OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**

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	38.866	38.060	38.823	40.293	41.230	41.716	42.185
P162 Nuclear & Conventional Phys Sec Equip	0.000	38.866	38.060	38.823	40.293	41.230	41.716	42.185

A. Mission Description and Budget Item Justification: The purpose of this program is to develop physical security equipment (PSE) systems for all DoD components. This program supports the protection of tactical, fixed, and nuclear weapons systems, DoD personnel and DoD facilities. The funds are used to provide PSE RDT&E for continuing and evolving individual Service and joint PSE requirements that provide capability in the areas of force protection and tactical security equipment; robotic security systems integration; waterside security systems; explosive detection equipment; locks, safes and vaults; commercial-off-the-shelf (COTS) testing; and nuclear weapons security. Many RDT&E efforts arising from this PE will transition to PE 604161D8Z for system demonstration and validation. The PSE program is organized so that representatives from the Army, Navy, Air Force, and Defense Threat Reduction Agency (DTRA) monitor, direct and prioritize potential and existing PSE programs through the auspices of the Physical Security Equipment Action Group (PSEAG) and the Security Policy Verification Committee (SPVC). With few exceptions, each Service sponsors RDT&E efforts for technologies and programs that have multi-Service application. This program element supports the Army's advanced engineering development of Interior and Exterior Detection, Security Lighting, Security Barriers and Security Display Units. In a like manner, the program element also supports the Air Force's PSE RDT&E effort in the areas of Exterior Detection/Surveillance, Entry Control, Delay/Denial, Tactical Systems and Airborne Intrusion. Finally, the program supports Navy RDT&E efforts in the areas of Waterside Security, Explosive Detection, and improved technology for Locks, Safes and Vaults. Beginning with FY 1997, this PE includes funding for Force Protection Commercial-Off-The-Shelf (FP COTS) evaluation and testing, which has received focus since the 1996 Khobar Towers terrorist bombing incident. The FP COTS testing applies to all available technologies, which are considered effective for DoD physical security use.

Prior efforts were transitioned from Air Force PE 603287F and OSD PE 605161D8Z.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	0.000	33.890	39.012	39.578
Current BES/President's Budget (FY 2008/2009)	0.000	38.866	38.060	38.823
Total Adjustments	0.000	4.976	-0.952	-0.755
Congressional Program Reductions				
Congressional Rescissions		-0.224		
Congressional Increases		5.200		
Reprogrammings				
SBIR/STTR Transfer				
Other			-0.952	-0.755

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**

Recognizing the synergy between nuclear weapons and conventional physical security, funds were realigned, beginning in FY 2007, from PE 603287F and 605161D8Z to this PE so that DATSD(Nuclear Matters) may leverage nuclear weapons and conventional physical security equipment programs to develop common solutions to common capability gaps.

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						
08						

Comment: The program performance metrics are established/approved through the DoD Physical Security Equipment Action Group (PSEAG) and the Security Policy Verification Committee (SPVC). The cost, schedule and technical progress of each project is reviewed at quarterly PSEAG and SPVC meetings. Performance variances are addressed and corrective action is implemented as necessary.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**	**P162**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P162	Nuclear & Conventional Phys Sec Equip	0.000	38.866	38.060	38.823	40.293	41.230	41.716	42.185

A. Mission Description and Project Justification: The purpose of this program is to develop physical security equipment (PSE) systems for all DoD components. This program supports the protection of tactical, fixed, and nuclear weapons systems, DoD personnel and DoD facilities. The funds are used to provide PSE RDT&E for continuing and evolving individual Service and joint PSE requirements that provide capability in the areas of force protection and tactical security equipment; robotic security systems integration; waterside security systems; explosive detection equipment; locks, safes and vaults; commercial-off-the-shelf (COTS) testing; and nuclear weapons security. Many RDT&E efforts arising from this PE will transition to PE 604161D8Z for system demonstration and validation. The PSE program is organized so that representatives from the Army, Navy, Air Force, and Defense Threat Reduction Agency (DTRA) monitor, direct and prioritize potential and existing PSE programs through the auspices of the Physical Security Equipment Action Group (PSEAG) and the Security Policy Verification Committee (SPVC). With few exceptions, each Service sponsors RDT&E efforts for technologies and programs that have multi-Service application. This program element supports the Army's advanced engineering development of Interior and Exterior Detection, Security Lighting, Security Barriers and Security Display Units. In a like manner, the program element also supports the Air Force's PSE RDT&E effort in the areas of Exterior Detection/Surveillance, Entry Control, Delay/Denial, Tactical Systems and Airborne Intrusion. Finally, the program supports Navy RDT&E efforts in the areas of Waterside Security, Explosive Detection, and improved technology for Locks, Safes and Vaults. Beginning with FY 1997, this PE includes funding for Force Protection Commercial-Off-The-Shelf (FP COTS) evaluation and testing, which has received focus since the 1996 Khobar Towers terrorist bombing incident. The FP COTS testing applies to all available technologies, which are considered effective for DoD physical security use.

Prior efforts were transitioned from Air Force PE 603287F and OSD PE 605161D8Z.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Force Protection/Tactical Security Equipment (FP/TSE):	0.000	15.635	13.439	13.600

FY 2006 Accomplishments:
Prior efforts were transitioned from Air Force PE 603287F.

FY 2007 Plans:
- Begin Light Kit, Motion Detection (LKMD) Prototype Design, Fabrication, and Integration of 40 prototype systems.
- Conduct a Leap Ahead assessment of current PSE capability.
- Develop an enhanced Command and Control Display Element (CCDE) for Physical Security Systems.
- Develop the software to support the Common Operational Picture.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**	**P162**

- Conduct Combined Test Force Evaluation of Phase IV development of the Remote Detection and Tracking System (RDTS).
- Demonstrate Wireless Security Sensor Networks.
- Conduct Operational Test and Evaulation (OT&E) of Smart Gate.
- Execute a congressional add to develop the Integrated High Activity Response System.
- Execute a congressional add to continue designing software for Intelligent Decision Exploration.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have Physical Security Equipment (PSE) utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.

FY 2008 Plans:
- Integrate Identify Friend or Foe with radar detection systems.
- Evaluate Commercial-Off-The-Shelf (COTS) Wireless Sensor System Network technology.
- Plan for Smart Gate maintenance and sustainment.
- Interface Smart gate with applicable database management systems.
- Conduct Light Kit, Motion Detection (LKMD) product verification testing (PVT).
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.

FY 2009 Plans:
- Develop a Trip Wire Sensor.
- Develop an improved active infrared detection system.
- Complete LKMD PVT.
- Continue spiral development of the Aircraft Self-Protection System (ASPSS).
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Robotic Security Systems Integration (RSSI):	0.000	1.763	1.024	1.036

FY 2006 Accomplishments:
Prior efforts were transitioned from Air Force PE 603287F.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**	**P162**

FY 2007 Plans:
- Integrate data feeds obtained from unmanned air and ground vehicles to improve surveillance capability and the common operation picture.
- Begin to integrate remote weapon systems with robotic platforms.
- Evaluate user and site requirements for Multi-robot Operator Control Unit (MOCU) integration with an Unmanned Aerial Vehicle (UAV).
- Execute a congressional add to continue the development of the Digital Network Centric Remotely Operated Weapon System.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve robotic integration capability.

FY 2008 Plans:
- Complete Force Protection Aerial Surveillance System (FPASS) Web-Based Proficiency Simulation.
- Begin FPASS Web Training certification process
- Transition FPASS web-based Trainer and system to USAF.
- Develop, test, evaluate, and modify Multi-robot Operator Control Unit/Unmanned Aerial Vehicle (MOCU/UAV) interface.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to test, develop, and integrate equipment to improve robotic integration capability.

FY 2009 Plans:
- Collaborate on Human Presence sensor integration and testing on robotic platform in exterior environment to refine hardware and algorithms.
- Demonstrate Networked Remotely Operated Weapon System (NROWS) detecting and tracking multiple targets under various control scenarios.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security robotic integration capability.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Waterside Security System (WSS):	0.000	2.928	3.250	3.290

FY 2006 Accomplishments:
Prior efforts were transitioned from Air Force PE 603287F.

FY 2007 Plans:
- Continue efforts to develop the next generation WQX-2 Sonar with Allies.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**	**P162**

- Leverage WSS efforts in support of SSBNs. Continue to explore opportunities to develop a viable non-lethal means to neutralize swimmer threats.
- Further develop brassboard WSS prototypes transitioned from concept development.
- Develop AN/WQV-2 ADCAP version 3.1 software.
- Continue to research technology to protect shipboard and Marine expeditionary forces.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

FY 2008 Plans:
- Develop and integrate a prediction tool into the AN/WQX-2 ADCAP processor.
- Add patrol boat and radar tracking capability to ADCAP processor.
- Complete overwater development of Remote Detectio and Tracking Sensor (RDTS).
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have Physical Security Equipment (PSE) utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

FY 2009 Plans:
- Continue to develop swimmer detection capability.
- Continue to improve algorithms that provide target analysis of waterborne threat.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Explosive Detection Equipment (EDE):	0.000	5.763	6.394	6.471

FY 2006 Accomplishments:
Prior efforts were transitioned from Air Force PE 603287F.

FY 2007 Plans:

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**	**P162**

- Acquire emerging explosive detection technology for comparative testing and realignment of a Baseline Explosive Detection Architecture.
- Conduct System Design Review for the Video/Radar Concealed Bomb Detection.
- Develop a hybrid image/trace explosive detection capability.
- Continue to invest in the development of a viable technology to provide a stand off explosive detection capability against Improvised Explosive Devices (IEDs).
- Reduce Remote/Standoff Explosive Detection System (R/SEDS) detection time yet increase detection capability.
- Conduct comparative testing of commercial and developmental explosive detection devices.
- Conduct OT&E of R/SEDS.
- Determine the feasibility of using Computed Tomography (CT) X-Ray technology to detect explosives.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE/EDE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

FY 2008 Plans:
- Refine the capability of Remote/Standoff Explosive Detection System (R/SEDS) to specifically identify the type of explosive.
- Develop and test a backpack version of the Quantum Sniffer.
- Develop a CT Scan algorithm for explosive detection.
- Explore the use of TerraHertz technology to detect explosives at a distance.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE/EDE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

FY 2009 Plans:
- Develop a phosphor plate detector for a Computed Tomography (CT) Explosive Scanner.
- Upgrade and test the CT Scanner algorithms.
- Develop a 650 GHz source for teacher imaging.
- Continue to explore TerraHertz technology in academia and the National Labs.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE/EDE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Locks, Safes, Vaults:	0.000	1.560	1.731	1.752

FY 2006 Accomplishments:
Prior efforts were transitioned from Air Force PE 603287F.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**	**P162**

FY 2007 Plans:
- Develop an Integrated Locking Device (ILD) universal mount prototype.
- Incorporate ILD design improvements that will increase operation. capability and improve resistance against forced entry.
- Develop an ILD with biometrics verification capability.
- Integrate biometrics technology with high security lock technology.
- Hold 8th Annual Seals Symposium.
- Identify shock and vibration requirements for shipboard security containers.
- Continue to manage, develop, evaluate, and test Delay/Denial products.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security of facilities.

FY 2008 Plans:
- Integrate and automate locking systems into other support systems.
- Begin Operational Test and Evaluation (OT&E) of Storage Magazine redesign.
- Plan and execute a Seals Symposium.
- Maintain field support program.
- Integrate Internal Locking Device (ILD) identity verification capability software.
- Continue to manage, develop, evaluate, and test Delay/Denial products.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security of facilities.

FY 2009 Plans:
- Begin Low Rate Initial Production (LRIP) of redesigned storage magazines.
- Begin Operation Testing and Evaluation (OT&E) of Storage Magazine redesign.
- Continue field support program.
- Continue to develop ILD with biometrics/identity verification capability.
- Continue to manage, develop, evaluate, and test Delay/Denial products.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security of facilities.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Commercial-Off-The-Shelf (COTS) Testing:	0.000	2.617	2.228	2.255

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**	**P162**

FY 2006 Accomplishments:
Prior efforts were transitioned from Air Force PE 603287F.

FY 2007 Plans:
- Refine Force Protection Equipment Demonstration (FPED) VI on-line registration and informational website.
- Continue to seek near-term (commercial) solutions for immediate force protection needs.
- Execute FPED VI.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

FY 2008 Plans:
- Continue to seek near-term (commercial) solutions for immediate force protection needs.
- Plan FPED VII.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

FY 2009 Plans:
- Execute FPED VII.
- Find commercial solutions to a Common Relevant Operational Picture.
- Continue to seek near-term (commercial) solutions for immediate force protection needs.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Nuclear Weapon Physical Security:	0.000	8.600	9.994	10.419

FY 2006 Accomplishments:
Prior efforts were transitioned from OSD PE 605161D8Z.

FY 2007 Plans:
- Apply lessons learned from Secure Brow test and evaluation.
- Develop a fully functioning, interactive, 3D view client workstation for the Joint Conflict and Tactical Simulation (JCATS).
- Design, fabricate, and install prototype delay upgrade hardware in a (Payload Transporter (PT) III Van.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**	**P162**

- Continue developing the Virtual Perimeter Security System (VPS).
- Improve capability to apply immediate sufficient duress at a Protective Aircraft Shelter.
- Develop hardened capability in the protection of nuclear weapons storage sites and launch facilities.
- Begin to incorporate secure wireless communication and sensor data fusion into virtual presence and extended detection.
- Continue to develop systems that deny access to nuclear weapons facilities and systems by designing Pierside and Dry Dock vessel access denial systems.
- Conduct a product improvement of the Radar Track Processor that will enhance the ability to track marine vessels operating near nuclear facilities.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

FY 2008 Plans:
- Continue developing the Active Protection System.
- Add a 3D viewer to the JCATS after action review tool to expand the capability of simulation runs.
- Publish a design guidance document based on the findings of the Physical Security of Storage Magazine Study.
- Continue to build algorithms that model terrorist attacks against critical resources.
- Conduct developmental testing of modeling and simulation software.
- Fabricate access denial system prototypes.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

FY 2009 Plans:
- Develop a fully function, interactive, 3D view client workstation.
- Conduct Operational Test and Evaluation (OT&E) of Virtual Perimeter Security System prototype.
- Develop a risk management tool for nuclear weapons physical security.
- Support the retrofit of Storage Magazines.
- Continue to adapt weapons intercept technology to provide protection of nuclear weapons facilities.
- Test and evaluate access denial systems.
- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continue to manage sensor and assessment product developments and tests.
- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continue to test, develop, and integrate equipment to improve security and access to facilities.

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

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603161D8Z - Nuclear and Conventional Physical Security Equipment RDT&E ADC&P**	**P162**

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# 4	**0603228D8Z - 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	17.211	0.000	0.000	0.000	0.000	0.000	0.000	0.000
P228 Physical Security	17.211	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Budget Item Justification: The purpose of this program is to develop physical security equipment (PSE) systems for Physical Security and Force Protection capabilities. Changing operational missions and evolving threats to warfighting assets and personnel dictate the advanced development of physical security equipment. This is a continuing process. As the political, social and economic landscape of the world undergoes change, so do operational security requirements pursuant to the protection of the forces and assets deployed around the world. To meet emergent DoD challenges and to support security requirements, the PSE program adapts, evaluates and tests equipment to meet the needs of the security force. In addition to the cost/benefit analysis that each R&D effort undergoes, each project is further evaluated relative to size, weight, deployability, operational environment, and logistical life cycle. Activities include systems engineering, system architecture design, interoperability, logistics planning, and test and evaluation of a variety of PSE systems, to include Unmanned Systems. Activities also include the evaluation and testing of DoD Locks and Security Containers. The projects being funded by this PE are key to providing unmanned PSE capabilities to currently deployed forces and will enhance overall PSE capabilities throughout DoD. The program will also support the evaluation and testing of DoD Locks and Security Containers.

Any continued development will be accomplished through PE 0603161D8Z and PE 0604161D8Z.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	9.851	0.000	0.000	0.000
Current BES/President's Budget (FY 2008/2009)	17.211	0.000	0.000	0.000
Total Adjustments	7.360	0.000	0.000	0.000
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other	7.360			

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# 4	**0603228D8Z - Physical Security**

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 program performance metrics are established/approved through the DoD Physical Security Equipment Action Group (PSEAG). The cost, schedule and technical progress of each project is reviewed at quarterly PSEAG meetings. Performance variances are addressed and corrective action is implemented as necessary.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603228D8Z - Physical Security**	**P228**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P228	Physical Security	17.211	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Project Justification: The purpose of this program is to develop physical security equipment (PSE) systems for Physical Security and Force Protection capabilities. Changing operational missions and evolving threats to warfighting assets and personnel dictate the advanced development of physical security equipment. This is a continuing process. As the political, social and economic landscape of the world undergoes change, so do operational security requirements pursuant to the protection of the forces and assets deployed around the world. To meet emergent DoD challenges and to support security requirements, the PSE program adapts, evaluates and tests equipment to meet the needs of the security force. In addition to the cost/benefit analysis that each R&D effort undergoes, each project is further evaluated relative to size, weight, deployability, operational environment, and logistical life cycle. Activities include systems engineering, system architecture design, interoperability, logistics planning, and test and evaluation of a variety of PSE systems, to include Unmanned Systems. Activities also include the evaluation and testing of DoD Locks and Security Containers. The projects being funded by this PE are key to providing unmanned PSE capabilities to currently deployed forces and will enhance overall PSE capabilities throughout DoD. The program will also support the evaluation and testing of DoD Locks and Security Containers.

Any continued development will be accomplished through PE 0603161D8Z and PE 0604161D8Z.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Physical Security Equipment	3.556	0.000	0.000	0.000
- Congressional Add to support the Physical Security Enhancement of FFRDCs.				

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0603228D8Z - Physical Security**

- Congressional Add to support the development of Intelligent Decision Exploration.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Robotic Integration to Support Physical Security	6.295	0.000	0.000	0.000

- Congressional Add to support the development of 360-Degree Portable Surveillance and Reconnaissance Technologies.
- Congressional Add to support the development of a Family of Integrated Rapid Response Equipment.
- Congressional Add to support the development of
Persistent Perimeter Security with Unmanned Mobile Sensors.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
DoD Locks and Security Containers	7.360	0.000	0.000	0.000

- Reprogramming to support the evaluation and testing of DoD Locks and Security Containers.

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# 4	**0603527D8Z – RETRACT LARCH**

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	6.577	22.254	22.365	22.983	23.731	24.213	24.821	25.444
0603527D8Z Retract Larch	6.577	22.254	22.365	22.983	23.731	24.213	24.821	25.444

A. Mission Description and Budget Item Justification: PE 0603527D8Z, Retract Larch, program is submitted separately as a Special Access Program.

