Class A mishaps at a cost of over $1.9B 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

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

experience SD illusions and practice SD recoveries in a realistic simulated flight environment (a training capability that currently does not exist in the USAF). 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 Planned Output: Test planning and test article acquisition will continue through the 3rd quarter. Training and use of the SD trainer will occur during the 3rd and fourth quarter.

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

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Tactical Paging Buoy for Sub Comms at Speed and Depth (Navy)	0.000	0.509	0.434	0.000

Outcome: This project will evaluate submarine-launched expendable communications buoys developed by Ultra Electronics Maritime Systems of Canada and RRK of the United Kingdom that promise 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.

FY07 Planned Output: Test plan completion and field testing of Tactical paging buoy at Seneca Lake.

FY08 Planned Output: Test article installation on a submarine and completion of Sea Trial experiment.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
TerraSARX (Air Force)	0.000	1.126	1.462	0.000

Outcome: A high resolution, day/night, all weather observation capability with 1 meter GSD (Ground Sample Distance) resolution. The Eagle Vision Program Manager ESC/ISRG/KR 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 1 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 Planned Output: Contract award, test planning and receipt of software will occur.

FY 2008 Planned Output: Factory Acceptance Testing will take place through the 2nd qtr. System testing and data analysis will take place during quarters 3 and 4. Complete testing with final demonstration date end of 4th qtr.
FY 2009 Planned Output: Completion date and final report 1st qtr.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Type II Superlattice Focal Plane Arrays and Cameras (Army)	0.000	1.639	1.307	0.000

Outcome: This project to 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

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

under the sponsorship of PM Night Vision for completion of demonstration/testing by 3Q 2007 with subsequent transition to PM 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 and efficiencies to be demonstrated in the Foreign Comparative Test are (1) to decrease the costs of the focal plane array by a factor a four, (3) raise operating temperature over current arrays, thereby decreasing system cost (smaller size, weight, power) and (3) to increase operating life by a factor of two.

FY 2007 Planned Output: Parts to be acquired and tested in the NVESD IR System Test Lab tactical requirements and at the IR Space Radiation Effects Laboratory for strategic requirements.

FY 2008 Planned Output: Transition to LRAS for ground testing. $30 million in research and development costs, reducing the cost of each focal plane array by 50% saving $60.4 million and increasing reliability by a factor of two with a operating cost avoidance of $181 million.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Urban Deployable Instrumented Training System (U-DITS) (Navy)	0.000	0.585	0.000	0.000

Outcome: A successful FCT 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. A two-year FCT project under sponsorship of the OSD CTO and MARCORSYSCOM. 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 in the FCT 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 GPS; (4) provide the realistic simulation of direct and indirect fires affects within the Urban environment; and (5) provide Manufacturing cost avoidance of $2.0M, RDT&E cost avoidance of $15.0M, and a ROI of 59:1.

FY 2007 Planned Output: Complete test article contracting and deliver test articles during the 2nd Qtr. Conduct parallel testing between Phase I, MOUT Facility Implementation, and Phase II, Wireless Reporting. All testing will be conducted at 29 Palms in California and Camp LeJeune in North Carolina and be completed by 4th Qtr. Additional outcomes from FY 2007 funding that will occur in FY 2008 include: The Technical Data Package will be provided from Saab and the Technical Test Report will be provided in the 1st Qtr. A Milestone C Decision is anticipated for the 2nd Qtr, followed by the Close-out Report in the 3rd Qtr.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Waterjet Shock Qualification for Future Naval Combatants (Navy)	0.000	1.371	2.495	0.000

Outcome: This project will fund efforts to independently shock qualify procured large waterjets for use on U.S. Navy ships. Two major suppliers, Kamewa/Rolls Royce (Sweden) and Lipps/Wartsilla (Netherlands), 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. Qualification of the Swedish and Dutch waterjet engines will enable the U.S. Navy to install them as prime propulsion on LCS-class new construction ships, significantly increasing ship survivability in littoral operations essential to GWOT.

FY07 Planned Output: Develop Test Plan, test article system integration.

FY08 Planned Output: Teardown equipment and inspection, equipment refurbishments, develop Final Test Report and Close out Report.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605130D8Z - Foreign Comparative Testing (FCT)**	**P130**

FY 2008 Plans	0.000	0.000	16.738	0.000

For FY 2008 the FCT program will continue testing activities on 17 projects executing $16.181 million in FY 2008 funding. Remaining funding totaling $16.738 million will be used to initiate new start FCT projects selected from the FY 2008 FCT proposal process. The FY 2008 final proposal selection process is scheduled for the fourth quarter FY 2007. Per 10 U.S.C. 2350a(g) Congress will be notified of the intent to fund new FCT projects prior to the initiation of funds release.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2009 Plans	0.000	0.000	0.000	34.974

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.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605161D8Z - Nuclear Matters - Physical Security**

Cost ($ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost	11.896	4.261	4.513	4.483	4.631	4.583	4.672	4.795
P161 Nuclear Matters	11.896	4.261	4.513	4.483	4.631	4.583	4.672	4.795

A. Mission Description and Budget Item Justification: (U) Effective October 1, 2005, funding for this program moved from PE 0605160D8Z (Counterproliferation Support), to PE 0605161D8Z (Nuclear Matters). 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 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	12.244	4.285	4.749	4.726
Current BES/President's Budget (FY 2008/2009)	11.896	4.261	4.513	4.483
Total Adjustments	-0.348	-0.024	-0.236	-0.243
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other	-0.348	-0.024	-0.236	-0.243

C. Other Program Funding Summary: Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605161D8Z - Nuclear Matters - Physical Security**

D. Acquisition Strategy: Not Applicable.

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 responsivness 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 PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605161D8Z - Nuclear Matters - Physical Security**	**P161**

Cost ($ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P161 Nuclear Matters	11.896	4.261	4.513	4.483	4.631	4.583	4.672	4.795

A. Mission Description and Project Justification: (U) Effective October 1, 2005, funding for this program moved from PE 0605160D8Z (Counterproliferation Support), to PE 0605161D8Z (Nuclear Matters). 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:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Nuclear Weapons Council (NWC) and Committee of Principals (CoP)	0.362	0.969	1.064	1.047

FY 2006 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 2006-2012 Nuclear Weapons Stockpile Memorandum and Requirements Planning Document, FY 2005 Report on Stockpile Assessment, FY 2005 Joint Surety Report and the FY 2005 NWC Chairman's Report to Congress.
- Conducted a week-long trip to several nuclear weapons complex sites for over sixty individuals within the nuclear weapons community including senior DoD/DOE officials.
- Managed the activities of the Nuclear Command and Control System (NCCS) CoP and its support committees, which maintained oversight of National Security Presidential Directive (NSPD-28) implementation efforts across all NCCS Departments and Agencies.
- Oversaw the definition of a National Command Capability (NCC) and the stand-up of an NCC management office at the Department of Homeland Security.
- Managed the results and staffing of the FY05 NCCS Assessment Program.
- Implemented Interagency Nuclear Weapons Exercise Program adding lessons learned from previous exercises and participation from all applicable Departments/Agencies at every level of government.

FY 2007 Plans:
- 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.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605161D8Z - Nuclear Matters - Physical Security**	**P161**

- Prepare, staff, and submit 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.
- Facilitate nuclear weapons complex site visits for individuals within the nuclear weapons community including senior DoD/DOE officials.
- Maintain oversight and manage 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.
- Manage the joint SecDef/SecEnergy response to the Presidential memo requesting a plan to improve the Nuclear Command and Control System (NCCS).
- Manage the response to Presidential guidance concerning the FY06 NCCS Assessment Program.

FY 2008 Plans:
- 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.

FY 2009 Plans:
- 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 2009-2015 Nuclear Weapons Stockpile Memorandum and Requirements Planning Document, FY 2008 Report on Stockpile Assessment, FY 2008 Joint Surety Report and the FY 2008 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 FY08 NCCS Assessment Program.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
International Programs	0.484	0.485	0.525	0.522

FY 2006 Accomplishments:
- Planned and executed a nuclear accident/incident response exercise/demonstration (CAPEX 06) for Nuclear Experts of the NATO-Russia Council (NRC), emphasizing basic NRC tenets of Transparency, Reciprocation and Confidence Building.
- Contributed to the various International Programs of Cooperation, emphasizing Safety, Security, and Stockpile Stewardship of nuclear weapons and their supporting complex and personnel.
- Initiated the trilateral development of Nuclear Weapons Accident (NUWAX) Response procedures and plans for future exercises.
- Participated in program upgrades (Design Basis Threat, Personnel Reliability Program, etc.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605161D8Z - Nuclear Matters - Physical Security**	**P161**

- Developed plans for information and program sharing with key international partners.
- Led the revision of Administrative Arrangements for a bilateral International Program of Cooperation (IPOC), updating a 9 year old document.
- Issued the first statutory determination in six years, updating allowable release of atomic energy information to key international partner.
- Developed Memorandum of Agreement (MOA) to support transportation cooperation with key international partner.
- Facilitated material movements under Mutual Defense Agreements (MDA).

FY 2007 Plans:
- Continue FY 2006 initiatives.
- De-conflict the various programs of assistance (French, British, Cooperative Threat Reduction (CTR), Warhead Safety and Security Exchange (WSSX), other) as they apply to Russia.
- Advocate for allied cooperation in deconflicting CTR, WSSX, etc. support to Russia by US/UK/France:
  -- Promote program efficiency.
  -- Promote better international cooperation.
  -- Enhance each participating nation's nuclear weapons information security program.
- Complete transmissibility guide and administrative arrangement overhauls with international partner.
- Commence process for increase information sharing with key partners via Statutory Determination generation.
- Pursue 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.
- Develop 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.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Nuclear Surety	0.362	0.969	1.036	1.046

FY 2006 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"; and DoDD S-5210.81, "United States Nuclear Weapons Command and Control, Safety, and Security."
- Completed the updating and documentation of DoD policy, responsibilities and procedures in DoD publications to include 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."