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)	6.577	22.254	22.365	22.983
Total Adjustments	6.577	22.254	22.365	22.983
Congressional Program Reductions		-0.129		
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other	6.577	22.383	22.365	22.983

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Performance Metrics: 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# 4	**0603709D8Z - Joint Robotics 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		30.688	22.978	11.860	11.867	12.119	12.389	12.711	13.041
P709	Joint Ground Robotics Enterprise (JGRE) ACD&P	30.688	22.978	11.860	11.867	12.119	12.389	12.711	13.041

A. Mission Description and Budget Item Justification: (U) This Program Element (PE) was established in response to Congressional guidance to consolidate DoD robotic programs on unmanned ground systems and related robotic technologies in order to increase focus of the Services' robotic programs on operational requirements. Technologies in the PE support the continued development of technologies in Budget Activity 3 (PE 0603711D8Z) to continue to make technology transition and transformation for closing the warfighter requirement to capability gap. The program ensures coordination between the Services and places emphasis on interoperability and commonality among unmanned ground systems. This PE continues the effort to overcome technology barriers in the thrust areas of unmanned ground system technologies to include Autonomous & Tactical Behaviors, Manipulation Technologies, Collaborative Operations, Interoperability, Man-portable Unmanned Ground System Technologies, and Technology Transition/Transformation. The purpose is to further the fielding of a family of affordable and effective mobile ground robotic systems; develop and transition technologies necessary to meet evolving user requirements, and serve as a catalyst for insertion of robotic systems and technologies into the force structure. This PE supports the need to integrate technologies into representative models or prototype systems in a high fidelity and realistic operating environment and expedite technology transition from the laboratory to operational use. Emphasis is on proving component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives. Within this PE, funded projects will continue the delivery of responses to advanced technology needs directed at enhancing the warfighter's capabilities identified during concept development, operational assessments and field feedback of current unmanned systems.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	27.264	12.210	12.219	12.300
Current BES/President's Budget (FY 2008/2009)	30.688	22.978	11.860	11.867
Total Adjustments	3.424	10.768	-0.359	-0.433
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases	4.200	10.900		
Reprogrammings				
SBIR/STTR Transfer	-0.776			
Other		-0.132	-0.359	-0.433

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0603709D8Z - Joint Robotics Program**

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: Metrics for the Joint Ground Robotics Enterprise (JGRE) funded RDT&E are articulated in individual project plans used to form the basis of funding justification and program assessment. These decisions are supported by the JGRE Technology Advisory Board (TAB). The TAB provides technology to capability matrix assessments to inform funding decisions, provide inputs to unmanned system (UMS) roadmaps and ensure technology transitions. In all document sets, project descriptions include task schedules with associated milestones, against which progress toward end goals can be measured. At the level of the performer, efforts are tracked using project technical and management milestones that have been appropriately defined and agreed upon in the project plans. At the enterprise level, the JGRE management structure and process tracks deliverables and examines the transition of technologies and ideas from the performer to DoD programs. The JGRE management structure and process includes a mid-year in progress review (IPR), annual funding justification and prioritization, technology assessments, a senior Military Council and a Senior Steering Group (SSG) overview. These DoD participant reviews include cost, schedule and technical progress assessment against the project milestones. Metric evaluations for the funded actions include, where appropriate, controlled trials, demonstrations, quasi-experimental evaluations, and direct/indirect analysis.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603709D8Z - Joint Robotics Program**	**P709**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P709	Joint Ground Robotics Enterprise (JGRE) ACD&P	30.688	22.978	11.860	11.867	12.119	12.389	12.711	13.041

A. Mission Description and Project Justification: (U) This Program Element (PE) was established in response to Congressional guidance to consolidate DoD robotic programs on unmanned ground systems and related robotic technologies in order to increase focus of the Services' robotic programs on operational requirements. Technologies in the PE support the continued development of technologies in Budget Activity 3 (PE 0603711D8Z) in order to continue to make technology transition and transformation for closing the warfighter requirement to capability gap. The program ensures coordination between the Services and places emphasis on interoperability and commonality among unmanned ground systems. This PE and subsequent projects continue the effort to overcome technology barriers in the thrust areas of unmanned ground system technologies to include Autonomous & Tactical Behaviors, Manipulation Technologies, Collaborative Operations, Interoperability, Man-portable Unmanned Ground System Technologies, and Technology Transition/Transformation. The purpose is to further the fielding of a family of affordable and effective mobile ground robotic systems; develop and transition technologies necessary to meet evolving user requirements, and serve as a catalyst for insertion of robotic systems and technologies into the force structure. This PE supports the need to integrate technologies into representative models or prototype systems in a high fidelity and realistic operating environment and expedite technology transition from the laboratory to operational use. Emphasis is on proving component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives. Within this PE, funded projects will continue the delivery of responses to advanced technology needs directed at enhancing the warfighters' capabilities identified during concept development, operational assessments and field feedback of current unmanned systems.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
(U) Autonomous & Tactical Behaviors	4.869	2.840	2.051	1.892

FY 2006 Accomplishments:
- Refined, maintained for and began transition of documentation for Joint Architecture for Unmanned Systems (JAUS) to a Society of Automotive Engineers (SAE) standard.
- Maintained and refined JAUS Compliance Tools Suite.
- Integrated JAUS into Simulation Systems for experimentation/validation.
- Demonstrated and validated support for network-based systems.
- Demonstrated and validated support for all unmanned system types.
- Revised the Under Vehicle Mobile Inspection/Search Unmanned Ground Vehicle (Omni-Directional Inspection System - ODIS) platform design to include changes suggested from testing and user input in theater.
- Initiated Mission Essential Modules Integration program (under Commercial off-the-shelf)
- Producing second-generation Automatically Deployable Communications Relays (ADCR) systems.
- Completed ADCR Deployed system; Finalized design and perform electrical and mechanical testing.

FY 2007, 2008 and 2009 Plans: Support the development of vehicle onboard intelligence and tactical behaviors to allow the fielding of advanced autonomous unmanned systems. Baseline user identified

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603709D8Z - Joint Robotics Program**	**P709**

mission scenarios to develop operational behaviors enabling unmanned operations within the conduct of mission tasks. Increase the warfighter's capability by transferring and developing technologies that will have an immediate impact on the autonomy and functional capabilities of current and future robotic systems. Enable transitioning of technologies appropriate for small robots from the technology transfer program to fielded systems.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
(U) Manipulation Technologies	2.984	1.935	0.780	0.741

FY 2006 Accomplishments:
- Supported development via the Joint Architecture for Unmanned Systems (JAUS) development process.
- Revised the Under Vehicle Mobile Inspection/Search Unmanned Ground Vehicle (Omni-Directional Inspection System (ODIS) platform design to include changes suggested from testing and user input in theater.
- Continued development of prototype ODIS platform variants based on user requests and inputs.
- For field use and development purposes, procured off-the-shelf small robots for loan to government agencies, laboratories, and universities for the purpose of accelerating the spiral development process, more quickly improving future robotic platforms for the joint warfighter.
- Supported limited objective experiments, feasibility demonstrations, and concept exploration projects.
- Continued robotic payload development.

FY 2007, 2008 and 2009 Plans: Incorporate existing technologies into systems representative to those in use, demonstrate ease of robotic manipulation, support the development of mobile manipulation, expedite the transition and integration of corresponding robotic technologies to enhance the current fielded systems with more functionalities, autonomy and state-of-the-art behavior with interface methods from the RTD&E environment.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
(U) Collaborative Operations	5.379	5.256	2.190	2.034

FY 2006 Accomplishments:
- Refined, maintained for and began transition of documentation for Joint Architecture for Unmanned Systems (JAUS) to a Society of Automotive Engineers (SAE) standard.
- Demonstrated and validated support for network-based systems.
- Demonstrate and validate support for all unmanned system types.
- Integrated JAUS into Simulation Systems for experimentation/validation.
- Initiated efforts to determine and identify Mission Essential Modules to improve COTS system multi-mission capability.

FY 2007, 2008 and 2009 Plans: Integrate communication, mission planning, interface technologies, and advanced intelligence capabilities to support collaborative operations between manned and unmanned systems. Develop and assess several strategies to enhance tele-operation of current UGVs and collaborative UAV teams. Collaborative and tactical behaviors include system convoying, teamed obstacle avoidance, area perception and relative position information sharing.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
(U) Interoperability	5.234	4.897	3.075	3.008

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603709D8Z - Joint Robotics Program**	**P709**

FY 2006 Accomplishments:
- Refined, maintained for and began transition of documentation for Joint Architecture for Unmanned Systems (JAUS) to a Society of Automotive Engineers (SAE) standard.
- Developed interface for Net-Centric systems for mission level data.
- Completed first version of the compliance tool suite (JAUS).
- Began Risk Reduction effort for USMC Gladiator program.
- Initiated redesign of the Compact Ad Hoc Networking Radio (CANR) card for dual military/commercial frequencies.
- Initiated implementation plan for rigorous network security protocols.
- Under the Automatically Deployable Communications Relays (ADCR) effort, performed final testing on complete system (deployer and six relay bricks), targeted for a Man-Portable Robotic System (MPRS).

FY 2007, 2008 and 2009 Plans: Promote and guide technology development to meet joint requirements and promote ground as well as air unmanned systems interoperability. Support the bridging of currently incompatible robots and controllers from various manufacturers, using different communications channels and hardware. Optimize best features of prior/ongoing research efforts into a maturing, standardized system that can be easily ported to robotic platforms used DoD-wide.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
(U) Man-Portable Unmanned Ground System Technologies	6.582	4.286	2.108	2.476

FY 2006 Accomplishments:
- Initiated Next Generation Explosive Ordnance Disposal Remote Control Vehicle (NGEODRCV) Level Development.
- Began the transition of technologies from the NGEODRCV Project.
- Conducted Final Demonstrations and Approvals of Remote Ordnance Neutralization System (RONS) Continuous Improvement Program (CIP) Projects.
- Initiated EOD Cooperative Robotics Project.
- Under the Automatically Deployable Communications Relays (ADCR) effort, performed final testing on complete system (deployer and six relay bricks), targeted for a Man-Portable Robotic System (MPRS).
- Supported development, fielding and life cycle development of systems deployed for IED defeat missions.

FY 2007, 2008 and 2009 Plans: Increase the warfighter's capability by transferring and developing technologies that will have an immediate impact on the functional capabilities of man-portable robotic systems. Enable transitioning of technologies appropriate for small robots from the technology transfer program to fielded systems. Specific technologies include obstacle detection/obstacle avoidance (ODOA) and collaborative behaviors for small vehicles.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
(U) Technology Transition/Transformation	5.640	3.764	1.656	1.716

FY 2006 Accomplishments:
- Transition Technologies from the NGEODRCV Project
- Integrated University of Michigan's gyro-enhanced dead reckoning.
- Refined optimization of Simultaneous Localization and Mapping (SLAM) capabilities for outdoor applications in GPS-denied areas.
- Integrated thermal vision tracking with ladar-based intruder detection algorithm for enhanced human presence detection.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603709D8Z - Joint Robotics Program**	**P709**

- Accomplished Type Classification testing for Robotic Combat Support System (RCSS) Program.
- Continued to support fielding and support of RCSS COTS systems to War on Terrorism forces.
- Provided support to determine and identify Mission Essential Modules to improve COTS system multi-mission capability.
- Refined, maintained for and began transition of documentation for Joint Architecture for Unmanned Systems (JAUS) to a Society of Automotive Engineers (SAE) standard.
- Under Automated Perimeter Security (APS), developed additional scout capabilities and performed a 30 day experiment at Air Force base.
- Integrated additional JAUS-compatible sensor modules to scout platforms.
- Incorporated UAV aerial video ordnance discrimination capabilities integrated into standoff munitions disruption (SMUD) capabilities.
- Under Active Range Clearance, planned integrated experiment of ground and aerial platforms, continued development of automated ground targeting system and continued development of image feature extraction algorithms for UXO detection.

FY 2007, 2008 and 2009 Plans: Facilitate integration of and ensure the ultimate transfer or transformation of technologies to ongoing programs. Exploit the best features of past and on-going efforts while supporting the development of technologies that have low risk to transition. Technologies of interest include: Interface Technologies (Human Robot Interaction), Autonomous Operations (Information Fusion, Perception, and Navigation), Autonomous Technologies (Positioning), and Platform Technologies.

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
PE 0603711D8Z (BA3) Joint Robotics/Autonomous Systems	0.000	7.700	11.256	14.202	14.626	14.825	15.019	15.231	0.000	92.859
PE 0604709D8Z (BA5) Joint Ground Robotics Enterprise (JGRE) SDD	20.795	6.004	2.911	0.000	0.000	0.000	0.000	0.000	0.000	29.710

Comment:

D. Acquisition Strategy The Joint Ground Robotics Enterprise (JGRE) utilizes several contracting strategies to achieve its program objectives. JGR has established relationships with the several agencies to include the National Center for Defense Robotics to support the rapid acquisition and evaluation of promising unmanned system technologies. Funding is provided to Joint Service lab partners and other developers to promote common technology solutions across platforms and Services.

E. Major Performers

Category	Name	Location	Type of Work and Description	Award Date
Labs				
	Air Force Research Laboratory (AFRL)	Tyndall AFB, FL	Program Management	

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603709D8Z - Joint Robotics Program**	**P709**

	AMRDEC	Redstone Arsenal, AL	Program Management. U.S. Army Aviation and Missile Research, Engineering, and Development Center (AMRDEC).	
	TARDEC	Detroit, MI	Program Management. U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC).	
Contractors				
	National Center for Defense Robotics (NCDR)	Pittsburg, PA	Program Management.	
Others				
	Program Manager Force Protection Systems (PM FPS)	Fort Belvoir, VA	Program Management.	
	Naval Explosive Ordnance Disposal Technology Div	Indian Head, MD	OSD Executive Agent for joint service EOD R&D. Program Management. Naval Explosive Ordnance Disposal Technology Division (NAVEODTECH).	
	Robotic Systems Joint Project Office (RS JPO)	Redstone Arsenal, AL	Joint Office Program Management.	
	SPAWAR	San Diego, CA	Program Management. Space and Naval Warfare [SPAWAR] Systems Center, San Diego (SSC San Diego).	

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0603709D8Z - Joint Robotics Program

PROJECT
P709

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Idaho National Lab			680	0		0		0		0	680	0
Air Force			5570	5500	1-4Q	0		0		0	11070	0
Navy			3845	11609	1-4Q	0		0		0	15454	0
Army			0	4270	1-4Q	0		0		0	4270	0
Subtotal:			10095	21379		0		0		0	31474	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Support			20243	0		0		0		0	20243	0
Subtotal:			20243	0		0		0		0	20243	0

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
DT			500	0		0		0		0	0	0
IOT&E			0	0		0		0		0	0	0
Subtotal:			500	0		0		0		0	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT	
RDT&E/ Defense Wide BA# 4			**0603709D8Z - Joint Robotics Program**									**P709**	
JRP Program Management			350	1599	1-4Q	11860	1-4Q	11867	1-4Q	0	25676	0
Subtotal:			350	1599		11860		11867		0	25676	0
Project Total Cost:			**31188**	**22978**		**11860**		**11867**		**0**	**77393**	**0**

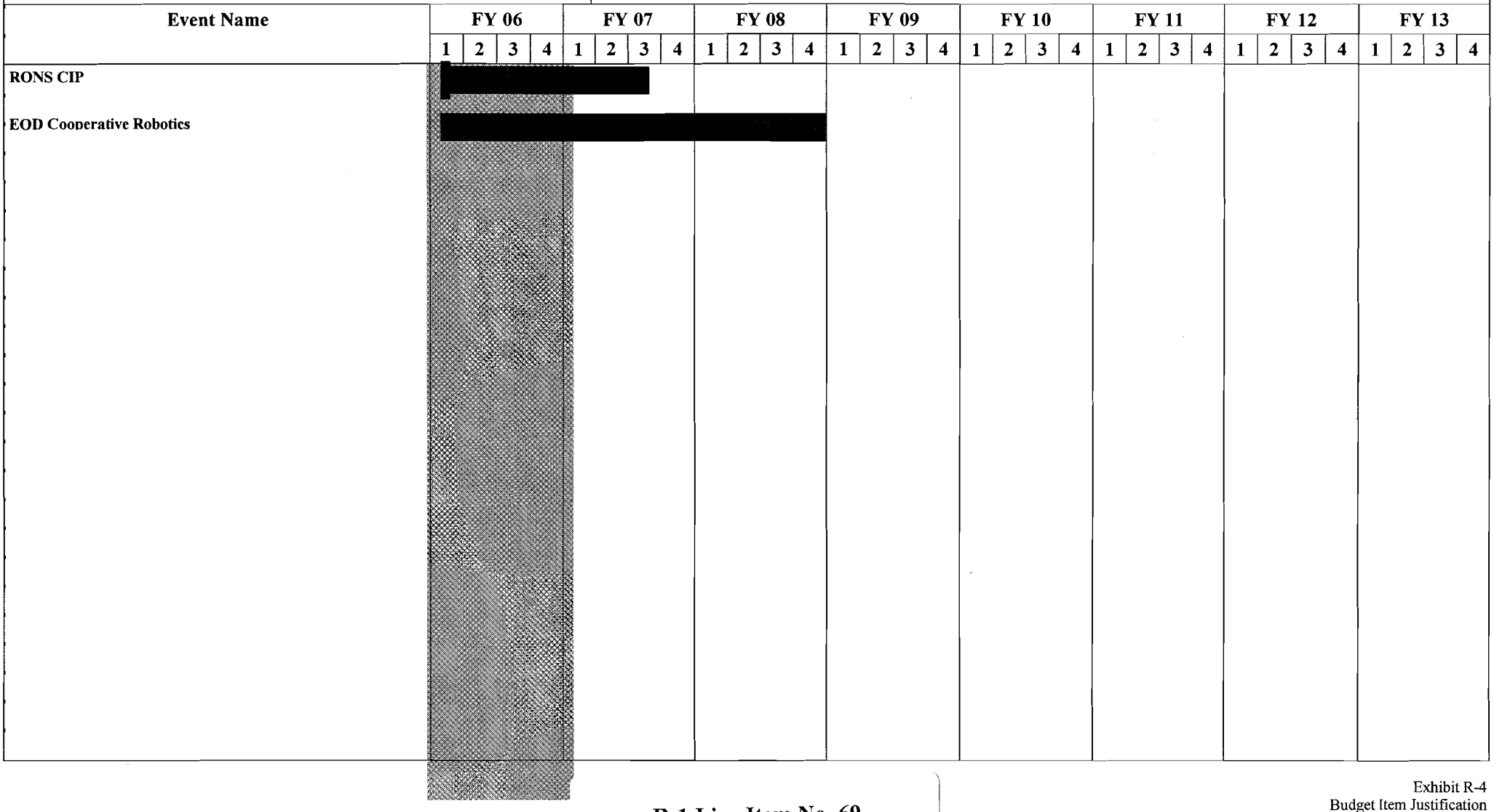
Schedule Profile (R4 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0603709D8Z - Joint Robotics Program

PROJECT
P709



Schedule Detail (R4a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603709D8Z - Joint Robotics Program**	**P709**

Schedule Detail	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MTRS PSVM T&E	1-4Q	1-4Q	1-4Q					
MTRS PRM T&E	1-4Q	1-4Q	1-4Q					
MTRS AAP PROD DEC	1-4Q	1-4Q	1-4Q					
RONS CIP	1-4Q	1-3Q						
Next Gen EOD RCV	1-4Q	1-4Q	1-4Q	1-4Q				
EOD Cooperative Robotics	1-4Q	1-4Q	1-4Q	1-4Q				

Comment:

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2007	
Appropriation/Budget Activity RDT&E Defense-Wide, BA 4				R-1 Item Nomenclature: Advanced Sensor Applications Program PE 0603714D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	24.676	24.131	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

The program focused on continued development of domestic technologies and assessment of foreign technologies that have demonstrated potential for improvements in U.S. capabilities. Unique and innovative approaches are used to expand the performance envelopes of existing systems. This program supported military requirements identified in Joint Vision 2010, the Defense Science and Technology Strategy, Full Spectrum Dominance and the Joint Warfighting Capability Objectives. The program was terminated effective FY08.

Program Accomplishments and Plans:

FY 2006 Accomplishments:

- Mission Support $24.675M

FY 2007 Accomplishments:

- Mission Support $18.681M
- Congressional add of $3.250M for Secure Airborne Freespace Optical Comm will be executed by OUSD(I)
- Congressional add of $1.000M for Total Force Education Initiative is not an Intelligence effort and at time of publication is in process of realignment to Navy for proper execution; this will not be reported within the CJB
- Congressional add of $1.200M for Subterranean Defense Communications System is not an Intelligence effort and at time of publication is in process of realignment to USD(AT&L) for proper execution; this will not be reported within the CJB

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	24.676	18.820	18.781	18.885
Current President's Budget	24.676	24.131	0	0
Total Adjustments		5.311	-18.781	-18.885
Congressional program reductions		-.139		
Congressional rescissions				
Congressional increases		5.450		
Department adjustments			-18.781	-18.885

Change Summary Explanation:
FY2007: $5.45M Congressional adds, $.139M Congressional reductions
FY 2008: -$18.781 Department decrease
FY 2009: -$18.885 Department decrease

C. Other Program Funding Summary: Not Applicable

D. Acquisition Strategy: Not Applicable

E. Performance Metrics: Numbers of operational field demonstrations; actual/in-kind resource sharing differential among participating entities; numbers of studies produced; numbers of successful anomaly detections; numbers of false-positive results. Numbers of technology transfers.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0603851D8Z - Environmental Security Technical Certification 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		44.736	32.257	33.199	31.652	32.335	32.064	32.404	32.765
P514	Environmental Security Technology Certification Program (ESTCP)	44.736	32.257	33.199	31.652	32.335	32.064	32.404	32.765

A. Mission Description and Budget Item Justification: (U) This program demonstrates and validates the most promising innovative environmental technologies that target DoD's most urgent environmental needs. Technologies selected are projected to provide pay back of the investment within five years through cost savings and improved efficiencies. The program responds to: (1) congressional concern over the slow pace of remediation of environmentally polluted sites on military installations, (2) congressional direction to conduct demonstrations specifically focused on emerging new technologies, and (3) the need to improve defense readiness by reducing the drain on the Department's operation and maintenance dollars caused by environmental restoration and waste management. Preference for demonstrations are given to technologies that have successfully completed all necessary research and development objectives, and address the highest priority DoD environmental requirements.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	36.442	28.841	34.239	33.774
Current BES/President's Budget (FY 2008/2009)	44.736	32.257	33.199	31.652
Total Adjustments	8.294	3.416	-1.040	-2.122
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other	8.294	3.416	-1.040	-2.122

(

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy ESTCP solicits proposals from all DoD organizations, other Federal Agencies, and the commercial sector as well. Projects are selected based on an annual

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0603851D8Z - Environmental Security Technical Certification Program**

competitive process through reviews conducted by multi-agency review panels.

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	DoD Environmental Requirements					

Comment: Performance in this program is monitored at two levels. At the lowest level, each individual project is measured against technical and financial milestones on a quaterly and annual basis. At a program-wide level, progress is measured against DoD"s environmental requirements and the demonstration and transition of technologies that address these requirements.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603851D8Z - Environmental Security Technical Certification Program**	**P514**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P514	Environmental Security Technology Certification Program (ESTCP)	44.736	32.257	33.199	31.652	32.335	32.064	32.404	32.765

A. Mission Description and Project Justification: (U) This program demonstrates and validates the most promising innovative environmental technologies that target DoD's most urgent environmental needs. Technologies selected are projected to provide pay back of the investment within five years through cost savings and improved efficiencies. The program responds to: (1) congressional concern over the slow pace of remediation of environmentally polluted sites on military installations, (2) congressional direction to conduct demonstrations specifically focused on emerging new technologies, and (3) the need to improve defense readiness by reducing the drain on the Department's operation and maintenance dollars caused by environmental restoration and waste management. Preference for demonstrations are given to technologies that have successfully completed all necessary research and development objectives, and address the highest priority DoD environmental requirements.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
ESTCP:	44.736	0.000	0.000	0.000

(U) FY 2006 Accomplishments:

The focus of the program is on UXO detection, discrimination, data standardization, and cleanup; range and installation sustainment; and eliminating/reducing waste streams associated with DoD weapon systems. Funds are primarily required to continue ongoing investments.
- Continued 69 demonstration projects
- Reviewed and selected 30 new technologies for demonstration.
- Reviewed and select sites for demonstration of technologies.
- Prepared site-specific implementation plans
- Prepared sites and secure regulatory permitting
- Awarded demonstration testing and evaluation for selected technologies.

By Thrust:
- Environmental Restoration: ($10.663 million)
- Munitions Management: ($14.053 million)
- Weapons Systems and Platforms: ($8.463 million)
- Sustainable Infrastructure: ($3.263 million)

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603851D8Z - Environmental Security Technical Certification Program**	**P514**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
ESTCP:	0.000	32.255	33.199	31.652

FY 2007/2008 Plans: Funds are planned for investment in projects that address priority DoD environmental requirements. The focus of the program is on UXO detection and cleanup, range and installation sustainment and eliminating/reducing waste streams associated DoD weapon systems. Funds are primarily required to continue ongoing investments.
- Review and select technologies for demonstration.
- Review and select sites for demonstration of technologies.
- Prepare site-specific implementation plans
- Prepare sites and secure regulatory permitting
- Award demonstration testing and evaluation for selected technologies.

By Pillar:
- Environmental Restoration:
- Munitions Management:
- Weapons Systems and Platforms:
- Sustainable Infrastructure:

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy Acquisition Strategy: ESTCP solicits proposals from all DoD organizations and competes them with a multi-agency review panel. ESTCP solicits proposals from other Federal Agencies and the commercial sector as well. These are also competed using review panels.

E. Major Performers Not Applicable.

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0603851D8Z - Environmental Security Technical Certification Program

PROJECT
P514

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Environmental Security Technology Certification Program			77767	28841		0		0		0	0	0
Subtotal:			77767	28841		0		0		0	0	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603851D8Z - Environmental Security Technical Certification Program**	**P514**

Project Total Cost:	**77.767**	**28.841**		**0**		**0**		**0**	**0**	**0**

Schedule Detail (R4a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603851D8Z - Environmental Security Technical Certification Program**	**P514**

Schedule Detail: Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0603920D8Z - Humanitarian Demining**

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	13.807	14.406	14.013	14.396	14.918	14.908	15.141	15.373
P920	SO/LIC Humanitarian De-mining P920	13.807	14.406	14.013	14.396	14.918	14.908	15.141	15.373

A. Mission Description and Budget Item Justification: The Humanitarian Demining (HD) R&D program element demonstrates and evaluates prototype demining systems for US forces and for indigenous DoD supported, host nation conducted demining operations. The Humanitarian Demining R&D Program focuses on technologies to improve the efficiency and safety of the process of eliminating post conflict landmines, which are a significant danger to US forces performing peace and stability operations as well as to civilians. This is accomplished through adaptation of commercial-off-the-shelf equipment, the integration of mature technologies, and leveraging R&D activity within DoD, particularly in the Army Night Vision Electronic Sensor's Directorate (NVESD) Tactical Countermine mission area. One goal is to assess equipment capabilities in actual demining conditions. Under the Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (OASD(SO/LIC)), the HD R&D Program is a strong participant in the International Test and Evaluation Program (ITEP). The program aims to improve existing technologies for: individual mine and minefield detection; wide area survey; mechanical/mine and vegetation clearance; mine neutralization; individual soldier/deminer protection; detection of explosives in buried mines; verification of the presence of mines; marking and mapping of mines/minefields; post clearance quality assurance (QA); mine awareness training; and individual deminer tools. Areas of emphasis are determined/validated at annual Program Reviews conducted by OASD(SO/LIC). The Program Reviews involve representatives from the combatant commands and from mine affected nations.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	14.305	14.489	14.480	14.790
Current BES/President's Budget (FY 2008/2009)	13.807	14.406	14.013	14.396
Total Adjustments	-0.498	-0.083	-0.467	-0.394
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings	-0.498	-0.083	-0.467	-0.394
SBIR/STTR Transfer				
Other				

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# 4	**0603920D8Z - Humanitarian Demining**

D. Acquisition Strategy Following a rapid prototyping strategy, the program emphasizes the use/modification of existing, commercially available items and components to build functional prototype equipment suited for humanitarian demining operations. This approach is required due to the immediate need for new demining technologies in the face of ongoing US forces and host nation citizen casualties in mine-affected countries. The program evaluates prototype equipment by acquiring it off-the-shelf from industry using competition to the maximum extent possible, by leveraging ongoing countermine R&D efforts in other US and foreign R&D activities, and by taking advantage of extensive in-house fabrication capabilities at the Army's NVESD.

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						
07						
08						

Comment: Humanitarian Demining - 0603920D8Z

Long Term Strategies: Obtain adequate funding to support critical shortfalls; prioritize proposals that are deemed acceptable and allocate funding accordingly; and establish outreach programs to leverage institutional knowledge and expertise.

Performance Indicator and Rating:
FY 2006 Target:
- 70% of currently funded research projects completed on time and within budget
- 5% increase in the number of research projects accepted
- Conduct annual Humanitarian Demining R&D Program International Program Review

FY 2006 Rating: ON Target

FY 2007 Target:
- 70% of currently funded research projects are completed on time and within budget
- 5% increase in the number of research projects accepted

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)	Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0603920D8Z - Humanitarian Demining**

- Complete scheduled R&D project tasks
- Conduct annual Humanitarian R&D Program International Program Review

FY 2008 Target:
- 70% of currently funded research projects are completed on time and within budget
- 5% increase in the number of research projects accepted
- Conduct annual Humanitarian R&D Program International Program Review
- Transition scheduled projects to user communities

FY 2009 Target:
- 70% of currently funded research projects are completed on time and within budget
- 5% increase in the number of research projects accepted
- Conduct annual Humanitarian Demining R&D Program International Program Review

Basis of FY 2006 to Date Performance Rating: Currently the number of funded research projects are on track to be completed per the target

Verification: The Humanitarian Demining Program performs program reviews and has oversight from OSD.

Validation: Completed R&D products increase the capabilities of the DoD to effectively perform demining missions.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603920D8Z - Humanitarian Demining**	**P920**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P920	SO/LIC Humanitarian De-mining P920	13.807	14.406	14.013	14.396	14.918	14.908	15.141	15.373

A. Mission Description and Project Justification: The Humanitarian Demining (HD) R&D Program demonstrates and evaluates prototype demining systems for US forces and for indigenous DoD supported, host nation conducted demining operations. The HD R&D Program focuses on technologies to improve the efficiency and safety of the process of eliminating post conflict landmines, which are a significant danger to US forces performing peace and stability operations as well as to civilians. This is accomplished through the adaptation of commercial-off-the-shelf equipment, the integration of mature technologies, and leveraging R&D activity within DoD, particularly in the Army Night Vision Electronic Sensor's Directorate (NVESD) Tactical Countermine mission area. One goal is to assess equipment capabilities in actual demining conditions. Under the Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (OASD(SO/LIC)), the HD R&D Program is a strong participant in the International Test and Evaluation Program (ITEP). The program aims to improve existing technologies for: individual mine and minefield detection; wide area survey; mechanical/mine and vegetation clearance; mine neutralization; individual soldier/deminer protection; detection of explosives in buried mines; verification of the presence of mines; marking and mapping of mines/minefields; post clearance quality assurance (QA); mine awareness training; and individual deminer tools. Areas of emphasis are determined/validated at annual Program Reviews conducted by OASD(SO/LIC). The Program Reviews involve representatives from the combatant commands and from mine affected nations.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
2006 Accomplishments	13.807	0.000	0.000	0.000

In FY2006, the HD R&D Program actively engaged in the Operational Field Evaluations of 18 HD technologies in 9 countries. Of those technologies, the program completed 2 Operational Field Evaluations of the Maxx + in Sri Lanka and the HSTAMIDS in Namibia, initiated 9 new Operational Field Evaluations of the NIITEK Mine Stalker to Angola and Namibia, the Rotary Mine Comb to Angola, the HSTAMIDS in Thailand, Cambodia and Afghanistan, the Beaver to Thailand, Maxx in Guinea Bissau, Sifting technologies to Cambodia and continued 7 Operational Field Evaluations of the Tempest in Thailand and Cambodia, the Rhino Earth Tiller in Azerbaijan, the Mantis in Nicaragua, the Survivable Demining Tractor and Uni-Disk in Thailand, and the Explosive Harvesting System in Cambodia. In addition, the program performed field assessments in countries including Angola, Lao PDR, Ecuador, Chile, Cambodia, and Thailand to determine if HD equipment could be effectively utilized in those countries. In support of US forces in Afghanistan, HD R&D Program engineers modified 4 additional PM-CCS front loader to supplement the original two loaders completed in FY2004. To date, 7 systems are in use by US forces in Afghanistan. To further assist humanitarian deminers worldwide, engineers completed several in-house prototype developments such as the Beaver mine clearing system, the Standardized Remote Control, Rotary Mine Comb integration into tractor/dozer platforms, and the PECO vegetation cutting system. The HD R&D program awarded 10 new contracts for mine detection, neutralization, mechanical clearance technologies in FY2006. Furthermore, the program tested and demonstrated 13 mine detection and clearance system at various sites including Fort AP Hill, Yuma Proving Grounds, and Aberdeen Proving Grounds. Lastly, the HD R&D Program conducted its annual Requirements Workshop in which 52 participants from 8 government mine action organizations, 11 non-governmental organizations (NGOs), 3 international agencies, and 7 US government entities discussed demining equipment needs. Countries represented included Cambodia, Chile, Nicaragua, Guinea-Bissau, Republic of Yemen, Rwanda, Sri Lanka, Thailand, Vietnam, Laos, Angola, and Chad. Representatives from the Department of State, the Joint Staff and the Combatant Commands (EUCOM and CENTCOM) also attended. Several international organizations active in mine action also participated, including representatives from the United Nations Mine Action Service (UNMAS), the Inter-American Defense Board (IADB), and the Organization of American States (OAS).

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603920D8Z - Humanitarian Demining**	**P920**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2007 Plans	0.000	14.406	0.000	0.000

As a result of requests made during the annual Requirements Workshop, OCONUS field assessments, and in-house developments in FY2006, the HD R&D program plans to deploy many of its systems to humanitarian demining organizations overseas as well as US forces in Afghanistan. Planned deployments include the NIITEK Mine Stalker to Somaliland, additional HSTAMIDS to Cambodia and Somaliland, the Uni-Disk and Raptor to Laos, the Sifting Excavator to Chile, the Improved Backhoe to Yemen and the Tempest to Ecuador. In addition, the HD R&D Program will continue its deployments of the Tempest, Mantis, Maxx, Maxx +, Survivable Demining Tractor, the Explosive Harvesting System, and the Rhino Earth Tiller in various countries in Africa, South America and Southeast Asia. Program engineers will also make field assessments to Tunisia, Senegal, and Vietnam. The HD R&D program will continue final development, test and evaluation of prototype technologies in the following areas: detection technologies for discrimination and confirmation from the tactical countermine area; improved handheld detection technologies; mechanical mine and vegetation clearance systems for removing dense vegetation from mined areas and excavating and clearing mines; non-explosive based mine neutralization technologies able to replace the practice of using explosives in humanitarian demining situations; and development of equipment suitable for area reduction and quality assurance operations. In support of the combatant commands and Embassy staffs, HD R&D personnel will conduct site survey(s), country assessment(s), and initiate operational field evaluations of prototypes developed under the program in the areas of detection, mine/vegetation clearance, neutralization and personal deminer protection systems in mine-infested regions of the world. Lastly, the HD R&D program will update its website and HD R&D Program Video for distribution during the 2007 Requirements Workshop.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2008 Plans	0.000	0.000	14.013	0.000

The HD R&D program will complete ongoing equipment developments/modifications, site surveys and operational evaluations from FY2007. It will also continue to demonstrate detection technologies for discrimination and confirmation to include leveraging technology with the tactical countermine area; develop technologies to improve detection capability and reduce false alarms; conduct site survey(s), country assessment(s) and operational field evaluations of detection, mine/vegetation clearance and neutralization systems in mine infested regions of the world; and demonstrate individual deminer tools and equipment; and equipment suitable for area reduction and quality assurance operations. In support of the combatant commands and Embassy staffs, the HD R&D program will conduct site survey(s), country assessment(s), and initiate operational field evaluations of prototypes developed under the program in the areas of detection, mine/vegetation clearance, neutralization and personal deminer protection systems in mine-infested regions of the world. In addition, the program will conduct the OASD(SO/LIC) International Program Review as well as update and distribute the HD R&D Program Video for the 2008 Requirements Workshop.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2009 Plans	0.000	0.000	0.000	14.396

The HD R&D Program will complete ongoing equipment developments/modifications, site surveys and operational evaluations from FY2008. It will also continue to demonstrate detection technologies for discrimination and confirmation to include leveraging technology with the tactical countermine area; develop technologies to improve detection capability and reduce false alarms; conduct site survey(s), country assessment(s) and operational field evaluations of detection, mine/vegetation clearance and neutralization systems in mine infested regions of the world; and demonstrate individual deminer tools and equipment; and equipment suitable for area reduction and quality assurance operations. In support of the combatant commands and Embassy staffs, the HD R&D program will conduct site survey(s), country assessment(s), and initiate operational field evaluations of prototypes developed under the program in the areas of detection, mine/vegetation clearance, neutralization and personal deminer protection systems in mine-infested regions of the world. In addition, the program will conduct the OASD(SO/LIC) International Program Review as well as update and distribute the HD R&D Program Video for the 2009 Requirements Workshop.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0603920D8Z - Humanitarian Demining**	PROJECT **P920**

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy Following a rapid prototyping strategy, the program emphasizes the use/modification of existing, commercially available items and components to build functional prototype equipment suited for humanitarian demining operations. This approach is required due to the immediate need for new demining technologies in the face of ongoing US forces and host nation citizen casualties in mine-affected countries. The program evaluates prototype equipment by acquiring it off-the-shelf from industry using competition to the maximum extent possible, by leveraging ongoing countermine R&D efforts in other US and foreign R&D activities, and by taking advantage of extensive in-house fabrication capabilities at the Army's NVESD.

E. Major Performers Not Applicable.

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0603920D8Z - Humanitarian Demining

PROJECT
P920

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Note 1	Note 1	104408	8133		7911		8126		34060	162638	0
Ancillary Hardware Development			0	0		0		0		0	0	0
Systems Engineering			0	0		0		0		0	0	0
Licenses			0	0		0		0		0	0	0
Tooling			0	0		0		0		0	0	0
GFE			0	0		0		0		0	0	0
Award Fees			0	0		0		0		0	0	0
Subtotal:			104408	8133		7911		8126		34060	162638	0

Remarks: Remarks:
1: The Humanitarian Demining R&D Program manages many individual contracts for the development of mine and minefield detection, mine and vegetation clearance, individual deminer tools and personal protection equipment, and mine neutralization technologies optimized for humanitarian demining. As such, one entry cannot be made for any category in this document. Competitive contracting is used to the maximum extent possible. Due to the nature of this program, which acquires very limited quantities (normally 1 or 2 each) of hand built or modified prototype items, most contract types are cost based.
2. Since so many performing organizations, both U.S. and foreign, are involved, one entry cannot be made for any cost category in this document (but can be provided upon request).
3. The HD Program goal is to award all individual efforts to ensure DoD performance goals are met or exceeded.
4. Because individual contracts / task efforts seldom exceed a 12 month period of performance resulting in delivery of one or two prototypes, the total value of each individual contract is usually the same as the award amount for all cost categories in this document

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software Development	Note 1	Note 2	5219	1021		994		1021		4279	12534	0
Training Development			0	0		0		0		0	0	0
Integrated Logistics Support			0	0		0		0		0	0	0
Configuration Management			0	0		0		0		0	0	0
Technical Data			0	0		0		0		0	0	0
GFE			0	0		0		0		0	0	0

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603920D8Z - Humanitarian Demining**	**P920**

Subtotal:	5219	1021		994		1021		4279	12534	0

Remarks: 3. See remarks for note 3 in the Product Development Section.
5. For the HD R&D Program, Operational Test and Evaluation is the limited operational field evaluations of prototype equipment. These evaluations are performed by a governmental mine action organization, or a supporting non-governmental demining organization in the host nation under actual conditions. Funds for this category support the preparation and shipment of the equipment, and logistics support packages (training, manuals, spare parts, etc.) to support the field evaluation. Although foreign governments are responsible for performing their own evaluation, the performing organization for the purpose of this document is CECOM NVESD.

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation			0	0		0		0		0	0	0
Operational Test & Evaluation	N/A	RDECOMNVESD Fort Belvoir, VA	5032	818		796		818		3427	10891	0
Tooling			0	0		0		0		0	0	0
GFE			0	0		0		0		0	0	0
Subtotal:			5032	818		796		818		3427	10891	0

Remarks: Remarks:
See remarks for notes 1, 2, 3 and 4 in the Product Development Section.

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Note 1	Note 2	7469	774		752		773		3241	13009	0
Government Engineering Support	N/A	RDECOMNVESD Ft Belvoir, VA	7588	945		919		944		3958	14354	0
Program Management Support	Note 1	Note 2	10063	730		710		730		3059	15292	0
Program Management Personnel	N/A	RDECOMNVESD Ft Belvoir, VA	1209	157		153		157		659	2335	0
Travel	N/A	N/A	2500	295		287		295		1237	4614	0
Labor (Research Personnel)	N/A	RDECOMNVESD Ft Belvoir, VA	12409	1533		1490		1532		6420	23384	0

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603920D8Z - Humanitarian Demining**	**P920**

Overhead			0	0		0		0		0	0	0
Subtotal:			41238	4434		4311		4431		18574	72988	0
Project Total Cost:			**155897**	**14406**		**14012**		**14396**		**60340**	**259051**	**0**

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0603923D8Z - Coalition Warfare**

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	5.524	5.845	14.047	14.053	14.269	14.602	14.858	15.117
P923 Coalition Warfare	5.524	5.845	14.047	14.053	14.269	14.602	14.858	15.117

A. Mission Description and Budget Item Justification: The Coalition Warfare (CW) initiative is the only OSD Program dedicated to initiate cooperative research and development projects with allies and coalition partners. The goal of the effort is to assist the Combatant Commands, Services, and Agencies with integrating coalition-enabling solutions into existing and planned US programs. This adds value to the Department's overall international cooperation strategy by providing resources for the U.S. portion of bilateral and multilateral development projects aimed at improving interoperability with allies and other likely coalition partners.

Fighting the war on terrorism and coping with the new and emerging threat paradigms have highlighted coalition warfare issues on the radar screens of policy makers and senior leaders throughout the U.S. Government. Coalitions are and will be the standard means for addressing international crises, lending political legitimacy and providing resources that mitigate U.S. financial, materiel and personnel burdens (OPTEMPO). Interoperability gaps between and among coalition partners have compromised operational effectiveness and jeopardized force protection (e.g., fratricidal incidents). For example, tragedies linked to fratricide or friendly fire in OEF and OIF have brought on-going efforts in combat identification (CID) programs to the highest level of CW support and interest. By providing the necessary financial support, CW internationalized the Coalition Combat Identification Advanced Concept Technology Demonstration (ACTD) and the Coalition Blue Force Situational Awareness ACTD, and have supported the development and testing of Mode 5 capabilities and standards.

Cooperative efforts with likely coalition partners are needed to close interoperability gaps include battlespace awareness, C4ISR, joint fires, intelligence fusion and data sharing, combat identification, logistics, weapon systems and information sharing capabilities. Moreover, these small investments early in the R&D process yield large dividends (e.g., Joint Strike Fighter). The CW initiative leverages foreign and other U.S. investment in ongoing projects by adding coalition-related enhancements that would otherwise not be realized. The OSD CW initiative encourages PMs and PEOs to involve partner nations in cooperative development projects to the extent permitted by security considerations (classified data and critical technology), when such partnering is advantageous to the U.S. Government and necessary in terms of regional threat scenarios.