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605161D8Z - Nuclear Matters - Physical Security**	**P161**

- Initiated update/review of DoD policy, responsibilities and procedures described in DoDD S-5210.41-M, "Physical Security of Nuclear Weapons."
- Continued as DoD Sigma 14 Approval Authority (interface with DOE/NNSA).
- Supported the operations of the Joint Advisory Committee on Nuclear Weapons Surety (JAC).
- Supported and participated in NATO nuclear weapons policy and oversight groups, to include the High Level Group and the Joint Theatre Surety Management Group.

FY 2007 Plans:
- Conduct OSD oversight and provide 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."
- 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."
- 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.

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.

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."
- 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 DoDI S-5210.82, "Protection of Nuclear Coding Equipment."
- 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, to include the High Level Group and the Joint Theatre Surety Management Group.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605161D8Z - Nuclear Matters - Physical Security**	**P161**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Stockpile Transformation	0.726	0.969	1.064	1.047

FY 2006 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.
- Worked to create a new DoD nuclear acquisition process.
- Supported studies for warhead replacement.
- Continued programs to assess the future of the nuclear weapon stockpile and formed a working group to develop a plan for transforming the stockpile.
- Continued to support follow-on actions of the DSB Task Force on Strategic Capabilities.
- Developed and implemented a Nuclear Matters knowledge system to help preserve nuclear weapons information for operational improvements and continuity.
- Established an effort to develop a nuclear enterprise model for DoD.

FY 2007 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.
- Continue to develop and implement a Nuclear Matters knowledge system to help preserve nuclear weapons information for operational improvements and continuity.
- Provide technical support to maintain strategic materials and nuclear power systems.
- Continue 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.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605161D8Z - Nuclear Matters - Physical Security**	**P161**

- 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.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Survivability and Weapons of Mass Destruction (WMD)	0.484	0.485	0.525	0.522

FY 2006 Accomplishments:
- Provided direction for DoD and OSD preparations to train for response actions, under DoDD 3150.8, "DoD Response to Radiological Accidents.
- Prepared and executed NATO Russia Council Capabilities exercise (CAPEX), demonstrating United States nuclear weapons accident response capabilities.
- Conducted planning and development of Vigilant Shield 2007 (VS 07) nuclear weapon accident exercise.
- Conducted interagency tabletop exercise in preparation for VS 07.
- Initiated development of a new DoDD for nuclear-radiological incident response, to convert DoDD 3150.8, "DoD Response to Radiological Accidents" to a DoDI.
- Began to update DoD3150.8-M, Nuclear Accident Response Procedures" (NARP) and DoDD 5110.63, "Security of Nuclear Reactors and Special Nuclear Material" to make them consistent with the National Response Plan (NRP).
- Maintained the office Go-Kit and classified website to enhance coordination in the event of a nuclear weapon accident.
- Improved interagency nuclear weapon accident planning and coordination activities through the Nuclear Weapon Accident Response Steering Group (NWARSG).
- Implemented the DoD Action Plan for assessing vulnerability to HEMP.
- Drafted the DoD response to Congress on the findings and recommendations of the EMP Commission
- Supported the technical needs of the re-established EMP Commission.
- Initiated development of a DoDI for survivability of material and equipment to radiological effects.
- Supported follow-up actions of the Defense Science Board (DSB) Task Force on Clandestine Nuclear Attack and the Task Force on Nuclear Weapons Effects Simulators/Simulation.
- Continued to support the DoD executive agency role (of ASD(HD)) for interagency actions concerning Combating WMD at home and abroad.

FY2007 Plans
- Provide direction for DoD and OSD preparations to train for response actions, under DoDD 3150.8, "DoD Response to Radiological Accidents.
- Complete OSD planning and training for, and execute OSD participation in, Vigilant Shield 2007 (VS 07) nuclear weapon accident exercise.
- Plan and train for OSD participation in Diamond Flight nuclear weapon accident exercise.
- Complete and publish the new DoDD for nuclear-radiological incident response.
- Complete and publish the new DoD3150.8-M, Nuclear Accident Response Procedures" (NARP) and DoDD 5110.63, "Security of Nuclear Reactors and Special Nuclear Material".
- Maintain the office Go-Kit and classified website to enhance coordination in the event of a nuclear weapon accident.
- Continue to improve interagency nuclear weapon accident planning and coordination activities.
- Continue to implement the DoD Action Plan for assessing vulnerability to HEMP
- Support the technical needs of the re-established EMP Commission.
- Complete and publish the new DoDI for survivability of material and equipment to radiological effects.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605161D8Z - Nuclear Matters - Physical Security**	**P161**

- Monitor and advise OSD on the status of DoD capability for Nuclear Weapons Effects Simulators and Simulation.
- Continue 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 role (of ASD(HD)) for interagency actions concerning Combating WMD at home and abroad.

FY2009 Plans
- Provided 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 NUWAX 2009 nuclear weapon accident exercise.
- Conduct interagency tabletop exercises in preparation for NUWAX 09.
- 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 role (of ASD(HD)) for interagency actions concerning Combating WMD at home and abroad.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Nuclear Matters	9.478	0.384	0.299	0.299

FY 2006 Accomplishments:
- Conducted analysis of Congressional activities and responded to congressional inquiries related to nuclear weapons-related issues.
- Prepared, staffed, and submitted annual reports to the President and the Congress to include the FY 2006-2014 Nuclear Weapons Stockpile Memorandum and Requirements Planning Document, FY 2006 report on Stockpile Assessment, FY 2006 Joint Surety Report and the FY 2006 NWC Report to Congress.
- Provided oversight of the DoD/DOE relationship regarding the survivability and surety of the national nuclear stockpile.
- Continued to conduct implementation activities stemming from approved recommendations of the assessment on Nuclear Force Protection.
- 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 regarding nuclear weapons programs.
- Continued the development of a Physical security equipment RDT&E program that supports the protection of tactical and fixed nuclear weapons, DoD personnel and their facilities.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)	Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605161D8Z - Nuclear Matters - Physical Security**	**P161**

- Continued the development of physical security equipment/systems that meet Services nuclear security requirements in the areas of Interior and Exterior Detection/Surveillance, Delay/Denial, Entry Control, Common Operating Picture, Tactical Systems and Airborne Intrusion.
- Initiated physical security equipment RDT&E projects that support the nuclear security requirements articulated in the Nuclear Weapons Physical Security Master Plan.

FY 2007 Plans:
- Submit annual reports to the President and the Congress.
- Initiate the updating and documentation of DoD nuclear weapon policy, responsibilities, and procedures in DoD publications.
- Continue 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".
- Continue as DoD Sigma 15 Approval Authority (Interface with DOE/NNSA).
- Address Freedom of Information Act and Mandatory Declassification Requests.
- Beginning in FY 2007, the RDT&E of nuclear weapons physical security equipment was combined, for synergism, with PEs 603287F and 604287F that supported the RDT&E of conventional physical equipment into PEs 603161D8Z and 604161D8Z.

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.

D. Acquisition Strategy: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0605161D8Z - Nuclear Matters - Physical Security**	PROJECT **P161**

E. Major Performers Not Applicable.

Exhibit R-2, RDT&E Budget Item Justification				Date: February 2007				
Appropriation/Budget Activity RDT&E Defense-Wide, BA 6				R-1 Item Nomenclature: Support to Networks and Information Integration PE 0605170D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	16.081	16.642	11.152	11.242	11.633	11.745	11.929	12.113
Command Information Superiority Architecture	6.042	5.465	5.576	5.621	5.817	5.873	5.965	6.057
Defense Architecture Repository	1.157	1.242	1.282	1.293	1.338	1.351	1.372	1.393
Integrated Planning and Management	1.881	2.022	2.063	2.080	2.152	2.173	2.207	2.241
Support to NII Mission Requirements	7.001	7.913	2.231	2.248	2.326	2.348	2.385	2.422

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 2006 Accomplishments: ($7.001 million)

- Pursued 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 seek to expand this virtual institute to other universities .
- Continued development of metrics and conceptual framework suitable for assessing network-centric operations.
- 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 11th International Command and Control Research and Technology Symposia.
- Supported JFCOM in the design and conduct of Multinational Experiment 4
- Conducted workshops to explore command and control related issues.
- Continued widely read and respected C2 publications and outreach program.

- Maintained C2 research community website (received over 1,000,000 hits during FY06)

Pacific Disaster Center (PDC)

The PDC leveraged its achievements in agile Information and Communication Technologies (ICT) and enterprise data management practices with its established network of disaster managers—resulting in an effective response to unprecedented natural disasters and the execution of wide spectrum of projects. The devastation caused by the Great Sumatra Earthquake and Indian Ocean tsunami and Hurricane Katrina increased the recognition of the ever-increasing value of ICT at national and regional levels around the globe. These events also showcased the specialized applications developed by the PDC—and their proven civilian-military applications—in developing both "situational awareness" and for communicating in crisis and post-crisis situations.

For example, the Center utilized its unique ICT capability to support a dozen international and domestic Geographic Information Systems (GIS) Map Viewers for emergency managers. This was accomplished with less than half of the effort and resources it took in FY04 to support half as many projects. This achievement was possible due to due to the PDC's deployment of a common code-base and "reusable objects," coupled with the efficient use of its Enterprise Geospatial Database (EGDb) and associated practices.

Specifically, some relevant examples are:

- **National Disaster Warning Center (NDWC), Thailand.** PDC was selected to support the Government of Thailand in the development of an all-hazards NDWC. This effort is supported by the US Trade development Agency. Project activities are continuing and major milestones have been achieved. A *Concept of Operations Report* and an *Information and Communication Technology Gap Analysis* have been completed. In-country multi-agency workshops to solicit feedback from key stakeholders were also conducted to finalize and obtain acceptance of both of these deliverables. In addition, 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.
- **Hawaii - Severe Weather and Flooding Events.** PDC provided extended coverage and conducted briefings for the Governor and other State officials in response to torrential rains that caused flash flooding in the Hawaiian Islands. These rains also triggered a dam break on Kauai that resulted in fatalities and significant damage. At the specific request of Hawaii State Civil Defense (HSCD), PDC provided model-based "dam break" maps for reservoirs on Kauai and Oahu. The models were used in response to the Ka Loko Reservoir failure on Kauai (on March 14), and also helped authorities to prioritize monitoring of other dams and plan potential evacuations.
- **Philippines Landslide Disaster:** On February 17, a massive landslide on Leyte Island in the southern Philippines struck the village of Guinsaugon, which is located in the town of St. Bernard. At the request of U.S. Pacific Command's on-site Search and Rescue teams, PDC provided consultation regarding the survivability of trapped victims, as well as other

situational awareness products produced by PDC partner organizations in Hawai'i. Also provided satellite imagery and map products to Manila Observatory to support its field-deployed rescue and recovery team.

- **Asia-Pacific Center for Security Studies (APCSS) Curriculum Development.** PDC is providing support in the development of portions of the Security, Stability, Transition, and Reconstruction (SSTR) curriculum APCSS teaches to the students enrolled in it's courses. PDC will also provide faculty for future courses. This effort is in direct response to DODD 3000.05.
- **Pandemic Influenza Exercise.** PDC hosted a "Pandemic Influenza" tabletop exercise organized by Maui Voluntary Organizations Active in Disaster (VOAD). Presented a demonstration of the PDC's Avian Influenza Website. This exercise supports the role that both the State and the US Pacific Command have assigned to PDC in the event of an influenza pandemic. More workshops are planned.
- Support to USPACOM Exercises and Events. PDC continues to provide support and products to USPACOM as requested for exercises and events in the PACOM AOR.

FY 2007 Plans: ($7.913 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 Multinational Experiment 5
- 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 annual 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
- Begin campaign of experimentation related to information sharing, collaboration, and trust.

The **Pacific Disaster Center** (PDC) plans to continue 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.

- **Hawai‘i County Remote Information Systems:** PDC submitted a final draft of the Hawai‘i County Remote Information Service Implementation Plan to the County. The Implementation Plan details strategies and recommendations for internalizing the web-based Hawai‘i 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 ($2.231 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 ($2.248 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 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

- Continue campaign of experimentation related to information sharing, collaboration, and trust.

B. **Program Change Summary:** (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President's Budget Submission)

	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget	16.539	10.990	11.152	11.242
Current POM/BES	16.081	16.642	11.152	11.242
Total Adjustments	-.458	5.652		
Congressional program reductions				
Congressional rescissions, Inflation Adjustments	-.458	-.098		
Congressional increases		5.750		
Reprogrammings				
Transfer				

Program Change Summary:
FY 2006: SBIR -.409 million, STTR -.049 million.
FY 2007: Congressional Add 5.750 million, FFRDC -.033 million, Economic Assumptions -.065 million.
FY 2008: No change.
FY 2009: No change.

C. Other Program Funding Summary: N/A

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:

- Requirements: Business products identified in need of change
  Business products impacted or changed due to architecture analysis or products
- Acquisitions: Number of system(s) or system functions identified as duplicate
  Number an/or type of system identified as necessary to complete capability
  Number of system(s) and/or applications impacted by architecture analysis
- Portfolio Management:
  Number of systems included in portfolio
  Cost estimates provided for portfolio
  Number of duplicate systems identified in portfolio analysis
  Funds obtained as a result of portfolio analysis

DARS Performance Metrics:

- Getting key service program managers to use DARS to store and retrieve architecture data to include Future Combat System (FCS), Command and Control Constellation (C2C), FORCENET.
- Obtaining Intelligence Community Agencies such as National Security Agency (NSA), Defense Intelligence Agency (DIA), National Geospatial Agency (NGA) architects and program managers to store and retrieve architecture data from DARS
- Participation from leading COTS enterprise architecture vendors to use and maintain currency with CADM XML with their version releases
- Acceptance of CADM XML as the basis for an international data exchange standard

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 2007			
Appropriation/Budget Activity RDT&E, Defense-Wide, BA 6				Project Name and Number: Command Information Superiority Architectures (CISA)/PE 0605170D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 202	FY 2013
Project Name: Command Information Superiority Architectures	6.042	5.465	5.576	5.621	5.817	5.873	5.965	6.057

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 2006	FY 2007	FY 2008
Accomplishment/ Effort/Subtotal Cost		6.042	5.465	5.576
RDT&E Articles Quantity *(as applicable)				

FY 2006 Accomplishments: ($6.042 million)

- Established key data structures to support interoperability and integration of architecture information
- Established a plan to Federate DoD Architectures
- Began a cooperative effort with the UK, Canada, Australia, and Sweden to develop a data model to support the exchange of architecture information among coalition partners
    - Improved knowledge sharing of how architectures are being used to support decision processes by each of the member countries
- Implemented the Information Support Plan (ISP) Pilot Project. Streamlining the ISP waiver and legacy systems procedures in the ISP process.
- Development of GIG Net Centric Operations & Warfare NCOW Reference Models V 1.1 to include information assurance and data management strategies.
- Continued the development of the Core Architecture Data Model (CADM) providing common vocabulary for architecture information
- Continued to develop Net-Centric assessment checklists for DoD Program Managers
- Continued the net-centric implementation of GIG architecture.
- Continued the development of executable COCOM architectures impacting operations, budget and transitions
- Provided COCOM Net-Centric Assistance to integrate DoD programs within COCOM enterprise environment and link to COCOM inputs with DoD Enterprise Architecture Reference Models (DODEA RM) for OMB Exhibit 300 preparation
- Developed initial configuration management approach for GIG to better enable information sharing, security and end-to-end interoperability
- Developed an initial NetOps strategy for operating and defending the GIG as an enterprise
- Updated the GIG IT standards to address improved information sharing and GIG transition to support net-centric operations
- Updated and submitted DoD IPv6 Transition Plan (version 2), updated DoD IPv6 Master Test Plan (version 2), developed IPv6 Test and Evaluation (T&E) Report

FY 2007 Plans: ($5.465 million)

- Implement second round of COCOM Net-Centric transition plans and assessments integrated with other DoD Program Net Centric assessments to ensure smooth “plug and play” capabilities
- Develop the Federated Enterprise Architecture Framework
- Update and maintain the CADM to be inline with the DoDAF

- Develop COCOM Mobil Architecture Support Team Concept
- Update DoD Architecture Framework (DoDAF) Version 1 to be net centric
- Development of GIG NCOW Reference Models Version 2 integrating DoD net centric strategies
- Develop and provide integrated set of COCOM Net-Centric assessment capabilities for implementing transition plans
- Develop the International Defence Enterprise Architecture Specification (IDEAS) Data Model to specify the minimum set of data elements, attributes and relationships needed to support coalition force planning and develop the Data exchange specification
- Expand interactive use of architecture data for dynamic assembly of COCOM architectures to meet mission demands and changes for Unified Command Plans (UCPs)
- Evolve the ISP analysis tool into a Web-based model to identify and analyze interoperability, supportability, net-centric, and integration issues
- Identify and instantiate governance improvements to more effectively support GIG transition to net-centricity by revising key policies and guidance and overseeing the implementation of that governance through monitoring and waiver processes.
- Refine 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
- Support implementation of NetOps (operating and defending the GIG as an enterprise) by completing initial GIG NetOps policy and guidance and demonstrating increased NetOps capabilities
- Develop 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: ($5.576 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
- 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: ($5.621 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 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
O&M, DW (PE0902198D8Z)	4.526	4.323	4.598	4.966	4.996	4.741	4.829	4.916	37.895

D. Acquisition Strategy: N/A

F. Major Performers: USCENTCOM, USJFCOM, USEUCOM, USSOCOM, USSTRATCOM, USTRANSCOM, USNORTHCOM, USSOUTHCOM, USPACOM, USFK, US ARMY Architecture Integration Cell/G6.