The CW approach to cooperative RDA projects is consistent with OSD-articulated, preferred methodologies: agile acquisition (i.e., getting solution-oriented, threshold-capabilities into the hands of the coalition warfighter quickly). Projects benefiting from CW funding fall into one of two categories: those for which the CW funds no more than 50% of the coalition-directed portion, with foreign contributions making up the difference; and those involving CW funding of coalition-oriented features of U.S.-only projects. Priority is given, in both categories, to initiatives offering potential solutions to interoperability issues that can be leveraged across multiple Combatant Commands.

The Combatant Commands, Services, Defense Agencies, and OSD nominate candidate projects on a yearly cycle. These projects are funded for one to two years. OSD selects projects based on their compatibility with established CW criteria, including: meeting the needs and requirements specified by the warfighter, funding commitments of international partners, potential for portability across multiple Combatant Commands, addressing potential risks related to security and controlled technology, responsiveness to DoD priorities for international armaments cooperation (e.g., multinational information sharing, C4ISR, joint/coalition experimentation and coalition logistics).

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0603923D8Z - Coalition Warfare

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	5.685	5.878	6.047	5.953
Current BES/President's Budget (FY 2008/2009)	5.524	5.845	14.047	14.053
Total Adjustments	-0.161	-0.033	8.000	8.100
Congressional Program Reductions		-0.033		
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other	-0.161		8.000	8.100

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
Mode V IFF/ Mark XII	0.066	0.534	0.800	0.000	0.000	0.000	0.000	0.000	0.000	1.400
Navigational Warfare Electronic Support UAV (NAVWAR ES)	0.472	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.472
Leadership, Commander's Intent and Operational Readiness	0.125	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.125
US-Korea Battle Simulation Model	0.316	0.316	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.632
Coalition Communications Interoperability Guide	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Allied Wide Area Network RF Controller	0.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.160
CW Support	0.337	0.595	0.600	0.610	0.615	0.620	0.630	0.635	0.000	4.642
Small Boat Modeling and Validation	0.400	0.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.800
Coalition Airspace Management and Deconfliction	0.275	0.275	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.550
Over the Horizon Tactical Tracking System	0.240	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.240
GLIDE	0.209	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.709
Maritime Coalition Interoperability - Coalition DEP	0.695	0.695	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.390

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0603923D8Z - Coalition Warfare

Global Coalition In-Transit Visibility Network	0.416	0.416	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.832
Maritime Information Exchange	0.250	0.230	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.480
Collaboration Portal	0.080	0.033	0.080	0.090	0.075	0.070	0.065	0.065	0.000	0.558
Collaborative Initiatives	0.183	0.240	0.645	0.755	0.765	0.810	0.875	0.900	0.000	5.173
Metrification of Littorals	0.056	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.056
Everything over IP	0.200	0.200	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.700
Preplanned Response and Emergency Action (PREACT)	0.235	0.235	0.365	0.000	0.000	0.000	0.000	0.000	0.000	0.835
Passive, Remote and Open Situation Awareness System (PROSAS)	0.220	0.230	0.450	0.000	0.000	0.000	0.000	0.000	0.000	0.900
Undersea FORCEnet Coalition Interoperability	0.089	0.161	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500
EUCOM J2 INMARSAT	0.000	0.300	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.600
Multinational C4 National Planning System	0.000	0.485	0.485	0.000	0.000	0.000	0.000	0.000	0.000	0.970
Miniature Chemical Warfare Detection Agent	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.500
New Start Programs	0.000	0.000	9.322	12.048	12.414	12.702	12.838	13.067	0.000	72.391
Multinational Outreach	0.000	0.000	0.200	0.300	0.400	0.400	0.450	0.450	0.000	2.200

Comment:

D. Acquisition Strategy New start projects are selected based on the DoD priorities (e.g. CONPLAN 7500, the QDR Roadmap for Building Partner Capacity, Combatand Commanders" Integrated Priority Lists (IPLs) and Joint Staff"s Most Pressing Military Issues) that drive coalition capability requirements.

In FY07 as new starts will be projects to support NORTHCOM, SOUTHCOM, SOCOM, EUCOM and PACOM needs for U.S. combined with coalition partners. Focuses for new starts include Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR), information sharing, maritime security/maritime domain awareness, net-centric capabilities, emergency response, and combat identification.

E. Performance Metrics:

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0603923D8Z - Coalition Warfare

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	Select projects for key coalition priorities	Priorities for coalition, BPC goals	Increased engagement with Combatant Commanders		100%	
06	Assess performance of tasks as defined.	As defined by project.			100%	100%
06	Delivery of final reports at end of project.	As defined by project.			100%	100%
06	Select projects for key coalition priorities	AT&L strategic goals, Joint Staff most pressing military issues	Engage to support BPC tasks		100%	100%

Comment:

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603923D8Z - Coalition Warfare**	**P923**

Cost ($ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P923 Coalition Warfare	5.524	5.845	14.047	14.053	14.269	14.602	14.858	15.117

A. Mission Description and Project Justification: The Coalition Warfare (CW) initiative is the only OSD Program dedicated to initiate cooperative research and development projects with allies and coalition partners. The goal of the effort is to assist the Combatant Commands, Services, and Agencies with integrating coalition-enabling solutions into existing and planned US programs. This adds value to the Department's overall international cooperation strategy by providing resources for the U.S. portion of bilateral and multilateral development projects aimed at improving interoperability with allies and other likely coalition partners.

Fighting the war on terrorism and coping with the new and emerging threat paradigms have highlighted coalition warfare issues on the radar screens of policy makers and senior leaders throughout the U.S. Government. Coalitions are and will be the standard means for addressing international crises, lending political legitimacy and providing resources that mitigate U.S. financial, materiel and personnel burdens (OPTEMPO). Interoperability gaps between and among coalition partners have compromised operational effectiveness and jeopardized force protection (e.g., fratricidal incidents). For example, tragedies linked to fratricide or friendly fire in OEF and OIF have brought on-going efforts in combat identification (CID) programs to the highest level of CW support and interest. By providing the necessary financial support, CW internationalized the Coalition Combat Identification Advanced Concept Technology Demonstration (ACTD) and the Coalition Blue Force Situational Awareness ACTD, and have supported the development and testing of Mode 5 capabilities and standards.

Cooperative efforts with likely coalition partners are needed to close interoperability gaps include battlespace awareness, C4ISR, joint fires, intelligence fusion and data sharing, combat identification, logistics, weapon systems and information sharing capabilities. Moreover, these small investments early in the R&D process yield large dividends (e.g., Joint Strike Fighter). The CW initiative leverages foreign and other U.S. investment in ongoing projects by adding coalition-related enhancements that would otherwise not be realized. The OSD CW initiative encourages PMs and PEOs to involve partner nations in cooperative development projects to the extent permitted by security considerations (classified data and critical technology), when such partnering is advantageous to the U.S. Government and necessary in terms of regional threat scenarios.

The CW approach to cooperative RDA projects is consistent with OSD-articulated, preferred methodologies: agile acquisition (i.e., getting solution-oriented, threshold-capabilities into the hands of the coalition warfighter quickly). Projects benefiting from CW funding fall into one of two categories: those for which the CW funds no more than 50% of the coalition-directed portion, with foreign contributions making up the difference; and those involving CW funding of coalition-oriented features of U.S.-only projects. Priority is given, in both categories, to initiatives offering potential solutions to interoperability issues that can be leveraged across multiple Combatant Commands.

The Combatant Commands, Services, Defense Agencies, and OSD nominate candidate projects on a yearly cycle. These projects are funded for one to two years. OSD selects projects based on their compatibility with established CW criteria, including: meeting the needs and requirements specified by the warfighter, funding commitments of international partners, potential for portability across multiple Combatant Commands, addressing potential risks related to security and controlled technology, responsiveness to DoD priorities for international armaments cooperation (e.g., multinational information sharing, C4ISR, joint/coalition experimentation and coalition logistics).

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603923D8Z - Coalition Warfare**	**P923**

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2006 Accomplishments	0.000	0.000	0.000	0.000

FY05 projects have completed their work and performed demonstrations.

This includes a very successful demonstration with Norway of the integration of sensors to develop a maritime security capability. Other highlights include successful interoperability tests on coalition communication capabilities with both Pacific partner nations and European partners; subnet relay project leading to larger effort of NATO STANAG development; November 2006 trials of situational awareness tools in the SOUTHCOM AOR that is of interest by NORTHCOM, EUCOM and DHS; engagement of over 25 nations and NATO to commonly develop CONOPS and interoperability measures for in-transit visibility networks.

FY06 projects are mid-way through their performance cycles, and are working well against their individual project plans.

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

Completion of FY06-07 projects, and start of FY08 projects. In FY07 as new starts will be projects to support NORTHCOM, SOUTHCOM, SOCOM, EUCOM and PACOM needs for U.S. combined with coalition partners. Focuses for new starts include C4ISR, information sharing, maritime security/maritime domain awareness, net-centric capabilities, emergency response, and combat identification.

New start projects are selected during FY07 based on the DoD priorities (e.g. CONPLAN 7500, the QDR Roadmap for Building Partner Capacity, COCOM Integrated Priority Lists (IPLs) and Joint Staff's Most Pressing Military Issues) that drive coalition capability requirements.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2008 Plans	0.000	0.000	9.322	0.000

Projects that are selected for FY07-08 projects starting their second year of effort. New start projects are selected during FY07 based on proposals that meet criteria based on the DoD priorities (e.g. CONPLAN 7500, the QDR Roadmap for Building Partner Capacity, COCOM Integrated Priority Lists (IPLs) and Joint Staff's Most Pressing Military Issues) that drive coalition capability requirements.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2009 Plans	0.000	0.000	0.000	12.048

Projects that are selected for FY08-09 will be starting their second year of effort. New start projects are selected during FY09 based on proposals that meet criteria based on the DoD priorities (e.g. CONPLAN 7500, the QDR Roadmap for Building Partner Capacity, COCOM Integrated Priority Lists (IPLs) and Joint Staff's Most Pressing Military Issues) that drive coalition capability requirements.

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# 4	**0603923D8Z - Coalition Warfare**	**P923**

Navigational Warfare Electronic Support	0.472	0.000	0.000	0.000

Integration of advanced anti-jam (AJ) technologies on a small unmanned aerial vehicle (UAV) to support collection and geo-location capabilities against hostile GPS jammers.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Leadership, Commander's Intent and Operational Readiness	0.125	0.000	0.000	0.000

Synthesize research and establish current theoretical concepts and empirical data on network centric warfare, leadership, commanders' intent, and operational readiness within the context of coalition warfare.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Battle Simulation Models	0.316	0.316	0.000	0.000

Development of models and simulations for all services that are suitable for use in joint and combined exercises between Republic of Korea and U.S. forces.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Coalition Communications Interoperability Guide	0.500	0.000	0.000	0.000

The Pacific Endeavor (PE) workshop brings Asia-Pacific Region nations together, allowing them to integrate their communications and information systems, test interoperability, aid in the development of regional standards/common architectures and populate the Multinational Communications Interoperability Guide (MCIG). The communications interoperability guide will be used to establish architectures in support of the Multinational Force Standing Operating Procedures (MNF SOP).

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Mode 5 Identification Friend or Foe	0.066	0.534	0.800	0.000

Develop standards and conduct interoperability trials of the Mode 5 IFF combat identification system. and integration trials of the Mode 5 IFF combat recognition system on joint US service platforms & European AWACS aircraft.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Allied Wide Area Network Radio Frequency Controller	0.160	0.000	0.000	0.000

Develop and demonstrate an integrated multi-band, multi-mode coalition networking capability using multiple line of sight (LOS) and extended line of sight (ELOS) radio circuits in conjunction with satellite communications (SATCOM).

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Small Boat Modeling and Validation	0.400	0.400	0.000	0.000

Validate the small boat threat models used across multiple Combatant Commands and acquisition programs for US Department of Defense (DOD) and Department of Homeland Security (DHS) agencies.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603923D8Z - Coalition Warfare**	**P923**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Coalition Airspace Management and Deconfliction	0.275	0.275	0.000	0.000

Define and develop a software package to provide a machine-to-machine interface between the Joint AirSpace Management And Deconfliction (JASMAD) Advanced Technology Demonstration (ATD) program and airspace planning systems within the UK Air Command and Control System (ACCS) to create a network-centric interoperable suite of collaborative airspace management tools for a US/UK coalition.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Over the Horizon Tactical Tracking System	0.240	0.000	0.000	0.000

Develop a secure, navigation quality tracking system to improveme in the acquisition of Targets of Interest (TOI) associated with both Law Enforcement Operations (LEO) and the interdiction of suspicious craft as part of the Global War on Terror (GWOT) is the primary goal of OTHTTS.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Geolocation and Identification Enhancement	0.209	0.500	0.000	0.000

Geolocation and Identification Enhancements (GLIDE) will improve coalition capabilities to perform target location and identification by developing methods and interfaces to share Specific Emitter Identification (SEI) algorithms and data between coalition partners.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Maritime Coalition Interoperability - Coalition Distributed Engineering Plant	0.695	0.695	0.000	0.000

Demonstrate existing standardization, rationalization and interoperability for combined operations and systems development. This will be accomplished by (1) establishing a compatible infrastructure connecting existing land-based Combat Systems sites employing hardware-in-the-loop combat systems with wide area networks, and (2) conducting distributed engineering and test exercises and events.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Global Coalition In-Transit Visibility Network	0.416	0.416	0.000	0.000

Development of an interoperable network of multinational, coalition in-transit visibility (ITV) systems enabled by various Automated Identification Technologies (A.I.T.) The project will connect nations' previously disparate and closed ITV systems to one another, and will exponentially increase the operational capability of each regional Combatant Commander to track assets for sustainment of the warfighter. Once created, the network can be utilized across the entire spectrum of conflict, from humanitarian assistance to high-intensity combat.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Maritime Information Exchange	0.250	0.230	0.000	0.000

Develop and integrate rule sets and certification for Secret and Below Interoperability (SABI) security guards to successfully share information between the US and Singapore as well as developing and integrating rule sets for an unclassified COP on the Asia-Pacific Area Network (APAN).

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603923D8Z - Coalition Warfare**	**P923**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Collaborative Portals	0.080	0.033	0.080	0.090
Development of web-based collaborative portals to support bilateral and multilateral fora.				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Collaborative Initiatives	0.183	0.240	0.645	0.755
Engagements with coalition partners to support USD(AT&L) priorities.				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Metrification of Littorals	0.056	0.000	0.000	0.000
Establishment of a PC based Geo-location System (PCGS) and its required network connectivity for inclusion in the US-Norway demonstration on maritime security.				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Everything over Internet Protocol	0.200	0.200	0.300	0.000
develop Coalition Communications Interoperability with the Defense Information Systems Network (DISN) services, for Deployed Warfighters, utilizing Everything over IP(EoIP) over Transponded Satellites technology.				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Preplanned Response and Emergency Action (PREACT)	0.235	0.235	0.365	0.000
Increase regional stability in the US Southern Command's (SOUTHCOM) Area of Responsibility through the provisioning of a collaborative planning and coordinated response capability (technology and business practices) that enables accurate assessments, situational awareness, dynamic planning, and synchronized response to international disasters.				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Passive, Remote and Open Situation Awareness System	0.220	0.230	0.450	0.000
Develop a network centric enterprise services architecture for effective use of netted multi-static RF sensors and UAV-based C4ISR systems; including signal processing and target geo-location techniques, remote joint fires, anti-terrorist force protection capability, and human systems integration using a coalition Operational scenario to ensure tactics, techniques and procedures evolve with technologies to enable decision superiority and deliver measurable effects on the battlefield.				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Undersea FORCEnet Coalition Interoperability	0.089	0.161	0.250	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# 4	**0603923D8Z - Coalition Warfare**	**P923**

Special Operations and Naval Forces require an Undersea FORCEnet (Unet) architecture for command, control, communications (C3) and positioning of undersea distributed netted systems (UDNS), fixed and mobile, manned and unmanned, including gateways to submarines and space. Coalition assets and connectivity enhance capability, coverage and relevance of this Unet architecture.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
EUCOM J2 Project	0.000	0.300	0.300	0.000

(CLASSIFIED)

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
CW Support	0.337	0.595	0.600	0.610

Support to OUSD(AT&L)/IC for Coalition Warfare

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Multinational C4 National Planning System	0.000	0.485	0.485	0.000

Develop the Multinational Command, Control, Communications, and Computers (C4) Network Planning System (MCNPS) to provide a tool to develop, assess, and document network architectures for use by coalition task forces (CTF's).

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Miniature Chemical Warfare Detection Agent	0.000	0.000	0.250	0.250

Develop a miniature automated chemical agent detector based on the current M256A1 chemistry. The new detector will provide additional enhancements such as automation, miniaturization, increased user friendliness, decreased detector response time, ability to communicate agent detection to user via audible, visual and/or physical (vibration) method, and the ability to be reused following decontamination. This detector could be used remotely and in limited or no light missions and would greatly improve the protective posture of both the main force and special operation forces.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Multinational Outreach	0.000	0.000	0.200	0.300

Engage with Combatant Commanders and coalition partners on development and execution of coalition warfare projects.

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	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603923D8Z - Coalition Warfare**	**P923**

E. Major Performers

Category	Name	Location	Type of Work and Description	Award Date
Labs				
	JFCOM	Newport News, VA	GITV Project development of an interoperable network of multinational, coalition in-transit visibility (ITV) systems enabled by various Automated Identification Technologies (A.I.T.) The project will connect nations' previously disparate and closed ITV systems to one another, and will exponentially increase the operational capability of each regional Combatant Commander to track assets for sustainment of the warfighter.	15 SEP 2005
	EUCOM	Stuttgart, Germany	INMARSATCOM (CLASSIFIED) and Multinational C4 National Planning System - Develop the Multinational Command, Control, Communications, and Computers (C4) Network Planning System (MCNPS) to provide a tool to develop, assess, and document network architectures for use by coalition task forces (CTF's).	15 SEP 2006
	SPAWARSYSCOM	San Diego	Geolocation and Identification Enhancements (GLIDE) will improve coalition capabilities to perform target location and identification by developing methods and interfaces to share Specific Emitter Identification (SEI) algorithms and data between coalition partners.	15 SEP 2005
	PACOM	Honolulu, HI	Develop and integrate rule sets and certification for Secret and Below Interoperability (SABI) security guards to successfully share information between the US and Singapore as well as developing and integrating rule sets for an unclassified COP on the Asia-Pacific Area Network (APAN).	15 SEP 2006
	NSWCD	Dahlgren, VA	Demonstrate existing standardization, rationalization and interoperability for combined operations and systems development. This will be accomplished by (1) establishing a compatible infrastructure connecting existing land-based Combat Systems sites employing hardware-in-the-loop combat systems with wide area networks, and (2) conducting distributed engineering and test exercises and events.	15 SEP 2005
	ESC Hanscom	Hanscom AFB, MA	CASMAD, Define and develop a software package to provide a machine-to-machine interface between the Joint AirSpace Management And Deconfliction (JASMAD) Advanced Technology Demonstration	15 SEP 2005

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603923D8Z - Coalition Warfare**	**P923**

			(ATD) Mode 5 IFF, Develop standards and conduct interoperability trials of the Mode 5 IFF combat identification system. and integration trials of the Mode 5 IFF combat recognition system on joint US service platforms & European AWACS aircraft.	
	PEO STRI	Orlando, FL	Development of models and simulations for all services that are suitable for use in joint and combined exercises between Republic of Korea and U.S. forces.	15 SEP 2005
	Army Corps of Engineers	Washington, DC	Increase regional stability in the US Southern Command's (SOUTHCOM) Area of Responsibility through the provisioning of a collaborative planning and coordinated response capability (technology and business practices) that enables accurate assessments, situational awareness, dynamic planning, and synchronized response to international disasters.	15 SEP 2006
	Defense Information Security Agency	Falls Church, VA	Develop Coalition Communications Interoperability with the Defense Information Systems Network (DISN) services, for Deployed Warfighters, utilizing Everything over IP(EoIP) over Transponded Satellites technology.	15 SEP 2006
	NSWCD	Dahlgren, VA	Develop a network centric enterprise services architecture for effective use of netted multi-static RF sensors and UAV-based C4ISR systems; including signal processing and target geo-location techniques, remote joint fires, anti-terrorist force protection capability, and human systems integration using a coalition Operational scenario to ensure tactics, techniques and procedures evolve with technologies to enable decision superiority and deliver measurable effects on the battlefield.	15 SEP 2006
	DTIC	Ft. Belvoir, VA	Development of web-based collaborative portals to support bilateral and multilateral fora.	01 AUG 2006
Universities				
	Naval Postgraduate School	Monterey, CA	Special Operations and Naval Forces require an Undersea FORCEnet (Unet) architecture for command, control, communications (C3) and positioning of undersea distributed netted systems (UDNS), fixed and mobile, manned and unmanned, including gateways to submarines and space. Coalition assets and connectivity enhance capability, coverage and relevance of this Unet architecture.	15 SEP 2006
FFRDCs				

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603923D8Z - Coalition Warfare**	**P923**

	IDA	Alexandria, VA	Engagements with Combatant Commanders and coalition partners on development and execution of coalition warfare projects. to support USD(AT&L) priorities.	30 JUN 2006

Contractors

	Dreamhammer	Santa Moncia, CA	Support to OUSD(AT&L)/IC for Coalition Warfare.	28 FEB 2006

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0603923D8Z - Coalition Warfare

PROJECT
P923

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Development			3502	3380	1-4Q	8776	1-4Q	8633	1-4Q	0	24291	0
Demonstration and Validation			1502	1597	3-4Q	3761	3-4Q	3700	3-4Q	0	10560	0
Subtotal:			5004	4977		12537		12333		0	34851	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
CW Analysis and Project Evaluation			1040	868	1-3Q	1510	1-3Q	1720	1-3Q	7825	12963	0
Subtotal:			1040	868		1510		1720		7825	12963	0

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603923D8Z - Coalition Warfare**	**P923**

Project Total Cost:	**6044**	**5845**		**14047**		**14053**		**7825**	**47814**	**0**

Schedule Detail (R4a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0603923D8Z - Coalition Warfare**	**P923**

Schedule Detail	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Selection	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q
Project Execution	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Demonstration	3-4Q	3-4Q	3-4Q	3-4Q	3-4Q	3-4Q	3-4Q	3-4Q

Comment:

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0604016D8Z – Department of Defense Corrosion 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		7.402	7.125	4.983	5.110	5.098	4.858	4.984	5.112
P015	Corrosion Prevention and Mitigation R&D Technologies and Projects	7.402	7.125	4.983	5.110	5.098	4.858	4.984	5.112

A. Mission Description and Budget Item Justification: (U) The purpose of this program is to develop a comprehensive capability to prevent and mitigate corrosion and its effects on Department of Defense (DoD) weapon systems and infrastructure. Corrosion severely impacts system and facility reliability, readiness and safety, and consumes a disproportionate amount of material and labor hours for repair and treatment of corrosion damaged systems and facilities. The cost of corrosion across the DoD has been estimated at between $10 billion and $20 billion each year. The impact and cost of corrosion are so pervasive that Congress enacted Public Law 107-314 Sec: 1067 [portions codified in 10 U.S.C. 2228]: Prevention and mitigation of corrosion of military infrastructure and equipment. This legislation requires that DoD develop a long-term corrosion strategy to include establishment of a coordinated Research and Development (R&D) program with transition plans. The legislation also requires that DoD designate a responsible official or organization to oversee a corrosion prevention and mitigation program.