Exhibit R-2a, RDT&E Project Justification							Date: February 2007	
Appropriation/Budget Activity RDT&E, Defense-Wide, BA 6				Project Name and Number: Defense Architecture Repository System (DARS)/PE 0605170D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Name: DARS	1.157	1.242	1.282	1.293	1.338	1.351	1.372	1.393

B. 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 2006	FY 2007	FY 2008
Accomplishment/ Effort/Subtotal Cost		1.157	1.242	1.282
RDT&E Articles Quantity *(as applicable)				

FY 2006 Accomplishments: ($1.157 million)
- Completed implementing web-enabled views for all DoDAF for architecture products
- Implemented Core Architecture Data Model (CADM XML) extractors for OV6-A, OV-6B, OV-6C, SV-5, SV-9, SV-10A, SV-10B, SV-10C DoDAF views
- Began expansion of DARS capabilities as part of a "Federated Net-Centric" environment for data exchange
- Began expansion of DARS integration into the "Core Enterprise Services" of Net-Centric Enterprise Services (NCES)
- Developed and implemented DoD Discovery Metadata Standard (DDMS) extensions for architecture metadata registry capabilities
- Implemented new metadata collection capability using DDMS plus architecture community extensions
- Implemented DARS Federation registry and discovery web services on DARS servers
- Developed Federation client implementation support package (SDK) and worked with federation participants to implement remote federation web service clients
- Updated DARS toolbar to meet people with disabilities requirements
- Upgraded application environment to Java Development Kit (JDK) 1.5
- Provided COTS tool Interoperability Certification Support
- Developed new utilities to facilitate community data management
- Developed guidelines for architecture data configuration management and qualification of "authoritative data sources"
- Integrated the DoD Enterprise Architecture Business Reference Model into the DARS
- Investigated capabilities for architecture data reuse to dynamically assemble composite architectures and build custom data sets
- Investigated changes required to DARS to support executable architectures, JCIDS, and portfolio management
- Investigated capability for DoD Program managers to use DARS data to build OMB exhibit 300s and exhibit 53s

FY 2007 Plans: ($1.242 million)
- Support the Department's federated approach to Enterprise Architecture
- Continue the expansion DARS as part of a Net-Centric environment for data exchange
- Continue expansion of DARS integration into the "Core Enterprise Services" of Net-Centric Enterprise Services (NCES)
- Implement 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
- Update DARS database to conform to new CADM 2.0 standard
- Implement new international architecture data exchange standards based on AP 233, CADM XML, and XMI

- Support architecture data exchange evolution from CADM 1.0X to 2.0 using new data exchange standards
- Implement configuration management policies and processes for "authoritative data sources"
- Implement additional registry services to include holdings linking and alignment requirements
- Support federation client implementation in federation participants
- Convert all DARS functionality to web services
- Implement Service Orient Architecture (SOA) for enterprise architecture data management
- Implement DoD Architecture Framework (DoDAF) view quality assessment services
- Implement Java Message Services (JMS) for asynchronous transactions
- Implement support for disconnected confederate repositories
- Implement capability for DoD Program managers to use DARS data to build OMB exhibit 300s and exhibit 53s.
- Explore expansion of DARS data exchange capabilities to related decision support domains including modeling and simulation systems, logistics, program management, and budgetary systems
- Explore implementation of a "rules based model" to establish "earned value" for architecture data and architectures

FY 2008 Plans: ($1.282 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

FY 2009 Plans: ($1.293 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

E. Major Performers: DIA, DISA, NGA, NSA, NRO, Army HQ/G6/CIO, Navy CEC program, SPAWAR SOCOM, PACOM, CENTCOM, USFK, EUCOM, SOUTHCOM, NORTHCOM, TRANSCSOM, USMC Quantico, JFCOM, STRATCOM, NATO, Hanscom AFB, CECOM, INSCOM

Exhibit R-2a, RDT&E Project Justification							Date: February 2007	
Appropriation/Budget Activity RDT&E, Defense-Wide, BA 6				Project Name and Number: Integrated Planning and Management/PE 0605170D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Name: Integrated Planning & Management	1.881	2.022	2.063	2.080	2.152	2.173	2.207	2.241

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 2006	FY 2007	FY 2008
Accomplishment/ Effort/Subtotal Cost		1.881	2.022	2.063
RDT&E Articles Quantity *(as applicable)				

FY 2006 Accomplishments: ($1.881 million)
- Produced Converged C2 Capabilities, C2 Vision, DoD C2 Policy and C2 Operational Concept
- Developed, coordinated and implemented policy and new directives necessary to achieve the converged C2 capabilities.
- Specified overarching system engineering process.
- Developed Net-centric Implementation Documents
- Developed global C2 applications and services information integration framework.
- Developed analysis of nuclear/national C2 migration initiatives.

FY 2007 Plans: ($2.022 million)
- Continue all efforts initiated in FY 2006. Update C2 documents as appropriate.
- Develop technical standards required to integrate or migrate C2 systems for senior leadership into a net-centric environment.
- Assist the COCOMS/Services in articulating C2 net-centric concepts and top level requirements that must be addressed by the JCIDS process.
- Work with Joint Staff, Services and COCOMs on the development of C2 Capability Portfolio Management.
- Continue development of C2-related ontologies, taxnonomies, and registries.
- Begin identifying C2 gaps and overlaps. Develop a plan to influence programs of record.

FY 2008 Plans: ($2.063 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 Plans: ($2.080 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:

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
O&M, DW (PE0902198D8Z)	2.775	2.575	2.614	2.823	2.840	2.695	2.745	2.795	21.862

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2007	
Appropriation/Budget Activity RDT&E Defense-Wide, BA 6				R-1 Item Nomenclature: General Support to USD(Intelligence) PE 0605200D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	6.039	5.605	4.574	4.387	6.305	6.624	6.933	7.144
Intelligence Support	.752	.810	0	0	0	0	0	0
Resource Database Support	.277	.298	0	.313	.315	.316	.321	.326
Information Operations	4.169	4.497	0	0	0	0	0	0
Foreign Supplier Assessment Ctr	.841	0	0	0	0	0	0	0
Developmental Activities	0	0	1.690	1.018	2.842	3.203	3.406	3.609
Warfighter Support	0	0	2.884	3.056	3.148	3.105	3.206	3.209

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. Foreign Supplier Assessment Center was a FY 2006 Congressional add. Developmental Activities is a new project providing innovative approaches to address intelligence, intelligence-related capabilities, and intelligence sharing. Warfighter Support is a new project focusing on technologies and their applications on activities of the OUSD(I).

B. Program Change Summary: (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President's Budget Submission)

	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget	14.054	5.637	5.910	5.909
Current President's Budget	6.039	5.605	4.574	4.387
Total Adjustments	-8.015	- .032	- 1.336	- 1.522
Congressional program reductions		- .032		
Congressional rescissions				
Congressional increases				
Department adjustments			- 1.336	- 1.522
Internal Reprogramming	-8.015			

Change Summary Explanation:
FY 2006: $8.015 Internal Reprogramming to O&MDW for FSAC.

FY 2007: $.032M Congressional reductions
FY 2008: $1.336 Department net decrease incorporating transfer-out of two projects to new program elements, and addition of funding for Developmental Activities and Warfighter Support
FY 2009: $1.522M Department net decrease, incorporating transfer-out of two projects to new program elements, and addition of funding for Developmental Activities and Warfighter Support

C. Other Program Funding Summary: Not Applicable

D. Acquisition Strategy: Not Applicable

E. Performance Metrics:

Intelligence Support: Classified

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

Information Operations: Classified

Foreign Supplier Assessment Center: Accuracy of threat and vulnerability assessment tabulated on foreign service/product suppliers to protect critical United States warfighting technologies

Developmental Activities: Classified

Warfighter Support: Classified

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: Intelligence Support				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Intelligence Support	.752	.810	0	0	0	0	0	0
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

The 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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	.752	.810	0	0
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: Mission Support

FY 2007 Accomplishments: Mission Support

FY 2008 Plans: N/A

FY 2009 Plans: N/A

C. Other Program Funding Summary: Not Applicable

D. Acquisition Strategy: Not Applicable

E. Major Performers: Not applicable

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: Resource Database Support				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Resource Database Support	.277	.298	0	.313	.315	.316	.321	.326
RDT&E Articles Quantity	N/A	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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	.277	.298	0	.313
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: Continued design and development of a resource database for the purpose of capturing, tabulating, and reporting all elements of Intelligence funding within the DoD to meet PPBE and CJB requirements.

FY 2007 Accomplishments: Developed automated database functionality/capability to support PPBE, CPBS and MIP business processes and MIP CJB requirements.

FY 2008 Plans: No funding. Will continue efforts using FY07 funds.

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

C. Other Program Funding Summary: Not applicable

D. Acquisition Strategy: Not applicable

E. Major Performers: Not applicable

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: Information Operations				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Information Operations	4.169	4.497	0	0	0	0	0	0
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:
Information Operations contains classified programs.

B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	4.169	4.497	0	0
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: Classified.

FY 2007 Accomplishments: Classified.

FY 2008 Plans: Classified.

FY 2009 Plans: Classified.

C. Other Program Funding Summary: Not applicable

D. Acquisition Strategy: Not applicable

E. Major Performers: Classified.

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: Foreign Supplier Assessment Center (FSAC)				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Foreign Supplier Assessment Center	.841	0	0	0	0	0	0	0
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

The FSAC's goal is to ensure that the U.S. Government is fully aware of foreign involvement in DoD programs by conducting a counterintelligence and security due diligence in the review of foreign suppliers. The FSAC will assess current and prospective foreign suppliers of products and services, including components for weapons systems, automation hardware, and various forms of software, to the DoD. The number of foreign prime contractors identified in the WHS 350 database alone was over 6,900 in FY04, which does not include subcontractors. The FSAC effort is intended to provide a comprehensive look at the entire DoD supplier base – to eventually examine all tiers of suppliers, address the criticality of subsystems, components, piece-parts, and materials, identify linkages among transnational organizations, and to assess vulnerabilities and potential threats. The resulting product will include a company profile, threat assessment, and recommended countermeasures, which will be available in the FSAC database to U.S. Government decision-makers.

B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	.841	0	0	0
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments:

- Develop/Maintain Repository and Database
  - -- Document Requirements /Deploy; Test; Interface
- Provide Assessments
  - -- Number of Assessments Dependent on Funding
  - -- Vet Reassessment Methodology
  - -- Develop Metrics

- Develop Policy to Support FSAC Initiative
  -- Obtain Support from AT&L and Others; Research/Document Existing Policies / Draft Policy
- Support Related DoD & National Strategy/Initiatives
  -- Continue Identifying & Researching, Sharing & Coordinating Development Plans
  -- Incorporate Related Initiatives
  -- Participate in Working Groups & Conferences

FY 2007 Accomplishments: Project terminated.