(U) The Deputy Secretary of Defense designated the Principal Deputy Under Secretary of Defense (Acquisition, Technology, and Logistics) (PDUSD(AT&L)) as the DoD Corrosion Executive in May 2003. The DoD Corrosion Executive subsequently established a Corrosion Control and Oversight office to implement the program. A major responsibility of the Corrosion Control and Oversight Office is to select high payoff research and development projects that promise to prevent or mitigate corrosion and significantly reduce the total cost of corrosion along with the adverse impact of corrosion effects on weapon system and infrastructure operational capability. This office chartered a Corrosion Prevention and Control Integrated Product Team (CPCIPT) that has selected and funded O&M projects for Fiscal Year (FY) 2005, FY 2006 and FY 2007. However, the DoD CPCIPT has determined that the biggest payoff in corrosion prevention and mitigation will come from investing in up-front prevention technologies, materials, and processes to leverage downstream cost avoidances in corrosion maintenance and repair. Likewise, development of improved predictive and prognostic techniques can eliminate unseen failure and reduce unnecessary maintenance and repair costs.

(U) The Corrosion Prevention Control Integrated Product Team membership consists of both the equipment and infrastructure corrosion control experts from the Services, the Joint Staff, the Coast Guard, and the National Aeronautics and Space Administration. The Services are given project guidelines and selection criteria. The CPC project selection board, chaired by the Special Assistant, Corrosion Control and Oversight, reviews the projects and makes recommendations to the DoD Corrosion Executive for final approval.

(U) The Corrosion Executive issued a policy letter that states: "Basic systems design, materials and processes selection, and intrinsic corrosion-prevention strategies establish the corrosion susceptibility of Defense material. The early stages of acquisition provide our best opportunity to make effective trade-offs among the many competing design criteria. . ." The Congress and the DoD Corrosion Executive have made it clear that research and development into materials and methods to prevent or mitigate corrosion should receive high priority. Since Congress has clearly established this program as one of its highest priorities, and has reiterated its expectations regarding funding levels and methods, our budget request is designed to reflect both fiscal realities of one or more on many proposed projects over the next five to ten years.

(U) The Department has identified well over 100 research and development projects that need to be funded and would have an impact on reducing the effects and costs of corrosion.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0604016D8Z – Department of Defense Corrosion Program**

These projects address critical corrosion issues in both Department of Defense infrastructure as well as warfighting systems. A number of low-risk, high-payoff technologies promise to vastly improve the service life and significantly reduce the maintenance costs of storage tanks and other mission support facilities essential to maintain support for the warfighter. Each of the services has identified important projects that vastly increase operational readiness and reduce operations and maintenance costs. All services are studying corrosion inhibitors that improve reliability and life of electrical and avionics equipment. Likewise, an array of highly effective, rapid cure coatings that are easy to apply and can forestall corrosion for many years on aircraft and ships are being developed. Other vital projects being considered include sealants, wash down systems, sensors and prognostic technologies that have joint service applications and potential to prevent and mitigate corrosion and its effects over a wide range of systems. The FY 2008 budget request will provide a critically needed resource to trigger even larger investment and cost avoidance.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	7.619	4.966	5.142	5.266
Current BES/President's Budget (FY 2008/2009)	7.402	7.125	4.983	5.110
Total Adjustments	-0.217	2.159	-0.159	-0.156
Congressional Program Reductions		-0.046		
Congressional Rescissions				
Congressional Increases		2.200		
Reprogrammings				
SBIR/STTR Transfer	-0.217			
Other		0.005	-0.159	-0.156

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy There is an annual CPCIPT call for proposed project plans in April. Projects are submitted by the Services annually in June. The project plan format is contained in the DoD Corrosion Prevention and Mitigation Strategic Plan. Each project plan contains:

1. Problem statement: Description of the problem or situation, including background, history, issues, operational problems and support costs.
2. Impact statement: Details regarding why project is important including description of the operational and/or logistic impact if no action is taken.
3. Technical description: Definition of the corrosion prevention and control objective and description of the system affected by this project; applicable technologies and associated development; expected operations and logistics performance improvement characteristics; brief description of the user community and how it will apply to their mission; and current

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)	Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0604016D8Z – Department of Defense Corrosion Program**

acquisition status.
4. Risk analysis: Description of the risk in managing/developing/prototyping/testing/qualifying/manufacturing/completing the technical effort including assumptions that could affect project development or implementation.
5. Proposed phases: If project is complex and will be performed in phases, description of each phase objective.
6. Expected deliverables and results or outcomes: Description of products to be delivered such as type/number of hardware, technical orders/drawings, installation, training, etc.; and description of expected operations and/or logistics performance improvements.
7. Program management: Description of the overall approach and tasks to be taken to accomplish the project, including organization, coordination and acquisition approach.
8. Cost/benefit analysis: Definition of all resources necessary to accomplish project, description of resulting benefits, computation of Return-On-Investment (ROI), and documentation of mission criticality.
9. Schedule: Milestone chart showing all significant events through project completion.
10. Implementation plan: Explanation of how the project will be implemented when completed including a description of the transition approach.

The project evaluation criteria are also provided as part of the call for use by the CPCIPT in arriving at their prioritized project list. There are seven categories for evaluation:
1. Return on investment credibility: Degree to which there is evidence that the project will achieve a return on investment of greater than 10:1: 3, 2, 1 points respectively for low, medium, high risk
2. Benefits credibility: Degree to which there is evidence that the projected benefits will be achieved: 3, 2, 1 points respectively for low, medium, high risk
3. Technology maturity: Degree to which proposed technology has been developed or demonstrated and will satisfy project objectives: 3, 2, 1 points respectively for low, medium, high risk
4. Schedule confidence: Degree to which the project is likely to be completed on time: 3, 2, 1 points respectively for low, medium, high risk
5. Budget confidence: Degree to which the project is likely to be completed within the proposed budget: 3, 2, 1 points respectively for low, medium, high risk
6. Operational readiness improvement: Degree to which there is evidence that the project will improve readiness, reliability, maintainability or sustainability of the system or facility: 6, 4, 2 points respectively for low, medium, high risk
7. Management support: Degree to which management actively supports this project and has committed program resources to both manage and support this project: 6, 4, 2 points respectively for low, medium, high risk

The CPCIPT receives project plans and makes a priority ranking based on detailed analysis of each proposed initiative against the seven evaluation criteria. This priority ranking is sent to the CPCIPT lead. Upon acceptance and approval of the projects by the CPCIPT, the projects are briefed to the Corrosion Forum. Funding is distributed between the Services based on priority and the evaluation process results.

Upon selection by CPCIPT of the highest priority projects and final funding approval, Office of the Secretary of Defense transfers individual project funding to the appropriate funding sites that are provided by the Services. After receiving the project funding, the Services are responsible for the funding and management of the projects. OSD retains oversight and direction of the CPC initiative through the CPCIPT. Project oversight includes the review of bi-monthly status reports which address progress summary, performance goals and metrics and upcoming key events, as well as reports to periodic Corrosion Forums.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0604016D8Z – Department of Defense Corrosion Program**

The bi-monthly project report (PR) format has been defined and requires the following input:
1. Statement of progress
2. Outstanding issues
3. Performance goals and metrics
4. Upcoming events
5. Schedule status
6. Current return on investment (ROI) status

These PRs are submitted to the CPCIPT office. The CPCIPT analyzes project status, progress and project statistics and informs the Service POCs of any project problems. Projects are also required to report verbally at Corrosion Forums, as appropriate.

CPC Program direction, control and oversight include the following activities to be performed by staff and support contractors:
1. Plan and schedule Corrosion Forums and oversee Corrosion Forum activities and working IPT meetings.
2. Oversee project performance including review of bi-monthly status reports which address progress summary, performance goals and metrics and upcoming key events, as well as reports to periodic Corrosion Forums.
3. Perform DoD cost of corrosion study.
4. Develop improved, standard DoD-wide specifications, standards and qualification processes.
5. Develop corrosion training courses.
6. Prepare and publish Corrosion Prevention and Control Planning Guidebook spirals.
7. Prepare and publish annual Reports to Congress.
8. Update short-term and long-term metrics.
9. Develop corrosion control program management guide for selecting materials.
10. Develop and implement the DoD Corrosion Prevention and Mitigation Strategic Plan.
11. Develop and maintain Roadmaps of IPT activities and accomplishments.
12. Assist in the annual project plan implementation and evaluation process, including the assessment of return on investment associated with proposed projects.
13. Respond to Congressional, Government Accountability Office and DoD inquiries regarding the CPC Program.
14. Perform CPC Program communication and outreach to services, agencies and other organizations.

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	Life cycle cost reduction	$250M cost avoidance	$200M cost avoidance	$776M cost avoidance	ROI: 10:1	ROI: 42:1

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 4			PE NUMBER AND TITLE **0604016D8Z – Department of Defense Corrosion Program**			
07	Life cycle cost reduction	$200M cost avoidance	$150M cost avoidance	$270M cost avoidance	ROI: 10:1	ROI: 18:1
08	Life cycle cost reduction	$200M cost avoidance	$200M cost avoidance		ROI: 10:1	
09	Life cycle cost reduction	$200M cost avoidance	$200M cost avoidance		ROI: 10:1	

Comment: The objective of each of the projects is the reduction in the life cycle costs of corrosion for affected systems. Return on Investment (ROI) is the primary performance metric for the projects and for the Corrosion Prevention and Control (CPC) initiative. The average projected ROI for these projects (based on discounted cash flow calculations) exceeds 10:1 with estimated annual direct cost avoidance of over $50 million across the Future Years Defense Plan. Thus, the critical performance metric for this effort is the resulting life cycle cost reduction. Gains in reliability, maintainability, supportability, and thus readiness are the by-products of the projects with attendant additional cost reduction benefits. Cost avoidances will be measured and tracked for each project, summed to the Service level, and totaled at the Office of the Secretary of Defense (OSD) level.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604016D8Z – Department of Defense Corrosion Program**	**P015**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P015	Corrosion Prevention and Mitigation R&D Technologies and Projects	7.402	7.125	4.983	5.110	5.098	4.858	4.984	5.112

A. Mission Description and Project Justification: (U) The purpose of this program is to develop a comprehensive capability to prevent and mitigate corrosion and its effects on Department of Defense (DoD) weapon systems and infrastructure. Corrosion severely impacts system and facility reliability, readiness and safety, and consumes a disproportionate amount of material and labor hours for repair and treatment of corrosion damaged systems and facilities. The cost of corrosion across the DoD has been estimated at between $10 billion and $20 billion each year. The impact and cost of corrosion are so pervasive that Congress enacted Public Law 107-314 Sec: 1067 [portions codified in 10 U.S.C. 2228]: Prevention and mitigation of corrosion of military infrastructure and equipment. This legislation requires that DoD develop a long-term corrosion strategy to include establishment of a coordinated R&D program with transition plans. The legislation also requires that DoD designate a responsible official or organization to oversee a corrosion prevention and mitigation program.

(U) The Deputy Secretary of Defense designated the Principal Deputy Under Secretary of Defense (Acquisition, Technology, and Logistics) (PDUSD(AT&L)) as the DoD Corrosion Executive in May 2003. The DoD Corrosion Executive subsequently established a Corrosion Control and Oversight office to implement the program. A major responsibility of the Corrosion Control and Oversight Office is to select high payoff research and development projects that promise to prevent or mitigate corrosion and significantly reduce the total cost of corrosion along with the adverse impact of corrosion effects on weapon system and infrastructure operational capability. This office chartered a Corrosion Prevention and Control Integrated Product Team (CPCIPT) that has selected and funded Operation and Maintenance projects for Fiscal Year (FY) 2005, FY 2006 and FY 2007. However, the DoD CPCIPT has determined that the biggest payoff in corrosion prevention and mitigation will come from investing in up-front prevention technologies, materials, and processes to leverage downstream cost avoidances in corrosion maintenance and repair. Likewise, development of improved predictive and prognostic techniques can eliminate unseen failure and reduce unnecessary maintenance and repair costs.

(U) The Corrosion Prevention Control Integrated Product Team membership consists of both the equipment and infrastructure corrosion control experts from the Services, the Joint Staff, the Coast Guard, and the National Aeronautics and Space Administration. The Services are given project guidelines and selection criteria. The CPC project selection board, chaired by the Special Assistant, Corrosion Control and Oversight, reviews the projects and makes recommendations to the DoD Corrosion Executive for final approval.

(U) The Corrosion Executive issued a policy letter that states: "Basic systems design, materials and processes selection, and intrinsic corrosion-prevention strategies establish the corrosion susceptibility of Defense material. The early stages of acquisition provide our best opportunity to make effective trade-offs among the many competing design criteria. . ." The Congress and the DoD Corrosion Executive have made it clear that research and development into materials and methods to prevent or mitigate corrosion should receive high priority. Since Congress has clearly established this program as one of its highest priorities, and has reiterated its expectations regarding funding levels and methods, our budget request is designed to reflect both fiscal realities of one or more on many proposed projects over the next five to ten years.

These projects address critical corrosion issues in both Department of Defense infrastructure as well as warfighting systems. A number of low-risk, high-payoff technologies promise to vastly improve the service life and significantly reduce the maintenance costs of storage tanks and other mission support facilities essential to maintain support for the warfighter. Each of

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604016D8Z – Department of Defense Corrosion Program**	**P015**

the services has identified important projects that vastly increase operational readiness and reduce operations and maintenance costs. All services are studying corrosion inhibitors that improve reliability and life of electrical and avionics equipment. Likewise, an array of highly effective, rapid cure coatings that are easy to apply and can forestall corrosion for many years on aircraft and ships are being developed. Other vital projects being considered include sealants, wash down systems, sensors and prognostic technologies that have joint service applications and potential to prevent and mitigate corrosion and its effects over a wide range of systems. The FY 2008 budget request will provide a critically needed resource to trigger even larger investment and cost avoidance.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Corrosion Prevention and Mitigation:	1.955	2.150	1.435	1.475
Coatings and Corrosion Prevention Compounds				

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Corrosion Prevention and Mitigation:	0.851	1.045	0.665	0.680
Diagnostics, Prognostics, Monitoring and NDI Technologies				

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Corrosion Prevention and Mitigation:	0.830	0.600	0.500	0.510
Prediction, Modeling and Supporting Technologies				

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Corrosion Prevention and Mitigation:	0.802	0.770	0.550	0.565
Maintenance and Cathodic Protection Technologies and Practices				

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Corrosion Prevention and Mitigation:	0.260	0.850	0.390	0.400
Materials Selection Processes				

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Corrosion Prevention and Mitigation:	2.704	1.710	1.443	1.480

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0604016D8Z – Department of Defense Corrosion Program**	PROJECT **P015**

Corrosion Control Management Activities

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy There is an annual Corrosion Prevention and Control Integrated Project Team (CPCIPT) call for proposed project plans in April. Projects are submitted by the Services annually in June. The project plan format is contained in the DoD Corrosion Prevention and Mitigation Strategic Plan. Each project plan contains:
1. Problem statement: Description of the problem or situation, including background, history, issues, operational problems and support costs.
2. Impact statement: Details regarding why project is important including description of the operational and/or logistic impact if no action is taken.
3. Technical description: Definition of the corrosion prevention and control objective and description of the system affected by this project; applicable technologies and associated development; expected operations and logistics performance improvement characteristics; brief description of the user community and how it will apply to their mission; and current acquisition status.
4. Risk analysis: Description of the risk in managing/developing/prototyping/ testing/qualifying/manufacturing/completing the technical effort including assumptions that could affect project development or implementation.
5. Proposed phases: If project is complex and will be performed in phases, description of each phase objective.
6. Expected deliverables and results or outcomes: Description of products to be delivered such as type/number of hardware, technical orders/drawings, installation, training, etc.; and description of expected operations and/or logistics performance improvements.
7. Program management: Description of the overall approach and tasks to be taken to accomplish the project, including organization, coordination and acquisition approach.
8. Cost/benefit analysis: Definition of all resources necessary to accomplish project, description of resulting benefits, computation of Return-On-Investment (ROI), and documentation of mission criticality.
9. Schedule: Milestone chart showing all significant events through project completion.
10. Implementation plan: Explanation of how the project will be implemented when completed including a description of the transition approach.

The project evaluation criteria are also provided as part of the call for use by the CPCIPT in arriving at their prioritized project list. There are seven categories for evaluation:
1. Return on investment credibility: Degree to which there is evidence that the project will achieve a return on investment of greater than 10:1: 3, 2, 1 points respectively for low, medium, high risk
2. Benefits credibility: Degree to which there is evidence that the projected benefits will be achieved: 3, 2, 1 points respectively for low, medium, high risk.
3. Technology maturity: Degree to which proposed technology has been developed or demonstrated and will satisfy project objectives: 3, 2, 1 points respectively for low, medium, high risk.
4. Schedule confidence: Degree to which the project is likely to be completed on time: 3, 2, 1 points respectively for low, medium, high risk.
5. Budget confidence: Degree to which the project is likely to be completed within the proposed budget: 3, 2, 1 points respectively for low, medium, high risk.
6. Operational readiness improvement: Degree to which there is evidence that the project will improve readiness, reliability, maintainability or sustainability of the system or facility: 6, 4, 2 points respectively for low, medium, high risk.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0604016D8Z – Department of Defense Corrosion Program**	PROJECT **P015**

7. Management support: Degree to which management actively supports this project and has committed program resources to both manage and support this project: 6, 4, 2 points respectively for low, medium, high risk.
The Corrosion Prevention and Control Integrated Project Team (CPCIPT) receives project plans and makes a priority ranking based on detailed analysis of each proposed initiative against the seven evaluation criteria. This priority ranking is sent to the CPCIPT lead. Upon acceptance and approval of the projects by the CPCIPT, the projects are briefed to the Corrosion Forum. Funding is distributed between the Services based on priority and the evaluation process results.

Upon selection by CPCIPT of the highest priority projects and final funding approval, Office of the Secretary of Defense (OSD) transfers individual project funding to the appropriate funding sites that are provided by the Services. After receiving the project funding, the Services are responsible for the funding and management of the projects. OSD retains oversight and direction of the Corrosion Prevention and Control initiative through the CPCIPT. Project oversight includes the review of bi-monthly status reports which address progress summary, performance goals and metrics and upcoming key events, as well as reports to periodic Corrosion Forums.