FY 2008 Plans: Not applicable

FY 2009 Plans: Not applicable

C. Other Program Funding Summary: Not applicable

D. Acquisition Strategy: Not applicable

E. Major Performers: Athena

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: Developmental Activities				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Developmental Activities	0	0	1.690	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	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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	0	0	1.690	1.018
0RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: Mission Support

FY 2009 Plans: Mission Support

C. Other Program Funding Summary: Not Applicable

D. Acquisition Strategy: Not Applicable

E. Major Performers: Classified

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: Warfighter Support				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Warfighter Support	0	0	2.884	3.056	3.148	3105	3.206	3.209
RDT&E Articles Quantity	N/A	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 evaluation of concepts, technology development, and feasibility studies related to intelligence processes, shortfalls, and requirements that affects intelligence policy, planning and operational guidance.

B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	0	0	2.884	3.056
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: Mission Support

FY 2009 Plans: Mission Support

C. Other Program Funding Summary: Not Applicable

D. Acquisition Strategy: Not Applicable

E. Major Performers: Classified

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605790D8Z – Small Business Innovation Research/Challenge Administration**

Cost ($ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost	6.772	4.422	2.162	2.168	2.214	2.262	2.320	2.380
P518 SBIR Administration	6.772	4.422	2.162	2.168	2.214	2.262	2.320	2.380

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 strives to encourage scientific and technical innovation in areas specifically identified by participating DoD components.

(U) DoD components participating in the SBIR/STTR 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), Chemical-Biological Defense Program, 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 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	6.970	2.073	2.231	2.234
Current BES/President's Budget (FY 2008/2009)	6.772	4.422	2.162	2.168
Total Adjustments	-0.198	2.349	-0.069	-0.066
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases		2.375		
Reprogrammings			-0.069	-0.066
SBIR/STTR Transfer	-0.198	-0.026		
Other				

FY07 Congressional increases are not directly associated with the administration of the program.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)	Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0605790D8Z – Small Business Innovation Research/Challenge Administration**

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Performance Metrics: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605790D8Z – Small Business Innovation Research/Challenge Administration**	**P518**

Cost ($ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P518 SBIR Administration	6.772	4.422	2.162	2.168	2.214	2.262	2.320	2.380

A. Mission Description and Project 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 are not funded with SBIR/STTR funds and can be considered "follow-on" contracts to Phase II efforts. 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:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Small Business Innovation Research Administration	6.772	4.422	2.162	2.168

(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 Department's 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 Department's 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 DoD's SBIR/STTR Program that receives nearly 16,000 proposals yearly and issues over 3,000 contracts.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0605790D8Z – Small Business Innovation Research/Challenge Administration**	PROJECT **P518**

E. Major Performers Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605798D8Z - Defense Technology Analysis**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	Total Program Element (PE) Cost	0.000	0.000	11.927	11.060	11.322	11.545	11.702	11.847
P798	DDR&E Support Teams	0.000	0.000	6.354	5.350	5.539	5.599	5.637	5.687
P799	Defense Technology Analysis	0.000	0.000	5.573	5.710	5.783	5.946	6.065	6.160

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 NATO's 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

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605798D8Z - Defense Technology Analysis**

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 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)				
Current BES/President's Budget (FY 2008/2009)	0.000	0.000	11.927	11.060
Total Adjustments	0.000	0.000	11.927	11.060
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other			11.927	11.060

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

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 PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605798D8Z - Defense Technology Analysis**	**P798**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P798	DDR&E Support Teams	0.000	0.000	6.354	5.350	5.539	5.599	5.637	5.687

A. Mission Description and Project Justification: U) 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 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 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.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
DDR&E Support Teams	0.000	0.000	6.354	5.350

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.

D. Acquisition Strategy: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0605798D8Z - Defense Technology Analysis**	PROJECT **P798**

E. Major Performers Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605798D8Z - Defense Technology Analysis**	**P799**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P799	Defense Technology Analysis	0.000	0.000	5.573	5.710	5.783	5.946	6.065	6.160

A. Mission Description and Project 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 NATO's 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:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
DoD Technical Analysis	0.000	0.000	5.573	5.710

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:

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0605798D8Z - Defense Technology Analysis**	PROJECT **P799**

- 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.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605799D8Z - Force Transformation**

Cost ($ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost	58.790	48.947	20.585	20.738	21.564	21.894	22.236	22.579
P579 Office of Force Transformation	58.790	48.947	20.585	20.738	21.564	21.894	22.236	22.579

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 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.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)				
Current BES/President's Budget (FY 2008/2009)	58.790	48.947	20.585	20.738
Total Adjustments	58.790	48.947	20.585	20.738
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other	58.790	48.947	20.585	20.738

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)	Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0605799D8Z - Force Transformation**

E. Performance Metrics: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605799D8Z - Force Transformation**	**P579**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P579	Office of Force Transformation	58.790	48.947	20.585	20.738	21.564	21.894	22.236	22.579

A. Mission Description and Project 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 Platoon" 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 at the tactical level 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:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Wolf Pack Platoon	9.799	12.000	8.000	0.000

FY 2006 Accomplishments: During FY 06 the Full Spectrum Effects Platform Project was awarded $32M for further development and acquisition by the OSD Joint Rapid Acquisition Cell and transitioned to the U. S. Army Stryker Program Manager with support of the Naval Surface Weapons Center, Dahlgren Division. The follow-on Wolf Pack Platoon Project was initiated to include: completing technology search and assessment, developing initial capability concepts, conducting warfighter reviews, developing vehicle subsystems, procuring an experimental vehicle and active protective system, and creating experimental and testing plans.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605799D8Z - Force Transformation**	**P579**

FY 2007 Plans: The Wolf Pack Platoon project will develop, integrate, and test C4 architecture and vehicle subsystems to include UAVs, UGVs, multi-spectral sensors, lethal / non-lethal weapons, counter-IED, electronic warfare, shot detection and advanced maintenance. Quarterly C2 experiments are conducted with USSOCOM and the Navy Postgraduate School. Concepts of employment (to include cooperative engagement, dispersed operations and increased situational awareness below the current digital divide) will be developed and war gamed with the Marine Corps Warfighting Laboratory. Warfighter Workshops are conducted with the Marine Corps Combat Development Command and USPACOM operating forces. Safety plans are 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 (air and ground), subsystems and concepts of employment are delivered to Marine Forces Pacific for three, month-long, field experiments with operating forces at 29 Palms and Yuma, 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 combat developers and a supporting S&T community meets monthly to consider spin-out technology and requirements for the Joint Light Tactical Vehicle and interim vehicles such as the Mine Resistant Ambush Protected Vehicle. Concept development, technology assessment and planning for Wolf Pack Platoon Spiral 2 are completed. Wolf Pack Platoon Spiral 2 begins based on (1) opportunities developed by spiral 1, (2) new technologies and (3) warfighter need.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Operationally Responsive Space	38.823	28.575	0.000	0.000

FY 2006 Accomplishments: During FY 06, Operationally Responsive Space had the following accomplishments:
TacSat-1 ($3.8M to NRL) - maintained in storage pending launch, launch funds to SpaceX. TacSat-2 ($0 to AFRL) - Completed integration, testing of NRL payload. TacSat-3 ($0 to AFRL) - Utilized $10M FY05 funding and proceeded from mission selection into design and assembly. Prototyping satellite standards. TacSat-4 ($20M to NRL) - Proceeded from mission selection into design process. Prototyping satellite standards. VMOC & Operational Experimentation ($1.2M to NRL) - Continued development as data portal. Used to simulate TacSat-1/2 in PACOM exercises and used to support NORTHCOM-Homeland Defense Border patrol exercise. Standard Bus Development (NRL/APL): Funded from part of $20M for TacSat-4. Government - Industry consortium for the development of standard interfaces for satellites - TacSat-3 bus and TacSat-4 bus prototyping the standards being to developed. Added Business Development Meeting to discuss the business case/implications of industry adoption of standards. Congressional Report to Congress on TacSat - drafted and given to Legislative Affairs, but not submitted to Congress. Payload Technology Development (FY06 $17M to NRL): Broad Area Announcement to Industry - 3 categories: below $500K, $500K-$1M and $2-5M Industry Proposals are jointly evaluated by AFRL, NRL, and ARL.

FY 2007 Plans: During FY 07, Operationally Responsive Space has specific plans to include: TacSat-1 ($1M to NRL) - Prepping satellite for launch scheduled May 07. TacSat-2 ($0 to AFRL) - Launched Jan 07. TacSat-3 ($5M to AFRL - Congressional Plus Up) - Continuing design and assembly. Funding prototyping satellite bus standards. Launch scheduled for Oct 07. TacSat-4 ($15M to NRL - Congressional Plus Up) - Continuing design process into assembly. Funding of prototyping satellite bus standards. Launch scheduled for Oct 08. VMOC & Operational Experimentation ($1.5M to NRL) - Continued development as data portal and applications with TacSats, Stiletto and Wolf Pack Platoon. Payload Technology Development (FY06 $17M to NRL): 7 projects selected for below $500K category, 4 projects selected for $500K-$1M category. Initiating evaluation of projects in and $2-5M category. Projects jointly evaluated by AFRL, NRL, ARL. Satellite Technology/Standard Bus Development ($5M to NRL Congressional Plus Up): Continuing development of standard interfaces for satellites and developing the business case for industry adoption of standards. Will fund projects (jointly evaluated by AFRL, ARL, NRL) focused on bus technology as well as converting UAV/Aircraft sensors for space use. Specifics of required funds, operational experimentation opportunities and participation, etc. will be finalized as this project progresses through FY 07.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605799D8Z - Force Transformation**	**P579**

Tactical Relay Mirror Systems	5.100	4.000	5.000	0.000

FY 2006 Accomplishments: During FY 06, the Tactical Relay Mirror System (TRMS) achieved and passed its critical design review under the TRMS Acceleration Contract. This first-ever accomplishment was followed by the start of procurement of long lead-time parts as the TRMS pallet entered into production status. TRMS was a key technology-concept pairing that participated and excelled in JFCOM's Urban Resolve 2015 exercise. The TRMS Operating Concept was published by the Institute of Defense Analysis. Research on the Laser Materials Interactions Effects study was designed and conducted, while final report development was started.