The bi-monthly project report (PR) format has been defined and requires the following input:
1. Statement of progress
2. Outstanding issues
3. Performance goals and metrics
4. Upcoming events
5. Schedule status
6. Current return on investment (ROI) status
These project reports (PRs) are submitted to the CPCIPT. The CPCIPT analyzes project status, progress and project statistics and informs the Service points of contact (POCs) of any project problems. Projects are also required to report verbally at Corrosion Forums, as appropriate.

Corrosion Prevention and Control (CPC) Program direction, control and oversight include the following activities to be performed by staff and support contractors:
1. Plan and schedule Corrosion Forums and oversee Corrosion Forum activities and working Integrated Product Team (IPT) meetings.
2. Oversee project performance including review of bi-monthly status reports which address progress summary, performance goals and metrics and upcoming key events, as well as reports to periodic Corrosion Forums.
3. Perform Department of Defense (DoD) cost of corrosion study.
4. Develop improved, standard DoD-wide specifications, standards and qualification processes.
5. Develop corrosion training courses.
6. Prepare and publish Corrosion Prevention and Control Planning Guidebook spirals.
7. Prepare and publish annual Reports to Congress.
8. Update short-term and long-term metrics.
9. Develop corrosion control program management guide for selecting materials.
10. Develop and implement the DoD Corrosion Prevention and Mitigation Strategic Plan.
11. Develop and maintain Roadmaps of IPT activities and accomplishments.

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

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604016D8Z – Department of Defense Corrosion Program**	**P015**

12. Assist in the annual project plan implementation and evaluation process, including the assessment of return on investment associated with proposed projects.
13. Respond to Congressional, Government Accountability Office and DoD inquiries regarding the CPC Program.
14. Perform CPC Program communication and outreach to services, agencies and other organizations.

E. Major Performers Not Applicable.

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0604016D8Z – Department of Defense Corrosion Program

PROJECT
P015

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Coatings and Corrosion Prevention Compounds			1955	2150		1435		1475		0	7015	0
Diagnostics, Prognostics, Monitoring and NDI Technologies			851	1045		665		680		0	3241	0
n, Modeling and Supporting Technologies			830	600		500		510		0	2440	0
Maintenance and Cathodic Protection Technologies and Practices			802	770		550		565		0	2687	0
Materials Selection Processes			260	850		390		400		0	1900	0
Corrosion Control Management Activities			2704	1710		1443		1480		0	7337	0
Subtotal:			7402	7125		4983		5110		0	24620	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

Remarks: Support provided by CPC Program

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

Remarks: Test and Evaluation included in Product Development Costs

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0604016D8Z – Department of Defense Corrosion Program

PROJECT
P015

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

Remarks: Management Services listed in Product Development as Corrosion Control Management Activities

Project Total Cost:			**7402**	**7125**		**4983**		**5110**		**0**	**24620**	**0**

Schedule Detail (R4a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604016D8Z – Department of Corrosion Program**	**P015**

Schedule Detail	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FY05 project completion	3-4Q	1Q						
FY 05 project final report		2Q						
FY 06 project selection	1Q							
FY 06 project funding	2Q							
FY 06 project completion		3-4Q	1Q					
FY 06 project final report				2Q				
FY 07 project selection		1Q						
FY 07 project funding		2Q						
FY 07 project completion			3-4Q	1Q				
FY 07 project final report				2Q				
FY 08 project selection			1Q					
FY 08 project funding			2Q					
FY 08 project completion				3-4Q	1Q			
FY 08 final report					2Q			
FY09 project selection				1Q				
FY09 project funding				2Q				
FY09 project completion					3-4Q	1Q		
FY09 final report						2Q		

Comment:

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**

	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	2.799	3.029	2.960	4.970	8.996	8.974	10.013	10.055
P649	Joint Capability Technology Demonstration (JCTD)	2.799	3.029	2.960	4.970	8.996	8.974	10.013	10.055

A. Mission Description and Budget Item Justification: In FY 2006, the Deputy Undersecretary of Defense for Advanced Systems and Concepts (DUSD(AS&C)) initiated a new business process, building on the successful ACTD program, to support the Department's transformational reform of addressing future threats from a capabilities focus versus the classical threat based viewpoint. The revised ACTD approach is called the Joint Capability Technology Demonstration (JCTD) program, and is based on proven, positive aspects of the ACTD program with new modifications. The JCTD model specifically addresses congressional concerns and recommendations made by the General Accountability Office (GAO) regarding rapid development and transitioning of Combatant Commander (CoCom) relevant capabilities to the joint warfighter in a more cost effective, timely and efficient model. Aligning closely with the thrust of with the Joint Staff's Joint Integration and Development System (JCIDS), JCTDs take a more balanced project candidate identification approach, shifting the overall program's focus to identifying specific warfighter capabilities needs up front (requirements pull), and then finding technology or concepts to address these needs, while maintaining the historical ACTD approach, where new technology is introduced to the warfighter to solve existing operational shortfalls (technology push). The JCTD business process includes a new funding line outside the Science & Technology (S&T) arena. The Budget Activity 4/RDT&E budget line is termed "JCTD transition." It is designed to continue the development/maturity of the most successful ACTD and JCTDs that have proven military utility and are deemed critical by the Combatant Commander (CoCOM) for joint warfighting capabilities. This "transition arm" ensures the most successful demonstrations and capabilities rapidly find a transition path into a program of record. The "transition arm" of the new JCTD model supports fast paced technology transfer and enables an agile program to more smoothly tie into the more deliberate, traditional programming and budgeting process. It will better support the rapid transition of joint, CoCom/coalition operational capabilities. While not all ACTDs and JCTDs require transition funding, these resources provide a "transition bridge" to enable sustainment for innovative, "joint-peculiar" and Combatant Commander (CoCom)/coalition capabilities until traditional programming and budgeting can provide a permanent solution.

The appropriation, Program Element (PE) and Budget Activity (BA) structure for the new JCTD process includes the following:

- JCTD PE 0603648D8Z (RDT&E/DW BA-3)
- JCTD Transition Funding PE 0604648D8Z (RDT&E/DW BA-4)

JCTDs are initiated in Budget Activity three (BA-3) for development and are pre-acquisition demonstrations, characterized by Technology Readiness Levels 4, 5 or 6. Although not developed for production, new JCTDs can provide a path for transition of Science and Technology to acquisition and are low-to-moderate risk vehicles for pursuing those objectives. The JCTD Transtion resources help provide transition path and will pioneer a new model for Department of Defense acquisition with the added ability to bridge more agile programs into fielded capabilities. Specifically, the JCTD Transition BA4 will provide a path for rapid fielding successful, transformational capabilities that may require additional transition resources to "bridge" to a program of record. The Defense Wide RDT&E funding managed by DUSD(AS&C) will support demonstration of military utility and deployment of interim capability including a transition period to a program of record, providing the Combatant Commanders, Services, Agencies, and operators with adequate time to address transition issues of supportability, maintainability and training identified by the JCTD/ACTD. The JCTD model will facilitate the transition of successful technologies past the initial development/demonstration phase and into early acquisition.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**

FY 2007/2008/2009 General JCTD Transition Program criteria, history and plans:

- DUSD (AS&C) will maintain oversight of the JCTD/ACTD program.
- ACTD/JCTDs selected for JCTD Transition funding must successfully complete a military utility assessment; have strong CoCom support; and require no more than two years of funding until the traditional Planning, Programming Budgeting & Execution (PPBE) process provides a permanent acquisition/transition solution.
- National Geospatial-Intelligence (NGA) Urban Recon (UR) ACTD was the first successful example of utilizing the BA-4 funds to migrate capabilities to a program of record (POR).
- The ACTDs selected to use the BA-4 funds in FY 2007 are Joint Distance Support and Response (JDSR), which provides a joint, common and interoperable tele-maintenance/training environment, and Language and Speech Exploitation Resources (LASER) which provides capability to reduce foreign language barriers across the full spectrum of DoD operations.
- There are at least three FY 2008 AC/JCTD candidates are under consideration for the JCTD transition funds.
- In FY 2009, the Hyperspectral Collection and Analysis (HyCAS) ACTD has been selected to receive transition funding to advance Airborne Hyperspectral capabilities. Sensors associated with the HyCAS ACTD have proven effective in operational demonstrations supporting Operation Enduring Freedom (OEF).

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	2.946	3.047	3.050	3.053
Current BES/President's Budget (FY 2008/2009)	2.799	3.029	2.960	4.970
Total Adjustments	-0.147	-0.018	-0.090	1.917
Congressional Program Reductions				
Congressional Rescissions		-0.022		
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer	-0.147			
Other		0.004	-0.090	1.917

In FY06 and FY07 there were no congressional increases or decreases to the JCTD Transition program element. Congressional rescissions and other taxes such as Section 8125 and FFRDC totaled $111 thousand that were displayed in the FY 2007 President"s Budget. The SBIR/STTR transfer totaled $147 thousand. Congressional rescissions and other taxes such as Section 8023 for FFRDC totaled $22.

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# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**

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	Project Selection Focus					
	Spiral Technologies					
	Time to Final Demonstration					
	Adequately Shared Funding and Visibility					
	Independent Assessment Capability					
	Successful Military Utility Assessment (MUA)					

Comment: The majority of funding from this Program Element is forwarded to the Services/Defense Agencies that execute the individual ACTD projects. DUSD(AS&C) maintains and provides overall programmatic oversight for the ACTD program, to include the individual ACTD projects. The JCTD/ACTD performance metrics center on how fast relevant joint and/or transformational technologies can be demonstrated and provided to the joint warfighter. These metrics are driven by the overall business process which includes six parts: (1) selection focus; (2) ability to spin-off spiral technologies; (3) time necessary to complete a final demonstration; (4) adequately resourced projects with appropriate oversight; (5) capability to complete an independent assessment of the technology; and (6) the number of successful capabilities that are actually transitioned to the warfighter. The table below defines these metrics and helps compare/contrast the current ACTD program with the new JCTD business process model.
A comparison of ACTD and JCTD metrics are:
1) Project Selection Focus:
a. ACTD - Threat based: shared military service and CoCom influence.
b. JCTD - Capability Based: Greater CoCom influence looking at nearer term joint/coalition needs.
2) Sprial Technologies:
a. ACTD - No metric
b. JCTD - 25% will provide an operationally relevant product demonstration within 24 months of ID signature.
3) Final Demonstation Completed
a. ACTD - 3 to 4 years after initiation
b. JCTD - 75% of projects complete final demonstration within three years of ID signature.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**

4) Shared Funding and Viability of resources:
a. ACTD - OSD provides no more than 30% of the budgeted resources. Funding provided form many different program elements.
b. JCTD - OSD provides significantly more funding, greater than 30% in some cases a majority of projected funding, especially in the first two years.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P649	Joint Capability Technology Demonstration (JCTD)	2.799	3.029	2.960	4.970	8.996	8.974	10.013	10.055

A. Mission Description and Project Justification: In FY 2006, the Deputy Undersecretary of Defense for Advanced Systems and Concepts (DUSD(AS&C)) initiated a new business process, building on the successful ACTD program, to support the Department's transformational reform of addressing future threats from a capabilities focus versus the classical threat based viewpoint. The revised ACTD approach is called the Joint Capability Technology Demonstration (JCTD) program, and is based on proven, positive aspects of the ACTD program with new modifications. The JCTD model specifically addresses congressional concerns and recommendations made by the General Accountability Office (GAO) regarding rapid development and transitioning of Combatant Commander (CoCom) relevant capabilities to the joint warfighter in a more cost effective, timely and efficient model. Aligning closely with the thrust of with the Joint Staff's Joint Integration and Development System (JCIDS), JCTDs take a more balanced project candidate identification approach, shifting the overall program's focus to identifying specific warfighter capabilities needs up front (requirements pull), and then finding technology or concepts to address these needs, while maintaining the historical ACTD approach, where new technology is introduced to the warfighter to solve existing operational shortfalls (technology push). The JCTD business process includes a new funding line outside the Science & Technology (S&T) arena. The Budget Activity 4/RDT&E budget line is termed "JCTD transition." It is designed to continue the development/maturity of the most successful ACTD and JCTDs that have proven military utility and are deemed critical by the Combatant Commander (CoCOM) for joint warfighting capabilities. This "transition arm" ensures the most successful demonstrations and capabilities rapidly find a transition path into a program of record. The "transition arm" of the new JCTD model supports fast paced technology transfer and enables an agile program to more smoothly tie into the more deliberate, traditional programming and budgeting process. It will better support the rapid transition of joint, CoCom/coalition operational capabilities. While not all ACTDs and JCTDs require transition funding, these resources provide a "transition bridge" to enable sustainment for innovative, "joint-peculiar" and Combatant Commander (CoCom)/coalition capabilities until traditional programming and budgeting can provide a permanent solution.

The appropriation, Program Element (PE) and Budget Activity (BA) structure for the new JCTD process includes the following:

- JCTD PE 0603648D8Z (RDT&E/DW BA-3)
- JCTD Transition Funding PE 0604648D8Z (RDT&E/DW BA-4)

JCTDs are initiated in Budget Activity three (BA-3) for development and are pre-acquisition demonstrations, characterized by Technology Readiness Levels 4, 5 or 6. Although not developed for production, new JCTDs can provide a path for transition of Science and Technology to acquisition and are low-to-moderate risk vehicles for pursuing those objectives. The JCTD Transtion resources help provide this transition path and will pioneer a new model for Department of Defense acquisition with the added ability to bridge more agile programs into fielded capabilities. Specifically, the JCTD Transition BA4 will provide a path for rapid fielding successful, transformational capabilities that may require additional transition resources to "bridge" to a program of record. The Defense Wide RDT&E funding managed by DUSD(AS&C) will support demonstration of military utility and deployment of interim capability including a transition period to a program of record, providing the Combatant Commanders, Services, Agencies, and operators with adequate time to address transition issues of supportability, maintainability and training identified by the JCTD/ACTD. The JCTD model will facilitate the transition of successful technologies past the initial development/demonstration phase and into early acquisition.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

FY 2007/2008/2009 General JCTD Transition Program criteria, history and plans:
• DUSD (AS&C) will maintain oversight of the JCTD/ACTD program.
• ACTD/JCTDs selected for JCTD Transition funding must successfully complete a military utility assessment; have strong CoCom support; and require no more than two years of funding until the traditional Planning, Programming Budgeting & Execution (PPBE) process provides a permanent acquisition/transition solution.
• National Geospatial-Intelligence (NGA) Urban Recon (UR) ACTD was the first successful example of utilizing the BA-4 funds to migrate capabilities to a program of record (POR).
• The ACTDs selected to use the BA-4 funds in FY 2007 are Joint Distance Support and Response (JDSR), which provides a joint, common and interoperable tele-maintenance/training environment, and Language and Speech Exploitation Resources (LASER) which provides capability to reduce foreign language barriers across the full spectrum of DoD operations.
• There are at least three FY 2008 AC/JCTD candidates are under consideration for the JCTD transition funds.
• In FY 2009, the Hyperspectral Collection and Analysis (HyCAS) ACTD has been selected to receive transition funding to advance Airborne Hyperspectral capabilities. Sensors associated with the HyCAS ACTD have proven effective in operational demonstrations supporting Operation Enduring Freedom (OEF).

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Urban Recon (UR)	2.799	0.000	0.000	0.000

The Joint Requirements Oversight Council validated the capability need for Urban Recon (UR) as an FY-03 new start. The outcome of Urban Recon is to provide advanced airborne and terrestrial 3-D reconnaissance capability to US Army Special Operations Command (USASOC) (Operational Manager) using LIDAR sensor with rapid processing software and decision aid software. Urban Recon will provide enhanced urban warfare survivability to early-entry forces by collecting revolutionary 3D urban databases supporting advanced mission planning and rehearsal, vulnerability assessment, high-fidelity route analysis, field of view, and line of sight. Rapid collection, processing, and visualization of complex urban environments will be accomplished in under 90 minutes. The Urban Recon was the first ACTD selected to receive transition funding from this newly established JCTD "transition program element" in FY 2006 due to the tremendous transformational capability if brings to the special operations warfighter. Urban Recon provides a 3-D imaging capability of an Urban environment to see, plan, and rehearse operations in near-real world setting. This project has high CoCom interest and therefore selected on its transformation merit for the JCTD transition funding. JCTD transition funding will enable this critical warfighter capability to continue its development while transitioning to a program of record. Outputs and efficiencies include: extent to which the Urban Recon ACTD sensors and software provide the high-resolution, 3-D data needed to support urban warfare operations; extent to which the equipment and software provided are easy to use and supportable by military personnel; and extent to which the Urban Recon Tactics, Techniques and Procedures (TTPs) can be effectively executed in meeting urban reconnaissance objectives. Urban Recon completed the objective laser systems development supporting vehicle-deployed, soldier-deployed, and UAV-deployed (surrogate vehicle) configurations. Finalized the CONOPS for each objective system configuration. Drafted and finalized a Capability Development Document for LIDAR Sensors. Completed the Military Utility Assessment (MUA). MUA results indicated that while the data produced was very useful, tools and sensors required additional work prior to fielding. Developed transition strategy supporting follow-on development, acquisition and fielding based on MUA results. Urban Recon will transfer to SOCOM. The user sponsor is U.S. Special Operations Command (SOCOM) through USASOC. The lead service is the National Geospatial-Intelligence Agency (NGA).
@@!• FY 2006 Output - Completed MUA. Developed plan to implement product improvements to bring laser systems closer to objective state. Provided continued system training and refinement of CONOPS, TTPs, and training packages.
@@!• FY 2007 Planned Output - Complete required capabilities documents (Capabilities Development Document, CDD, and/or Capabilities Production Document, CPD) for high-resolution terrain data acquisition and dissemination system to support programming activities. Complete the ACTD and transition to SOCOM.

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# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

Joint Distance Support and Response (JDSR)	0.000	2.070	0.000	0.000

The JROC approved the capability need for JDSR as an FY-02 new start. The outcome of JDSR will demonstrate and transition joint, common, interoperable, tele-maintenance environment using a collaborative knowledge center and tool suite, with reach-back capability. The JDSR ACTD focuses on timely employment of information, both automated and live, to the different service maintainers. Outputs and efficiencies include operational bandwidth in a common collaborative environment, access to multiple subject matter experts, technical information at point of maintenance, interoperable tool suites and maintainer productivity. Transition
accomplishments to date: JDSR capabilities and products have transitioned to Navy's Distance Support Program for joint management and configuration control; the Navy and Marine Corps are procuring and fielding capability onto ships and Light Armored Vehicles (LAV) platforms. JDSR capability is fielded in the Air Force ATCALS system, Army CH-47, Marine Corps Third Echelon Test Sets (TETS). Planned transition will be to Distance Support (DS), Joint Aviation Technical Data Integration (JATDI), Integrated Maintenance Data System (IMDS), Third Echelon Test Set (TETS) and Technical Data Distribution (TEDD) programs. The User Sponsor is U. S. Joint Forces Command (JFCOM), the lead service is the Navy.

• FY 2006 Output - Completed EUE. Finalized CONOPs, TTPs, training package and DOTML-PF recommendations. Continued transition of JDSR products to the POR. Established Joint JDSR Steering Group for post ACTD configuration management. Completed the JDSR ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Language and Speech Exploitation Resources (LASER)	0.000	0.959	0.000	0.000

Demonstrate technologies, concepts, and architecture paths providing language translation capabilities with improved interoperability, accuracy, deployability and timeliness of translation for speech and document exploitation. Assessments include users within the sponsoring Pacific Command, as well as warfighters in other combatant commands and INSCOM with immediate and critical language translation needs in the Global War On Terrorism. Products from LASER have been deployed for operational use in OEF and OIF. The user sponsor is U.S. Pacific Command. LASER ACTD accomplishments - Conducted limited utility assessments on more language translation tools and a final capstone military utility assessment report. Provided machine language translation tool residuals in combatant command areas other than the sponsor's area of operations. Continued fielding interim products for demonstration and extended user evaluations in coalition and intelligence operations. Finalize concepts of operations and tactics, techniques and procedures for user adoption. Facilitated establishment of a machine language translation program and centralized management office. Begin implementation of transition plan and joint transition program.

• FY 2006 Outcome - Conducted extended user evaluations during the residual phase. Continue modification to CONOPs and procedures for those language translation tools found to have utility. Complete LASER ACTD product transitions, interim capability support phase and end the ACTD. Complete the LASER ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Active Denial System (ADS)	0.000	0.000	1.200	0.000

The Active Denial System (ADS) ACTD requires transition funding. This is a long range, directed energy technology that provides is safe and effective non-lethal capability. Being treaty and legal compliant, ADS provides the Combatant Commander a non-lethal means to engage adversaries in complex situations where lethal force is restricted or inappropriate. Investment in this transformational capability will not only provide the battlefield commander an important new option between the use of lethal force or taking no action, it will also demonstrate U.S. commitment to preventing unnecessary loss of life. Requests from the CENTCOM AOR for this capability for OIF/OEF forces have been received. Funding will be used to transition from the ADS ACTD to an ADS Program of Record.