FY 2007 Plans: During FY 07, the TRMS project will continue to procure parts and to assemble the TRMS pallet; the final report for the Laser Materials Interactions Effects study will be completed; coordination and design work will continue to bring the completed pallet to the Starfire Optical Range at Kirtland AFB, Albuquerque, NM, USA at which 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 include payload software development, subcontractor and material hardware procurement oversight, and payload assembly, integration and test. Effort will also include participation in yet-to-be-confirmed wargames.

FY 2008 Plans: During FY 08, the TRMS project, funding permitting, should have a completed pallet that will transition to the Starfire Optical Range for actual field testing. Depending upon the status of partnership developments to include additional funding or support for the provision of a source laser, a battle management function and an airborne vehicle (aerostat), the TRMS project will proceed to an operational testing environment. Significant effort will be devoted to warfighter participation and the development of advanced operating concepts. Specifics of required funds, operational experimentation opportunities and participation, etc. will be finalized as TRMS progresses through FY 07.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Stiletto	5.068	2.218	0.000	0.000

FY 2006 Accomplishments: During FY 06, craft construction was completed; builders and acceptance trials were completed; the first operational experiment focused on mine-clearance was completed; initial performance trials were conducted; Stiletto took part in Fleet Week San Diego, participated in several Tactical Network Topology experiments with Naval Postgraduate School, and participated in Navy NETWARCOM's Trident Warrior 06; participated in and provided test platform for Congressional interest wake wash impact study ICW the Federal Transportation Administration (FTA); and Stiletto hosted numerous VIPs, Flag Officers, and media personnel through various tours and visits.

FY 2007 Plans: During FY 07 the Stiletto project will complete naval architecture performance trials; continue to advance the design and validation of combatant craft design tools; conduct multiple operational experiments; participate in Trident Warrior 07; participate in Fleet Week new York; make hull, systems, and equipment upgrades to Stiletto; support SOCOM experimentation; support SOUTHCOM experimentation; and undertake collaborative efforts to support with the United States Naval Academy naval architecture and networking research. Continue supporting COCOM/Interagency experimentation.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Personal Countermeasures	0.000	2.154	1.000	0.000

FY 2007 Plans: During FY 07, a work effort will begin to design and begin to assemble the hardware and operating systems of Project 208.

FY 2008 Plans: Operational experimentation opportunities and participation, etc. will be finalized as Project 208 progresses through FY 07.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605799D8Z - Force Transformation**	**P579**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2008 and 2009 Plans	0.000	0.000	6.585	20.738

FY 2008/2009 will choose additional programs to be funded with FY 08 and 09 funding. These programs will be assigned in the year of execution. The Stiletto project intends to continue its operational experimentation through FY 08 as well as intentions to continue the identification, design and execution of continued upgrades to Stiletto equipment and hull; continue supporting COCOM, Navy and USCG/HS experimentation. Specifics of required funds, operational experimentation opportunities and participation, etc. will be finalized as Stiletto progresses through FY 07. The Stiletto project and Project 208 will evaluate its plans for FY 09 based upon its accomplishment, progress and opportunities presented during FY 07 and FY 08.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	Total Program Element (PE) Cost	8.483	9.150	18.712	20.432	21.043	21.532	20.045	17.628
P804	Developmental Test and Evaluation	8.483	9.150	15.893	17.523	18.042	18.468	16.940	14.480
P805	Software Engineering and System Assurance	0.000	0.000	2.819	2.909	3.001	3.064	3.105	3.148

A. Mission Description and Budget Item Justification: This project 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 DoD energy programs. Additionally, this program funds the evaluation of best practices, procedures, methods and tools to support the sound, stable acquisition programs.

This program leads a DoD-wide activity to improve capabilities of modeling and simulation to support development of defense acquisition systems. It 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.

FY 2008 will see a significant ramp-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 increase its efforts to create Centers of Excellence and increase direct support to programs 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 increasingly dependent on a more globalized information technology marketplace.

In FY 2008, the Software Intensive Systems funding line will be transferred from PE0603782D8Z to this DTE Program Element 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 declingin number of software issues in our defense acquisition programs.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	8.733	9.203	9.632	9.667
Current BES/President's Budget (FY 2008/2009)	8.483	9.150	18.712	20.432
Total Adjustments	-0.250	-0.053	9.080	10.765
Congressional Program Reductions		-0.058		
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer	-0.250			
Other		0.005	9.080	10.765

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

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
06	See Below					
07	See Below					
08	See Below					
09	See Below					

Comment: Strategic Goals Supported : Test and Evaluation Leadership - Education & Training
FY 2006

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**

Baseline: Improve education and training of workforce
Metric: Completed technical development of the three revised Test and Evaluation (T&E) courses; and re-aligned Test and Evaluation Acquisition career workforce certification standards and criteria

FY 2007
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
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
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 2006
Baseline: Provide necessary Acquisition and Technology, Systems Engineering, and Developmental Test & Engineering Modeling & Simulation policy and guidance
Metric: (1) Published Acquisition Modeling & Simulation (M&S) Master Plan; (2) Develop draft M&S Cross-Cutting Business Plan; (3)Initiated training program for AS staff M&S re best practices in programs; (3) Develop a Continuous Learning Module (CLM) on M&S for T&E FY 07 CLM on-line at the Defense Acquisition University (DAU)

FY 2007
Baseline: Provide necessary Acquisition & Technology (A&T), Systems Engineering (SE), and Developmental Test & Evaluation (DT&E) Modeling & Simiulation (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
Baseline: Monitor and facilitate DAU CLM on M&S for T&E course

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**

Metric: Provide necessary A&T, SE, and DT&E M&S policy and guidance

FY 2009
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 2006
Baseline: Improve existing and establishing new DT&E Policy
Metric: (1) Update DoD 5000, recommended changes to Title 10; (2) Refine Test and Evaluation Strategy (TES), Test and Evaluation Master Plan (TEMP) signature process using 6-Sigma process; and (3) Final process charts, timelines, and templates

FY 2007
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
Baseline: Monitor and facilitate DoD 5000 & TES/TEMP improvements

FY 2009
Baseline: Monitor and facilitate DoD 5000 & TES/TEMP improvements

Strategic Goals Supported: Improve Joint Warfighting Capability
FY 2006
Baseline: Provided guidance to ensure weapon systems are suitable and effective in meeting the requirements of the warfighter, Initial Operational Test and Evaluation (IOT&E) and Follow-on Operational Test and Evaluation (FOT&E); and provided analyses to support energy security task force

FY 2007
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

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**

FY 2008
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
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 2006
Baseline: Ensured targets are sufficiently threat representative and available when needed for developmental testing of weapon systems
Metric: Guided development of FY07 TRMC Strategic Plan

FY 2007
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
Baseline: Monitor resource availability
Metric: Monitor FY 2007 Test Resource Management Center (TRMC)", Strategic Plan implementation

FY 2009
Basline: Monitor resource availability

Strategic Goals Supported: Technical Readiness and Technology Maturity
FY 2006
Baseline: Developed process to measure and evaluate the technical readiness and capability maturity of a product/system
Metric: Developed organizational relationships and processes to couple developmental testing with validation of technology maturity, and assessment of system development risk

FY 2007
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)

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**

Metric: Update training at DAU, publicize at Program Executive Officer/Systems Command (PEO/SYSCOM) and industry events in FY 2008

FY 2008
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
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 2006
Baseline: Developed process to implement policy re valuing energy in 3 pilot programs in acquisition investment decisions

FY 2007
Baseline: Implement policy re valuing energy in 3 pilot programs in acquisition investment decisions
Metric: (1) Draft document outlining proc

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**	**P804**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P804	Developmental Test and Evaluation	8.483	9.150	15.893	17.523	18.042	18.468	16.940	14.480

A. Mission Description and Project 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:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
T&E Independent Activities:	8.483	0.000	0.000	0.000

FY 2006 Accomplishments: Includes funding for technical analysis and evaluation of the developmental testing of the more than 220 major weapon acquisition programs. The Under Secretary of Defense (Acquisition, Technology and Logistics) is the focal point for all activities related to developmental test and evaluation as outlined in Section 133, Title 10, United States Code.