FY 08 Planned Output - conduct a technology assessment and a system requirements review for the next generation active denial system; Milestone B documentation development for future acquisitions; and preparation of a request for proposals, including holding one or more industry days to encourage competition.

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# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

Joint Force Projection (JFP)	0.000	0.000	0.760	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for Joint Force Projection (JFP) as a Fiscal Year (FY) 2005 new start. The outcome of JFP is to provide the joint warfighter the capability to identify, source, schedule, move, maintain visibility of and close force capabilities across the entire Force Projection process. This capability will support joint deployment planning and execution, and provide emerging adaptive planning and Net-Enabled Command Capability capabilities. The primary outputs and efficiencies to be demonstrated are (1) 100% net-centric access to core deployment planning and execution systems; (2) develop, test, and demonstrate model-based decision support tools to give the Joint Force Commander the ability to be able to conduct rapid, dynamic course of action analysis and predictive assessment of the deployment flow on current operations; (3) develop, test, and demonstrate a common, joint toolset for Joint Reception, Staging, Onward Movement, and Integration (JRSOI) activities to coordinate the flow of forces and sustainment into a theater during execution; (4) ability to create, manage, and track capability-based force packages and link them to an operational plan (100%); (5) Crisis Action Planning and Execution (after release of deployment order) support development and maintenance cycle for Operations Order (OPORD) and associated products. Cycle time reduction from 2 weeks to less than 96 hours. (6) Go from less than 5% of a capability in the current systems to 80% ability with the Joint Capabilities Requirements Tool and JFP to create, manage, and track capability-based force packages and link them to an operational plan. (7) Increase the end-to-end visibility of forces as capabilities from zero in the current process to 80% with JFP. (8) Potential of reducing the primary thread of deployment systems from 193 to 34, with an industry standard Return on Investment of 30%. Planned JFP transition: Improved capabilities will be provided to programs of record for the next generation of command and control and network services. JFP is planning a two- phase transition. Phase 1 will be to the Global Combat Support System followed by Phase 2 transition to the Net-Enabled Command Capability when it achieves Milestone B. The user sponsor is US Joint Forces Command (USJFCOM), and the lead Service (Agency) is Defense Information Systems Agency (DISA).

- FY 2006 Output - Developed and demonstrated a portal linking together about 25% of Force Projection activities from initial planning and requirements for capabilities generation, through sourcing, movement, and delivery to the Joint Force Commander. Gained access to about 20% of the required authoritative data sources and developed initial data structures to link capabilities to forces and forces to capabilities. Focus was on visibility and integration of existing data through application of advanced net-centric web-technologies. Developed initial concept of operations (CONOPS).
- FY 2007 Planned Output - Finalize demonstration activities to complete the end-to-end Force Projection visibility capability.; conduct two Joint Military Utility Assessments (JMUA) and an Extended User Evaluation; and begin to transition and deliver the new Force Projection capability into program of record, Global Combat Support System. The Final JMUA is scheduled for 14 - 31 March, 2007. Complete the last two spirals of JFP ACTD deployment to include capabilities tracking throughout the deployment process and Joint Reception, Staging, Onward Movement, and Integration activities. After successful completion of the JMUA and subsequent recommendation of acceptance, DISA, as Transition Manager, will follow a two phase approach to transition. Phase one will be loosely coupled with the Global Combat Support System (GCSS) until Net-Enabled Command Capability (NECC) achieves its Milestone B at which time JFP will transition. Complete the JFP ACTD.
- FY 2008 Planned Output - Provide documentation for NECC Capabilities Development Package (CDP). Provides initial transition funds to accomplish the Adaptive Planning Operational Capability module (OCM) to transition the JCTD from Developmental Piloting to NECC Operational Piloting.
- FY 2009 Planned Output - Provide for testing and documentation of the OCM, including net-ready certification to transition the OCM to full Operations in NECC. .Efficiencies gained are the initial technical development of up to 25% of the capability requirements for the Force Projection mission capability package of NECC. JFP fully integrated (100% of the capability that passed Military Utility Assessment) into NECC baseline capability for Force Projection. Efficiencies gained are the completion of the testing and evaluation and the certification of capabilities for NECC up to two years ahead of the program.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Joint Modular Intermodal Distribution System (JMIDS)	0.000	0.000	1.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for JMIDS as an FY06 new start. The outcome of JMIDS is to demonstrate, analyze and transition joint service, all-mode containers and platforms that are equipped with Automatic Identification Technology (AIT). JMIDS will permit efficient, seamless, and visible movement of supplies through the distribution system from CONUS-based depots and vendor locations to tactical end users. This includes movement through the Seabase to support forward operating expeditionary and task force units. JMIDS technologies will enhance the ability to source load supplies that can move from origin to destination without the current intensive and inefficient handling and re-packing caused by: incompatible air and ground cargo systems; and, sorting, storing, and/or reconfiguring cargo. The goal of this JCTD is to improve the agility, flexibility, efficiency, effectiveness, responsiveness, and interoperability of the Joint Distribution System.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

JCTD transition funding will enable this critical warfighter capability to continue its development while transitioning to selected Program of Records. The primary outputs and efficiencies to be demonstrated in the JCTD Limited and Capstone Military Utility Assessments are: (1) Timeliness of JMIDS technologies to deliver supplies to operating forces as compared to present distribution system; (2) Capability to support transportability across different modes by reducing re-handling/ packing time; (3) Improved supply flow through the available technologies-- Tonnage processed per hour, Time per load-out of platform, Wait times per load-out; and, (4) Capability to support Command Level Situational Awareness-Accuracy of AIT tracking technology (contents, position), percent of JMICs tracked correctly, and overall improvement of situational awareness with use of AIT.

• FY 2008 Planned output - Complete final MUA Report. Commence transition to formal acquisition program(s). Complete Final CDD document and submit to JROC; Execute Milestone B Decision; Transition to Identified PM; Conduct Residual evaluations and follow-on engineering development. JMIDS JCTD scheduled completion date is December 2008. Identify three spiral technologies that enhance JMIDS output. Exploit JMIDS success through a Coalition Warfare Demonstration of the JMIDS hardware with the United Kingdom that determines the value of JMIDS to coalition warfare logistics.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Hyperspectral Collection and Analysis System (HyCAS)	0.000	0.000	0.000	2.000

The Hyperspectral Collection and Analysis System (HyCAS) was validated by the JROC as an FY02 start. Funding is needed to enhance the Spectral Airborne Reachback Cell (SPARC) hyperspectral imaging (HSI) exploitation and processing system. This SPARC enhancement will deliver a 2nd/3rd phase HIS exploitation cell by leveraging and expanding the National Air and Space Intelligence Center (NASIC) infrastructure to support 20 HAS analyst workstations, data archive, and tasking, processing, exploitation and dissemination software. This funding will also provide in-depth material identification and spectral anomaly detection analysis that is so crucial to the global war on terror. This funding also leverages Air Force sensors and UAVs.

The ACTD which leverages Air Force funding of sensors represents a quantum leap forward in the management of hyperspectral data. The airborne hyperspectral concept is an integration effort which will deliver four Air Force COMPact Airborne Spectral Sensors (AF COMPASS), four real-time processors and four ground station processing software packages to the Predator Unmanned Aerial Vehicle (UAV) program of record. AF COMPASS is a tactical asset designed to operate at an altitude of 15-20K feet with area coverage of approximately 600-900 sq km/hour. AF COMPASS provides a wide area search capability and can cross-cue the onboard the Predator Multispectral Targeting System (MTS). The airborne hyperspectral capability will enhance the effectiveness of the Predator weapon system by finding targets and queuing the MTS ball to fix an object for tracking, targeting and engagement. The AF COMPASS sensor can also detect, locate and identify materials associated with Combat Search and Rescue (CSAR) operations and can distinguish between targets and decoys. AF COMPASS ground station processing software will allow an operator to view high resolution imagery (HRI) chips created based on either signature or anomaly detections. Chips are painted on a display which shows the path of the aircraft and the signature / anomaly hits obtained by the real-time processor. Funding was specifically earmarked in PDM III.

• FY09 Planned Output - Enhanced Spectral Airborne Reachback Cell (SPARC) hyperspectral imaging (HSI) exploitation and processing system. The SPARC enhancement will deliver a 2nd/3rd phase HSI exploitation cell. The SPARC funding will also cover 20 dedicated airborne HSI analysts allowing for two analysts per operational sensor. This cell is essential to provide in-depth material identification and spectral anomaly detection analysis as a reachback to the 1st phase analyst and to satisfy 2nd/3rd phase intelligence requirements that non-HSI sensors currently cannot satisfy. Integrated and refined system for full operational production capability. The AF COMPASS sensors and exploitation infrastructure from this initiative will be leveraged to learn and further refine operational HSI capabilities. The knowledge gained will in turn be used to refine full production models for future operational use.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Counterintelligence, Human-intelligence Advanced Modernization Program - Intelligence Operations NOW (CHAMPION)	0.000	0.000	0.000	0.900

The Joint Requirements Oversight Council (JROC) validated the capability need for CHAMPION as a FY06 new start. The outcome will provide improved capabilities for the counter-intelligence, human-intelligence and special operations forces communities of interests an accessible and actionable information system for management of the CI/HUMINT/SOF collection, mission planning and asset

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

management information. The capabilities include technologies for integration of biometrics and geospatial information. The primary outputs to be demonstrated to the users and evaluated in the Military Utility Assessment (MUA) are: 1) joint data standard for human domain; 2) CHAMPION information collection tool and associated CONOPs, and TTPs; 3) CI-HUMINT/SOF source management tools with federated search capability and data replication/access across multiple networks; and 4) integrated language translation collection, CI/HUMINT source vetting tool and data access tools for multi-intelligence discipline fusion. The efficiencies to be gained are; 1) improved effectiveness of HUMINT operations; 2) elimination of Human domain data stovepipes; 3) joint human domain data standard; 4) improved web enabled data access across multiple networks and security levels; 5) Joint CONOPs/ TTPs; 6) Biometric and geo-spatially enabled mission and asst management tools. The transition strategy is to incorporate CHAMPION capabilities into the Distributed Common Ground Station program of record (POR). The sponsoring Combatant Command (CoCom) is the U. S. Central Command (CENTCOM). Other organizations involved as participants, users of capabilities, and/or observers include USSOCOM, USJFCOM, Counter-Intelligence Field Activity, Defense Intelligence Agency, National Geospatial Agency, and the National Security Agency. The lead service is the Army.

FY 2006 Output - Identification of Counter-Intelligence, Human-Intelligence and special operations forces functional requirements document. Analysis of alternative technologies for the solution set. Plan Spiral 1 demonstration to assess critical operational issues. Coordinate planned POM funding of the deliverable by the program of record.

FY 2007 Planned Output - Complete Spiral 1 limited assessment report and Spiral 2 assessment plan. Execute the Spiral 2 demonstration and assessment of Spiral 2 deliverables. Prepare final assessment plan. Complete approval of transition plan. Secure funding for fielding of spiral deliverables found to have military utility by operational sponsor.

FY 2008 Planned Output - Execute final military utility assessment and finalize CONOPs and TTPs.

FY 2009 Planned Output - Planned project transition to Program of Record and project completion.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Coalition Secure Management and Operations System (COSMOS)	0.000	0.000	0.000	0.932

COSMOS will deliver and demonstrate information - based, information aware data sharing capability for use with Global War on Terror (GWOT) allies in coalition networks, which can reduce the physical equipment required for coalition connections and accelerate shared situational awareness and collaboration. The targeted transition is to the Multinational Information Sharing (MNIS) initiative. DISA will require financial assistance to bridge the integration and adoption of the COSMOS delivered technologies and capabilities into the CENTRIXS/MNIS environments.

The Joint Requirements Oversight Council (JROC) validated the capability need for COSMOS as a FY05 new start. The COSMOS ACTD output will be a pilot implementation of the Multilateral Interoperability Program (MIP) specifications for C2 data sharing (specifically the Command and Control Information Exchange Data Model (C2IEDM) and the Information Exchange Mechanism (IEM)) in the Combined Enterprise Regional Information Exchange System (CENTRIXS) coalition network environment. COSMOS is planned for a final demonstration in the second quarter of FY08, with sustainment of the demonstrated capabilities by DISA through FY09. The expected output is identifying necessary and sufficient conditions for implementing the MIP specifications, leading to rapid, secure protected sharing of critical C2 information to and among coalition partners' organic command and control (C2) systems on a single and secure integrated coalition network. The expected efficiency is substantial reduction of textual message exchange required to establish and maintain situational awareness among coalition commanders, improved collaborative decision making, reduced confusion, uncertainty and delay in combat and crisis operations and effective bridging of coalition sourced information with US Global Information Grid (GIG) Network Centric Enterprise Services (NCES) for two-way information exchange, when approved cross domain solutions are available. Transition to programs of record is planned for FY09, targeted at the emerging Multinational Information Sharing (MNIS) initiative. A policy enforcement capability for discrete rapid information sharing will be implemented in enterprise and theater-level coalition networks (i.e., CENTRIXS migrating to an emerging program based on the Joint Requirements Oversight Council (JROC) approved Multinational Information Sharing (MNIS) Initial Capabilities Document (ICD)). The use of Open Source Code for software-based capabilities will enable improved capabilities to be inserted into programs of record for coalition information sharing, network services, and next generation command and control, including those of Allies and Coalition partners. COSMOS is a three year ACTD co-sponsored by U. S. Pacific Command (PACOM) and U. S. European Command (EUCOM). The Defense Information Systems Agency (DISA) is the lead agency.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

• FY 2006 output - The primary technical focus in FY06 was establishment of a MIP-compliant C2 application collaboration laboratory to interface exemplar C2 suites among participating partners. Through frequent technical exchanges and 'over-the-Internet' system interface testing between established and prototyped national C2 systems, the COSMOS technical team introduced the operational concept of "role- and policy-based protected information sharing" within US and coalition development efforts. A Security Working Group was established to address national concerns regarding information protection, co-led by US National Security Agency (NSA) and Canada. The operational management team observed USPACOM Exercise Cobra Gold '06 to establish understanding of the baseline information exchange capabilities. Planned demonstrations of interim capability were delayed by a lack of fieldable capability amongst the coalition partners. Since the foundational MIP exchange capabilities were not fully constituted, expected initial efficiency measures were not obtained. Programmatically the Management Plan was approved, and the governing project agreement between The Technical Cooperation Program (TCCP) Memorandum of Understanding (MOU) signatories was coordinated. Singapore joined the ACTD at the invitation of USPACOM.

• FY 2007 Planned Output - The technical focus for COSMOS in FY07 will be on establishing a stable and sustainable MIP specification based information exchange and demonstration of fundamental role- and policy-based sharing amongst coalition partners. US Army planned fielding of Army Battle Command System version 6.4 will provide the basis for technical implementation and assessment. Efficiency will be measured in coalition partner readiness and willingness to participate in MIP specification based information exchange, and improved network performance through reduced textual message exchange for C2 coordination. Coordinate transition of assessed capability to program of record.

• FY 2008 Planned Output - The final demonstration for Military Utility Assessment (MUA) in a USEUCOM venue is planned for the fourth quarter of FY08. Use of the foundational MIP specification based C2 information exchange between coalition partners able to implement the necessary and sufficient conditions and security solutions in stabilization and recovery operations will provide increased political confidence, technical experience and collaborative abilities. Programmatic focus in FY08 is FY10 budget documentation to successfully transition sustainment of the demonstrated capability to programs of record. DISA will sustain the demonstrated militarily useful functionality until transitions to programs of record in FY09.

• FY 2009 Planned Output: The primary focus of activities in FY09 is final documentation and transition of functionality to programs of record. The ACTD completes in FY09.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Large Data	0.000	0.000	0.000	1.138

The Joint Requirements Oversight Council (JROC) validated the capability need for the Large Data (LD) Joint Capability Technology Demonstration (JCTD) as an FY-06 new start. The outcome of Large Data is to demonstrate the military utility of a highly scalable, rapid, and secure integrated capability to retrieve, store and share massive amounts of information effectively between global users. It will provide increased situational awareness by displaying large, fused sets of geospatially-referenced data in a Joint Warfighting context using intuitive navigation techniques. Large Data is a three-year project under the sponsorship of the United States Strategic Command. The primary outputs and efficiencies to be demonstrated in the JCTD Military Utility Assessment are: 1) Synchronized databases across all major operational storage nodes, i.e. cache coherency; 2) Timely delivery and sharing of data - instant real time access and collaboration; 3) Intuitive way for users to navigate large data sets (petabytes to exabytes); 4) Ability to easily visualize huge amounts of data that is being generated; 5) Capability to perform "trackback" or change analysis on an unprecedented scale.
The user sponsor is the U. S. Strategic Command and the lead agencies are the National Geospatial Agency (NGA) and Defense Systems Agency (DISA). Transition is planned for FY 09 after successful JMUA to National Geospatial Agency (NGA) and Defense Systems Agency (DISA). Both agencies are participating in the JCTD as Co-Transition Managers. The Large Data JCTD is scheduled to complete in December 2008.

- FY 2006 Output - Spiral 1: Develop a large data fast file system, high performance search engine & distributed cache coherent database. Spiral 1: Design and demonstrate the Large Data 3 CONUS node prototype. Begin OC192 network certification of Enterprise Storage Network. Procure touch-based visualization and collaboration tool suite, develop CONOPS.
- FY 2007 Planned Output - Spiral 2: Develop holistic target characterization prototypes and deploy to USFK mini node. Add 4th CONUS node. Install Trans-PAC link. Develop capability for geo-temporally indexed multi-agency data, with security, identity management, and Continuity of Operations features. Perform multi-node testing on classified and unclassified networks.
- FY 2008 - Planned Output - Provide large geospatial visualization displays and advanced data integration. Refine CONOPs and TTPs. Plan JMUA. Conduct demonstration in USFK and JEFX.
- FY 2009 - Planned Output - Transition selected modeules to DISA and NGA. Provides funding for testing, documentation and net-ready certification in compliance with NGA and DISA standards.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

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
Advanced Concept Technology Development (ACTD) RDT&E BA 3 line # 44	173.049	158.334	0.000	0.000	0.000	0.000	0.000	0.000	0.000	331.383
Joint Capability Technology Demonstration (JCTD) RDT&E BA3 Line#36	33.707	35.553	194.352	207.740	213.989	207.572	210.299	213.257	0.000	1316.469

Comment: In FY08 all ACTD funding transfers to the JCTD program. This will complete the transtion to the JCTD model that began in the FY06 President"s Budget. The new JCTD Program provides a "cradle to grave" path for transformational joint capabilities. The initial funding lines (program elements (PE)) are outlined in the table below. The PEs in the table (with the exception of the ACTD BA3 PE which will fully transfer to the JCTD BA3 PE in FY08) represent the JCTD model. The model contains a BA3 development arm as well as BA4 transition arm. Under the new JCTD process, the pace of development will be accelerated to two to three years. Only the ACTD/JCTDs that demonstrate the highest military utility will be considered for the transition funding in the JCTD BA4 Transition PE. Not all JCTDs require transition funding, many projects have a very clear transition path, however, some projects that demonstrate significant military utilitly require transition funds to "bridge" them to a program of record. Promising ACTDs may receive transition funding during the transition period to the JCTD program. Beginning in FY07 all new starts will be JCTD only. Refer to the specific Budget Exhibit for more details on each funding line.

D. Acquisition Strategy Only the ACTD/JCTDs that demonstrate the highest military utility will be considered for the transition funding in this program element. The primary focus of the BA4 transition funding is to develop and refine the documentation needed to ensure a successful transition of the developed products either into existing programs of record (POR) or to develop the package necessary to establish a new POR. In very select, compelling cases, this funding may be used to correct discrepancies in products, identified during the MUA, to help ensure a smooth transition to production or operations.

In FY06, the National Geospatial-Intelligence (NGA) Urban Recon (UR) ACTD was the first successful example of utilizing the BA-4 funds to migrate capabilities to a program of record (POR). Urban Recon had completed a series of demonstrations and was entering into transition. The demonstrations indicated that the data products developed had significant military utility; however, the collection systems needed refinement. As similar collection systems are currently used in operations and would benefit from these refinements, Urban Recon was selected to be the first recipient of this transition funding, primarily due to the transformational nature of the data it provides. This funding will ensure Urban Recon concepts and products will transition and fill a vital capability gap required by the CoCom. Urban Recon is under the Program Management of USSOCOM.