Improve Modeling and Simulations in Systems Engineering
Published Acquisition Modeling and Simulation Master Plan
Initiated training program for staff M&S regarding best practices in programs

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**	**P804**

Safety
Developed a Concept of Operations for the Joint Service Weapon Safety Review process to support USSOCOM
Developed a draft concept of operations (CONOPs) for a DoD joint safety review improvement process
Developed first draft of Joint System Safety Processes

Targets
Ensured targets are sufficiently threat representative and available when needed for developmental testing of weapon systems

Technical Readiness
Developed process to measure and evaluate the technical readiness and capability maturity of a product/system

System Technology Maturity
Developed organizational relationships and processes to couple developmental testing with validation of technology maturity, and assessment of system development risk

Improve Joint Warfighting Capability
Provided guidance to ensure weapon systems are suitable and effective in meeting the requirements of the warfighter, Initial Operational Test and Evaluation and Follow-on Operational Test and Evaluation
Provided analyses to support energy security task force and determine suitable technical approaches

Policy
Provided specific Developmental Test and Evaluation content updates that are aligned with current DT&E policy to DoDI 5000.2
Provided specific DT&E content updates that are aligned with current DT&E guidance to the Defense Acquisition Guidebook
Drafted policy guidance for valuing fuel efficiency in system design

Educate the Workforce
Updated Test and Evaluation Strategy (TES) and Test and Evaluation Master Plan (TEMP) content and format
Completed the Continuous Learning Module (CLM) on M&S for Systems Engineering
Completed technical development of the three revised Test and Evaluation courses
Improved the utility of the DT&E website to T&E Acquisition Workforce Personnel
Re-aligned Test and Evaluation Acquisition career workforce certification standards and criteria

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 DTE&E Planned Activities	0.000	9.150	0.000	0.000

Test and Evaluation Leadership - Education & Training
Facilitate DAU 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

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**	**P804**

Improve Modeling and Simulations (M&S) in Systems Engineering
Provide necessary A&T, SE, and DT&E M&S policy and guidance

DT&E Policy and Guidance
Track and measure TES/TEMP metrics from process owner
improve TES/TEMP development

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
Support JT&E Projects that improve Joint Warfighting Capabilities

Test Resources/Targets availability to meet T&E requirements
Ensure targets are sufficiently threat representative and available when needed for developmental testing of weapon systems

Technical Readiness and Technology Maturity
Establish best DT&E practices for Technology Maturity (TM)
Integrate planning for alternatives to subsystems with immature technology into the System Engineering (SE) process ("off-ramps")
Update training at DAU

Energy- Acquisition Investment Decisions
Implement policy re valuing energy in 3 pilot programs in acquisition investment decisions

Systems Safety
Execute the five DSOC-funded initiatives in FY07:
Integrate system safety into appropriate existing DAU courses.
Incorporate "Best Practices" from System Safety Guides into appropriate DoD-level documents to ensure their use

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2008 DT&E Plans:	0.000	0.000	15.893	0.000

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
Monitor and facilitate DAU CLM on M&S for T&E course

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**	**P804**

Provide necessary A&T, SE, and DT&E M&S policy and guidance
Monitor and facilitate DoD 5000 & TES/TEMP improvements
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)
Monitor resource availability
Monitor FY 2007 Test Resource Management Center (TRMC)", Strategic Plan implementation
Monitor resource availability
Update training at DAU, publicize at Program Executive Officer/Systems Command (PEO/SYSCOM) conference and industry events in FY 2008

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2009 DT&E Plans:	0.000	0.000	0.000	17.523

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
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
Monitor resource availability
Update training at DAU, publicize at PEO/SYSCOM and industry events in FY 2009

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & Evaluation**	**P805**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P805	Software Engineering and System Assurance	0.000	0.000	2.819	2.909	3.001	3.064	3.105	3.148

A. Mission Description and Project 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:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2008 Plans	0.000	0.000	2.819	0.000

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 PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0605804D8Z - Developmental Test & 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)

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2009 Plans	0.000	0.000	0.000	2.909

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.

D. Acquisition Strategy: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6	PE NUMBER AND TITLE **0605804D8Z - Developmental Test & Evaluation**	PROJECT **P805**

E. Major Performers Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0606100D8Z - OSD Support for Programming Budget**

Cost ($ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost	0	0	5.750	5.888	6.029	6.174	6.322	6.474
P101 OSD Support for Programming Budget	0	0	5.750	5.888	6.029	6.174	6.322	6.474

A. Mission Description and Budget Item Justification: This is a new program that supports both the Office of the Director, Program, Analysis & Evaluation (PA&E) and the Office of the Under Secretary of Defense (Comptroller). 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.

These assessments will also support three-star programmer and Deputy's Advisory Working Group (DAWG) decisions. The second element of the three-pronged vision outlined in the 2006 Quadrennial Defense Review for reshaping the Defense enterprise is to "provide information and analyses to necessary to make timely and well-reasoned decisions". Toward that goal, the Department has strengthened the decision-making process through the creation of the Deputy's Advisory Working group and this program will provide the tools and transparent analyses to support this governance and management forum. 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.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	0	0	0	0
President's Budget (FY 2008/2009)	0	0	5.750	5.888
Total Adjustments	0.000	0.000	+5.750	+5.888
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other			+5.750	+5.888

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0606100D8Z - OSD Support for Programming Budget**

C. Other Program Funding Summary: Not Applicable.

P101	OSD Support for Programming Budget	0	0	5.750	5.888	6.029	6.174	6.322	6.474

D. Acquisition Strategy: Not Applicable.

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 products or expected outcomes of this program are studies and analyses to support resource allocation decisions, acquisitions 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.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0606100D8Z - OSD Support for Programming Budget**	**P101**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P101	OSD Support for Programming Budget	0	0	5.750	5.888	6.029	6.174	6.322	6.474

A. Mission Description and Project Justification: This is a new program that supports both the Office of the Director, Program, Analysis & Evaluation (PA&E) and the Office of the Under Secretary of Defense (Comptroller). 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.

These assessments will also support three-star programmer and Deputy's Advisory Working Group (DAWG) decisions. The second element of the three-pronged vision outlined in the 2006 Quadrennial Defense Review for reshaping the Defense enterprise is to "provide information and analyses to necessary to make timely and well-reasoned decisions". Toward that goal, the Department has strengthened the decision-making process through the creation of the Deputy's Advisory Working group and this program will provide the tools and transparent analyses to support this governance and management forum. Projects that support this effort will help inform the leadership on: 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.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
OSD Support for Programming Budget	0	0	5.750	5.888

FY 2008 Plans

This is the first year of the project. Examples of initial studies and projects that the effort will support are:

- Assess enhancements to Special Operations forces for the prosecution of the Global War on Terror as directed by the Secretary of Defense
- Improved analytical tools and techniques to support the 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
- Examine ground force structure to include manpower, equipment and readiness
- Assess capacity needed within DoD, as well at the role of the inter-agency and allies over a range of scenarios against the 2006 Quadrennial Defense Review 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
- Complete 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 to help capability portfolio managers determine the proper balance in their portfolio

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 6	**0606100D8Z - OSD Support for Programming Budget**	**P101**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
OSD Support for Programming Budget	0	0	5.750	5.888

FY 2009 Plans

Continue to assess the principal areas identified in the Force Planning Construct (homeland defense, war on terror/irregular warfare, conventional military operations) across both steady state and surge environments to prepare a detailed assessment of US military capabilities in preparation for the 2010 Quadrennial Defense Review. Complete an updated Mobility Capabilities Study to understand the air and sealift needs of the Defense strategy. Review US global basing, presence, and prepositioned materiel needs.

B. Program Change Summary: Not Applicable. This is a new start.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable. This is a new start.

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2007	
Appropriation/Budget Activity RDT&E Defense-Wide, BA 6				R-1 Item Nomenclature: Support to Information Operations Capabilities PE 0303166D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	0	0	28.652	30.093	31.118	31.896	30.729	31.353
IO Capability Activities	0	0	3.692	4.613	4.678	4.746	4.819	4.893
IO Range	0	0	10.600	10.900	11.200	11.600	11.840	12.900
IO Planning Capability - Joint	0	0	14.360	14.580	15.240	15.550	14.070	14.370

A. Mission Description and Budget Item Justification:

The program contains classified efforts. This is not a new start. Funding was previously reported under other program elements and is now consolidated under this new non-MIP program element effective with FY08. Transfers funds allocated to IO Range development to a PE that supports USJFCOM as the Lead Agent for the IO Range. Transfer of funds allocated for the Information Operations Planning Capability – Joint (IOPC-J) corresponds with the functional transfer of responsibility for capability development to USJFCOM.

Program Accomplishments and Plans:

FY 2006 Accomplishments: N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: Funds continue JFCOM development of the IO Range, including the expansion of fixed sites, instrumentation and other capabilities. Funds development of the initial IOPC-J in coordination with the Lead Component, JFCOM.

FY 2009 Plans: Continued development and expansion of the IO Range, spiral development of IOPC-J and other IO capabilities.

B. **Program Change Summary:** (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President' s Budget Submission)

	FY 2006	FY 2007	FY 2008	FY2009
Previous President's Budget	0	0	0	0
Current President's Budget	0	0	28.652	30.093

Total Adjustments	28.652	30.093
Congressional program reductions		
Congressional rescissions		
Congressional increases		
Department adjustments	28.652	30.093

Change Summary Explanation:

FY 2008: $28.652M Department transfer to new PE
FY 2009: $30.093M Department transfer to new PE

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics: N/A

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: IO Capability Activities				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IO Capability Activities	0	0	3.692	4.613	4.678	4.746	4.819	4.893
RDT&E Articles Quantity	N/A	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. Transfers funds from a MIP PE to a more appropriate, non-MIP PE to facilitate the development IO capabilities that support COCOMs and Services executing IO during current and future conflicts.

B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	0	0	3.692	4.613
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: This project contains classified projects. Funds development of IO capabilities that support COCOMs and Services executing IO during current and future conflicts.

FY 2009 Plans: This project contains classified projects. Funds development of IO capabilities that support COCOMs and Services executing IO during current and future conflicts.

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 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: IO Range				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IO Range	0	0	10.600	10.900	11.200	11.600	11.840	12.90
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

USJFCOM, as the appointed Lead Agent for developing the IO Range in accordance with the 2003 IO Roadmap, will continue development of the IO Range, to include expanding the number of sites connected to the range and instrumentation and other capabilities that enhance the results of conducting IO testing, training, demonstrations and exercises on the IO Range.

B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	0	0	10.600	10.900
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: Funds continue JFCOM development of the IO Range, including the expansion of fixed sites, instrumentation and other capabilities. Funds development of the initial IOPC-J in coordination with the Lead Component, JFCOM.

FY 2009 Plans: Continued development and expansion of the IO Range.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: USJFCOM

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: IO Planning Capability – Joint				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IO Planning Capability - Joint	0	0	14.360	14.580	15.240	15.550	14.070	14.370
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

Development of an IO Planning Capability – Joint (IOPC-J), directed by the 2003 IO Roadmap. USJFCOM was assigned the Lead Component for developing the IOPC-J. The funding for IOPC-J was transferred to this PE to support the functional transfer of IOPC-J to USJFCOM. USJFCOM, partnered with Services, COCOMs, and Defense Agencies, will provide IO planners, targeteers and operators an enhanced capability to conduct analysis, planning, and execution of IO missions.

B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	0	0	14.360	14.580
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: Funds development of the initial IOPC-J in coordination with the Lead Component, JFCOM.

FY 2009 Plans: Spiral development of IOPC-J.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: USJFCOM, USA, USN, USAF, Select Defense Agencies

Exhibit R-2, RDT&E Budget Item Justification				Date: February 2007				
Appropriation/Budget Activity RDT&E Defense-Wide, BA 6				R-1 Item Nomenclature: PE 0303169D8Z – Information Technology Rapid Acquisition				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	5.353	5.061	5.197	5.264	4.746	5.199	5.280	5.362

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.

FY 2006 Accomplishments: ($5.353 million)

The RAI-NC process employed for FY 2006 placed increased emphasis on Net Centricity and Domain oversight, as well as incorporation of lessons learned and accomplished the following:

- Merged the visions and goals of DoD transformation and net centricity into rapidly deployed, common solutions that accelerated the transformation of DoD business Domains.
- Accelerated achieving the end-to-end net-centric operations/warfare through the timely, secure and coherent transition across DoD networks, applications and infrastructures to a common networking protocol, IPv6.
- Promoted Domain teaming and helped overcome existing barriers to executing the Department's transformation goals and obtaining a net-centric environment.
- Permitted more efficient DoD mission support by enabling quicker fielding of both net-centric information systems and weapons systems.
- Accelerated force transformation and enabled DoD processes to be more timely and efficient, to include eBusiness solutions.

FY 2007 Plans ($5.061 million)
Conduct proofs of concept early implementation that advance the transformation of DoD processes, further net-centric operations and provide business case based enterprise solutions. RAI-NC efforts will focus 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 will allow the business and warfighting mission areas to leverage the power of information through net-centric operations/warfare. It is expected that these FY 2007 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 include:

- 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
- Providing migration path to warfighter systems.

FY 2008 Plans ($5.197 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:

- 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

- Providing migration path to warfighter systems.

FY 2009 Plans ($5.264 million)

RAI-NC initiatives that accelerate DoD's net-centric transformation in direct support of the warfighter will continue to include:

- Continue to promoting commodity-based software programmable radio technologies to rapidly respond to warfighter requirements and reducing costs.
- Continue to providing for rapid prototyping, test and demonstration of commodity-based software programmable radio solutions utilizing evolving technologies for near and long term solutions.
- Continue to 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
- 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: (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President's Budget Submission)

	FY 2006	FY 2007	FY 2008	FY2009
Previous POM/BES	5.491	5.090	5.197	5.264
Current Presidents Budget	5.353	5.061	5.197	5.264
Total Adjustments	-.138	-.029		
Congressional program reductions				
Congressional rescissions, Inflation adjustments	-.138	-.029		
Congressional increases				
SBIR/STTR Transfer				
Reprogrammings				

Change Summary Explanation:
FY 2006: SBIR -.123 million, STTR -.015 million.
FY 2007: FFRDC -.010 million, Economic Assumptions -.019 million.
FY 2008: No change.
FY 2009: No change.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics:

1. Effectively merge the visions and goals of DoD transformation and net centricity into rapidly deployed, common solutions that will accelerate the transformation of DoD business Domains.
2. Promote Domain teaming and help overcome existing barriers to executing the Department's transformation goals and obtaining a net centric environment.
3. Permit more efficient DoD mission support by enabling quicker fielding of both net centric information systems and weapons systems
4. Accelerate force transformation and enables business processes to be more timely and efficient (reduce cost of support), to include eBusiness solutions
5. Permit DoD to accelerate the rate of lowering the cost of doing business

Reduce information systems risks and costs, by speeding up proof of concept demonstrations and providing business case based implementation decisions.

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2007	
Appropriation/Budget Activity RDT&E Defense-Wide, BA 6				R-1 Item Nomenclature: PE 0305193D8Z - Intelligence Support to Information Operations (IO)				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	13.718	14.048	9.932	17.657	20.996	21.539	21.915	22.293
E-Space	.773	.797	.423	.816	.840	.854	.867	.881
Human Factors and Intel Fusion	11.062	11.392	5.642	11.666	12.012	12.216	12.407	12.598
IO Indications and Warning	1.883	1.859	.987	1.985	2.044	2.079	2.111	2.144
Analytic Support	0	0	2.880	3.190	6.100	6.390	6.530	6.670

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: (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President's Budget Submission)

	FY 2006	FY 2007	FY 2008	FY2009
Previous President's Budget	13.718	14.128	15.141	14.864
Current President's Budget	13.718	14.048	9.932	17.657
Total Adjustments		-.080	-5.209	2.793
Congressional program reductions		-.080		
Congressional increases				
Department adjustments			-5.209	2.793

Change Summary Explanation:
FY 2007: $.080M Department decrease
FY 2008: $5.209M Department decrease
FY 2009: $2.793M Department increase

C. Other Program Funding Summary: Not Applicable

D. Acquisition Strategy: Not Applicable

E. Performance Metrics: Details are provided in the classified Congressional Justification Book.

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: E-Space				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
E-Space	.773	.797	.423	.816	.840	.854	.867	.881
RDT&E Articles Quantity	N/A	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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	.773	.797	.423	.816
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: Details provided in the classified Congressional Justification Book.

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: Not applicable

D. Acquisition Strategy: Not applicable

E. Major Performers: Details provided in the classified Congressional Justification Book.

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: Human Factors and Intelligence Fusion				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Human Factors and Intelligence Fusion	11.062	11.392	5.642	11.666	12.012	12.216	12.407	12.598
RDT&E Articles Quantity	N/A	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 and Intelligence Fusion) contains classified programs. Details are provided in the classified Congressional Justification Book.

B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	11.062	11.392	5.642	11.666
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: Details provided in the classified Congressional Justification Book.

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: Not applicable

D. Acquisition Strategy: Not applicable

E. Major Performers: Details provided in the classified Congressional Justification Book.

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: Information Operations Indications and Warning				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IO Indications and Warning	1.883	1.859	.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	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 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	1.883	1.859	.987	1.985
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: Details provided in the classified Congressional Justification Book.

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: Not applicable

D. Acquisition Strategy: Not applicable

E. Major Performers: Details provided in the classified Congressional Justification Book.

Exhibit R-2a, RDT&E Project Justification								Date: February 2007
Appropriation/Budget Activity RDT&E,DW BA 6				Project Name and Number: Analytic Support				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Analytic Support	0	0	2.880	3.190	6.100	6.390	6.530	6.670
RDT&E Articles Quantity	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification:

Analytic Support contains classified programs. Details are provided in the classified Congressional Justification Book.

B. Accomplishments/Planned Program

	FY 2006	FY 2007	FY 2008	FY 2009
Accomplishment/ Effort/Subtotal Cost	0	0	2.880	3.190
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

FY 2006 Accomplishments: Not Applicable

FY 2007 Accomplishments: Not Applicable

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: Not applicable

D. Acquisition Strategy: Not applicable

E. Major Performers: Details provided in the classified Congressional Justification Book.

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2007	
Appropriation/Budget Activity RDT&E Defense-Wide, BA 6				R-1 Item Nomenclature: Warfighting and Intelligence-Related Support PE 0305400D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	0	0	.827	.832	.843	.855	.869	.882

A. Mission Description and Budget Item Justification: This program supports the development of intelligence-related capabilities and warfighting operational support activities that meet critical and timely warfighter needs and requirements. This includes ensuring 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. This is not a new start. Funding was previously reported as the project Intelligence Support under a Military Intelligence Program (MIP) program element 0605200D8Z, General Support to USD-I. Effective with FY08 it is transferred to a new non-MIP program element.

Program Accomplishments and Plans:

FY 2006 Accomplishments: N/A

FY 2007 Accomplishments: N/A

FY 2008 Plans: Mission Support

FY 2009 Plans: Mission Support

B. Program Change Summary: (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President's Budget Submission)

	FY 2006	FY 2007	FY 2008	FY2009
Previous President's Budget	0	0	0	0
Current President's Budget	0	0	.827	.832
Total Adjustments			.827	.832

Congressional program reductions		
Congressional rescissions		
Congressional increases		
Department Adjustments	.827	.832

Change Summary Explanation:
FY 2008: $.827M Department transfer to new PE
FY 2009: $.832M Department transfer to new PE

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics: Classified