In FY 2007-2010, there are several candidates for the transition bridge funds. The candidates are: Joint Distance Support and Response (JDSR); Joint Force Projection (JFP); Active Denial System (ADS); CI-HUMINT Advanced Modernization Program/Intelligence Operations (Champion); Language and Speech Exploitation Resources (LASER); Joint Modular Intermodal Distribution System (JMIDS); Hyperspectral Collection and Analysis System (HyCAS); Coalition Secure Management and Operations System (COSMOS); and Large Data.

The Joint Distance Support and Response (JDSR) ACTD is currently completing its demonstration phase and is entering into the transition phase of development. JDSR technology is demonstrating an extremely high military utility and is, therefore, the likely candidate for the use of the FY 2007 JCTD Transition funding. This funding will ensure JDSR transitions and fulfills a vital capability gap required by the CoCom. JDSR provides a joint, common and interoperable tele-maintenance/training environment providing end-to-end, low bandwidth reach

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	PROJECT **P649**

back connectivity, customer relationship management, interoperable mobile computing devices, and case-based reasoning tools. JDSR is under the Configuration Management of the Navy.

Also in FY 07, the Language and Speech Exploitation Resources (LASER) requires funds to bridge a gap. This successful ACTD has products deployed in OIF and OEF. LASER provides the Combatant Commanders the capability to rapidly reduce the foreign language barrier across a full spectrum of DoD operations. Funds are needed to speed the transition into the SEQUOYAH program.

In FY08 there currently are two FY 2008 AC/JCTD candidates are under consideration for the JCTD transition funds. The candidates are the Active Denial System (ADS) which provides a long range, directed energy technology that provides is safe and effective non-lethal capability; and the Joint Modular Intermodal Distribution System (JMIDS) JCTD addresses technologies to overcome origin-to-destination cargo delivery challenges in the Defense Transportation System (DTS) and for all Services.

In FY09 the Hyperspectral Collection and Analysis (HyCAS) ACTD has been selected to receive transition funding to advance Airborne Hyperspectral capabilities. Sensors associated with the HyCAS ACTD have proven effective in operational demonstrations supporting Operation Enduring Freedom (OEF). Also the Coalition Secure Management and Operations System (COSMOS) ACTD which will deliver and demonstrate information - based, information aware data sharing capability for use with Global War on Terror (GWOT) allies in coalition networks.

E. Major Performers Not Applicable.

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0604648D8Z - Joint Capability Technology Demonstration (JCTD)

PROJECT
P649

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Urban Recon			2799	0	2-4Q	0	3-4Q	0	2-4Q	0	2799	0
JDSR			0	2000		0		0		0	2000	0
LASER			0	1029		0		0		0	1029	0
JFP			0	0	2-4Q	760		0		0	760	0
ADS			0	0	2-4Q	1200		0		0	1200	0
JMIDS			0	0	2-4Q	1000		0		0	1000	0
Large Data			0	0		0		1138	2-4Q	0	1138	0
Champion			0	0		0		900	2-4Q	0	900	0
COSMOS			0	0		0		932	2-4Q	0	932	0
HyCAS			0	0		0		2000	2-4Q	0	2000	0
Subtotal:			2799	3029		2960		4970		0	13758	0

Remarks: Only the ACTD/JCTDs that demonstrate the highest military utility will be considered for the transition funding in this program element. The primary focus of the BA4 transition funding is to develop and refine the documentation needed to ensure a successful transition of the developed products either into existing programs of record (POR) or to develop the package necessary to establish a new POR. In very select, compelling cases, this funding may be used to correct discrepancies in products, identified during the MUA, to help ensure a smooth transition to production or operations.

In FY06, the National Geospatial-Intelligence (NGA) Urban Recon (UR) ACTD was the first successful example of utilizing the BA-4 funds to migrate capabilities to a program of record (POR). Urban Recon had completed a series of demonstrations and was entering into transition. The demonstrations indicated that the data products developed had significant military utility; however, the collection systems needed refinement. As similar collection systems are currently used in operations and would benefit from these refinements, Urban Recon was selected to be the first recipient of this transition funding, primarily due to the transformational nature of the data it provides. This funding will ensure Urban Recon concepts and products will transition and fill a vital capability gap required by the CoCom. Urban Recon is under the Program Management of USSOCOM.

In FY 2007-2010, there are several candidates for the transition bridge funds. The candidates are: Joint Distance Support and Response (JDSR); Joint Force Projection (JFP); Active Denial System (ADS); CI-HUMINT Advanced Modernization Program/Intelligence Operations (Champion); Language and Speech Exploitation Resources (LASER); Joint Modular Intermodal Distribution System (JMIDS); Hyperspectral Collection and Analysis System (HyCAS); Coalition Secure Management and Operations System (COSMOS); and Large Data.

The Joint Distance Support and Response (JDSR) ACTD is currently completing its demonstration phase and is entering into the transition phase of development. JDSR technology is demonstrating an extremely high military utility and is, therefore, the likely candidate for the use of the FY 2007 JCTD Transition funding. This funding will ensure JDSR transitions and fulfills a vital capability gap required by the CoCom. JDSR provides a joint, common and interoperable tele-maintenance/training environment providing end-to-end, low bandwidth reach back connectivity, customer relationship management,

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

interoperable mobile computing devices, and case-based reasoning tools. JDSR is under the Configuration Management of the Navy.

Also in FY 07, the Language and Speech Exploitation Resources (LASER) requires funds to bridge a gap. This successful ACTD has products deployed in OIF and OEF. LASER provides the Combatant Commanders the capability to rapidly reduce the foreign language barrier across a full spectrum of DoD operations. Funds are needed to speed the transition into the SEQUOYAH program.

In FY08 there currently are two FY 2008 AC/JCTD candidates are under consideration for the JCTD transition funds. The candidates are the Active Denial System (ADS) which provides a long range, directed energy technology that provides is safe and effective non-lethal capability; and the Joint Modular Intermodal Distribution System (JMIDS) JCTD addresses technologies to overcome origin-to-destination cargo delivery challenges in the Defense Transportation System (DTS) and for all Services.

In FY09 the Hyperspectral Collection and Analysis (HyCAS) ACTD has been selected to receive transition funding to advance Airborne Hyperspectral capabilities. Sensors associated with the HyCAS ACTD have proven effective in operational demonstrations supporting Operation Enduring Freedom (OEF). Also the Coalition Secure Management and Operations System (COSMOS) ACTD which will deliver and demonstrate information - based, information aware data sharing capability for use with Global War on Terror (GWOT) allies in coalition networks.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

Project Total Cost:	**2799**	**3029**		**2960**		**4970**		**0**	**13758**	**0**

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0604670D8Z – Human, Social and Culture Behavior Modeling (HSCB) Research and Engineering**

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	5.700	6.000	7.200	7.900	13.000	15.772
P670	Human, Social and Culture BehaviourModeling (HSCB) Advanced Development	0.000	0.000	5.700	6.000	7.200	7.900	13.000	15.772

A. Mission Description and Budget Item Justification: (U) Current military operations need and future operations will demand the capability to understand the social and cultural terrain and the various dimensions of human behavior within these terrains. Behaviors in the social and cultural terrain context extend across the spectrum from adversaries to our Joint U.S. forces, with our coalition forces, and with government and non-government organizations. USG and DoD capstone policy and guidance are driving this need -- as articulated in NSPD-44, QDR 2006, and DoDD 3000.05 (Stability, Security. Transition and Reconstruction (SSTR)). Science and resulting technologies form a resource and enabler for success in this area. Research and Engineering in Human Social Culture Behavior Modeling (HSCB) and its counterparts in BA2 and BA3, will bring technologies to the field that support human terrain understanding and forecasting in 4 application pillars: intelligence analysis; operations analysis/planning; training; and joint experimentation. Early priorities will begin by maturing technology options for enhanced HSCB capabilities within existing programs of record (e.g. Distributed Common Ground Station - Army (DCGS-A), Joint Experimentation). The program will deliver validated visualization toolsets, modeling systems, and training systems to map the complex human terrain that will be encountered in both current and future military and stability operations.

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	5.700	6.000
Total Adjustments	0.000	0.000	5.700	6.000
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other			5.700	6.000

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)	Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0604670D8Z – Human, Social and Culture Behavior Modeling (HSCB) Research and Engineering**

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# 4	**0604670D8Z – Human, Social and Culture Behavior Modeling (HSCB) Research and Engineering**	**P670**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P670	Human, Social and Culture BehaviourModeling (HSCB) Advanced Development	0.000	0.000	5.700	6.000	7.200	7.900	13.000	15.772

A. Mission Description and Project Justification: (U) This project is focused on maturing, hardening, and validating human, social, culture, and behavior modeling (HSCB) related software for integration into existing programs of record architectures, or maturing software via open architectures to allow broad systems integration. The project will mature technology of socio-cultural models, tools, and products and will certify that it can be transitioned into existing and developmental systems in coordination with Program Executive Offices/Program Managers, Joint users, and other identified transition customers. This project will port relevant data and tools from one system to other applications to provide forecasting capabilities for socio-cultural (human terrain) responses at the strategic, operational and tactical levels. This project will mature and integrate technologies that provide training and mission rehearsal capabilities at the strategic to tactical level.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Data collection tool	0.000	0.000	1.700	2.000

First generation data collection tool and decision support tools for HSCB.

FY 2008 Plan - Maturation of first generation data collection tool and software to support tactical level collection and dissemination of socio-cultural data. Military planners and intelligence units rely on data from front-line forces to augment their own data collection efforts. The information is often not stored, tagged or disseminated to higher level planners nor is it generally available or accessible to other forces. The toolset will provide near real-time electronic, tagged data and actionable information for analysis and distribution.

FY 2009 Plan - Maturation and delivery of first generation data collection tool and software to support tactical level collection and dissemination of socio-cultural data.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Visualization Software	0.000	0.000	4.000	4.000

Mature and deliver software that will visually and digitally represent cultural factors within existing C2 systems.

FY 2008 Plan - Mature software that supports the visualization of cultural information within existing operational-tactical level command and control (C2) and decision aiding systems. The output from ongoing visualization and human, social, culture, and behavior modeling (HSCB) projects needs risk reduction support for integration into existing C2 systems (e.g. Distributed Common Ground Station - Army (DCGS-A), Intelligence analyst systems). This project will identify necessary software modification/integration issues.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604670D8Z – Human, Social and Culture Behavior Modeling (HSCB) Research and Engineering**	**P670**

FY 2009 Plan - Deliver software that supports the visualization of cultural information within existing operational-tactical level C2 and decision aiding systems. The output from ongoing visualization and human, social, culture, and behavior modeling (HSCB) projects need risk reduction support for integration into existing C2 systems (e.g. DCGS-A; Intelligence analyst systems). This project will deliver the capability for existing decision aids/C2 systems to visually or digitally depict cultural information to support manual or automated analysis.

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
R&D 0602670D8Z HSCB Applied Research BA 2	0.000	0.000	7.000	7.000	9.000	10.000	16.000	19.000	0.000	68.000
R&D 0603670D8Z HSCB Advanced Development BA 3	0.000	0.000	9.000	9.000	11.000	12.000	20.000	23.000	0.000	84.000

Comment:

D. Acquisition Strategy Not Applicable.

E. Major Performers Not Applicable.

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0604670D8Z – Human, Social and Culture Behavior Modeling (HSCB) Research and Engineering

PROJECT
P670

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Data Collection Tools	MIPR	various	0	0	1-4Q	1700	1-4Q	2000		0	3700	0
Visualization Software	MIPR	various	0	0	1-4Q	4000	1-4Q	4000		0	8000	0
Subtotal:			0	0		5700		6000		0	11700	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604670D8Z – Human, Social and Culture Behavior Modeling (HSCB) Research and Engineering**	**P670**

Project Total Cost:	**0**	**0**		**5700**		**6000**		**0**	**11700**	**0**

Schedule Detail (R4a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0604670D8Z – Human, Social and Culture Behavior Modeling (HSCB) Research and Engineering

PROJECT
P670

Schedule Detail	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Data Collection Tools			1-4Q	1-4Q				
Visualization Software			1-4Q	1-4Q				

Comment: This is a new start program and, upon program approval, detailed expected deliverables will be articulated and available in early FY 2008. Initial program strategy will be to mature candidate technologies into relevant information systems of record.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0604787D8Z - Joint Systems Integration Command (JSIC)**

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	20.637	19.375	19.675	20.289	20.561	20.831	21.125
P787	Joint Systems Integration Command	0.000	20.637	19.375	19.675	20.289	20.561	20.831	21.125

A. Mission Description and Budget Item Justification: The FY 2005 National Defense Authorization Act (NDAA) directed the transfer of USJFCOM RDT&E funding of joint warfare experimentation and training programs from Navy accounts to new Defense Wide RDT&E accounts beginning in FY 2007. Funding to support the Joint Systems Integration Command (JSIC) Program in FY 2006 and prior were reflected in the Navy's RDT&E Program under PE 0604787N.

The Joint Systems Integration Command (JSIC) supports Joint Requirements Oversight Council Memoranda (JROCM) by conducting system interoperability assessments, by providing warfighter utility assessments addressing near-term joint capability shortfalls, and by developing solutions improving integration of Service and Agnecy systems. The Joint Systems Integration Command (JSIC) is the U.S. Joint Forces Command (USJFCOM) and Chairman, Joint Chiefs of Staff (CJCS) capability for warfighter exploration, prototyping, and evaluation of command and control (C2) and Command, Control, Computer, Communication, Intelligence Surveillance & Reconnaissance (C4ISR) capabilities. JSIC provides Combatant Commands, at the joint force headquarters level, with a laboratory and assessment environment for the warfighter and technologist. This environment provides for assessment of current and near-term joint operational capabilities. JSIC's Interoperability Technology Demonstration Center (ITDC) accurately simulates an operational Joint Command and Control (JC2) environment. With this capability, JSIC assesses operational, systems of systems, technical, software, and procedural interoperability of new systems and programs to confirm readiness for initial acquisition and for fielding of evolutionary improvements.

JSIC serves as the technical analysis and assessment activity in support of the Joint Staff capability driven requirements process, the Joint Concepts Integrations and Development System (JCIDS). Through JSICs' analysis and assessment, systems are evaluated for "value-added" prior to employment in the joint environments typical of deployed theaters of operation. JSIC also serves as a joint interoperability compliance activity for the milestone decision authorities/program managers, including the Command and Control Capability Integration Board (C2CIB) and associsated, Joint Battle Management Command and Control (JBMC2) Board.

By establishing ground truth for interoperability and suggesting remedies for demonstrated shortfalls, JSIC is a forcing function for interoperable joint solutions and a means to foster rapid, near-term insertion of C4ISR technology by promoting the ability to meet the DoD direction for spiral development and evolutionary acquisition. JSIC's mission assignment is to provide for the fielding of warfighter C2 systems through rapid systems prototyping, technical assessment, and operational evaluations using laboratory environments and field venues. In the world of C2 and ISR interoperability, performance in the field is the bottom line. In terms of investment, JSIC is the "ounce of prevention" that precludes a"pound" of mission failure and loss of life due to interoperability failures in actual military operations.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	0.000	20.755	19.967	20.226

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0604787D8Z - Joint Systems Integration Command (JSIC)**

Current BES/President's Budget (FY 2008/2009)	0.000	20.637	19.375	19.675
Total Adjustments	0.000	-0.118	-0.592	-0.551
Congressional Program Reductions		-0.118		
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other			-0.592	-0.551

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	JC2	Number of FY 2007 Assessments/Interoperability Demonstrations	5% increase in assessment and demonstrations		Number of assessments and demonstrations	
09	JC2	Number of FY 2007 Assessments/Interoperability Demonstrations	5% increase in assessment and demonstrations		Number of assessments and demonstrations	

Comment: Performance of Joint Systems Integration Command systems is measured by successful delivery of system solutions to Combatant Commands by required delivery dates.

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0604787D8Z - Joint Systems Integration Command (JSIC)

PROJECT
0604787D8Z

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Dev Support Equipment Acquisition	MIPR	General Services Administration	0	4265	1-4Q	3768	1-4Q	3868	1-4Q	0	11901	0
Systems Engineering	C-CPFF	Old Dominion University	0	519		332	1-4Q	432	1-4Q	0	1283	0
General/Contractor Engineering Support	C-CPFF	Various	0	11435	1-4Q	11022	1-4Q	11122	1-4Q	0	33579	0
Systems Engineering	C-CPFF	South Carolina Research	0	826	1-4Q	890	1-4Q	890	1-4Q	0	2606	0
Gov't Enginnering Support	Various DoD	South Carolina Research	0	3414	1-4Q	3193	1-4Q	3193	1-4Q	0	9800	0
Travel	Various DoD		0	178	1-4Q	170	1-4Q	170	1-4Q	0	518	0
Subtotal:			0	20637		19375		19675		0	59687	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

IV. Management Services	Contract Method &	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award	FY 2008 Cost	FY 2008 Award	FY 2009 Cost	FY 2009 Award	Cost To Complete	Total Cost	Target Value of

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604787D8Z - Joint Systems Integration Command (JSIC)**	**0604787D8Z**

	Type					Date		Date		Date			Contract
Subtotal:			0										
Project Total Cost:			**0**	**20637**		**19375**		**19675**		**0**	**59687**		**0**

Schedule Detail (R4a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0604787D8Z - Joint Systems Integration Command (JSIC)**	PROJECT **0604787D8Z**

Schedule Detail: Not applicable for this item.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604787D8Z - Joint Systems Integration Command (JSIC)**	**P787**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P787	Joint Systems Integration Command	0.000	20.637	19.375	19.675	20.289	20.561	20.831	21.125

A. Mission Description and Project Justification: The FY 2005 National Defense Authorization Act (NDAA) directed the transfer of USJFCOM RDT&E funding of joint warfare experimentation and training programs from Navy accounts to new Defense Wide RDT&E accounts beginning in FY 2007. Funding to support the Joint Systems Integration Command (JSIC) Program in FY 2006 and prior were reflected in the Navy's RDT&E Program under PE 0604787N.

The Joint Systems Integration Command (JSIC) supports Joint Requirements Oversight Council Memoranda (JROCM) by conducting system interoperability assessments, by providing warfighter utility assessments addressing near-term joint capability shortfalls, and by developing solutions improving integration of Service and Agnecy systems. The Joint Systems Integration Command (JSIC) is the U.S. Joint Forces Command (USJFCOM) and Chairman, Joint Chiefs of Staff (CJCS) capability for warfighter exploration, prototyping, and evaluation of command and control (C2) and Command, Control, Computer, Communication, Intelligence Surveillance & Reconnaissance (C4ISR) capabilities. JSIC provides Combatant Commands, at the joint force headquarters level, with a laboratory and assessment environment for the warfighter and technologist. This environment provides for assessment of current and near-term joint operational capabilities. JSIC's Interoperability Technology Demonstration Center (ITDC) accurately simulates an operational Joint Command and Control (JC2) environment. With this capability, JSIC assesses operational, systems of systems, technical, software, and procedural interoperability of new systems and programs to confirm readiness for initial acquisition and for fielding of evolutionary improvements.

JSIC serves as the technical analysis and assessment activity in support of the Joint Staff capability driven requirements process, the Joint Concepts Integrations and Development System (JCIDS). Through JSICs' analysis and assessment, systems are evaluated for "value-added" prior to employment in the joint environments typical of deployed theaters of operation. JSIC also serves as a joint interoperability compliance activity for the milestone decision authorities/program managers, including the Command and Control Capability Integration Board (C2CIB) and associsated, Joint Battle Management Command and Control (JBMC2) Board.

By establishing ground truth for interoperability and suggesting remedies for demonstrated shortfalls, JSIC is a forcing function for interoperable joint solutions and a means to foster rapid, near-term insertion of C4ISR technology by promoting the ability to meet the DoD direction for spiral development and evolutionary acquisition. JSIC's mission assignment is to provide for the fielding of warfighter C2 systems through rapid systems prototyping, technical assessment, and operational evaluations using laboratory environments and field venues. In the world of C2 and ISR interoperability, performance in the field is the bottom line. In terms of investment, JSIC is the "ounce of prevention" that precludes a"pound" of mission failure and loss of life due to interoperability failures in actual military operations.

B. Accomplishments/Planned Program:

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# 4	**0604787D8Z - Joint Systems Integration Command (JSIC)**	**P787**

Interoperability Technology Demonstration Center (ITDC) and Interoperability Assessments (IA)	0.000	12.837	11.575	11.875

Primary OUTCOME (objective) for this effort is seamless interoperability across DoD systems programmed for introduction to the warfighter. JSIC's ITDC supports the interoperability assessment of systems in five categories: operational, system of systems, technical, software, and procedural. These assessments provide supporting justification for continued development of a project within the acquisition system. ITDC conducts interoperability demonstrations of selected (configuration controlled) early implementations in coordination with the Milestone Decision Authorities and Joint Program Offices. Through early assessment, the department can significantly decrease the number of interoperability fixes required to operationally employ new systems. Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) recommendations on fielding strategies for USJFCOM and Joint Staff endorsement are also provided.

The primary outputs and efficiencies to be realized are: 1) Decreased number of Service delivered command and control systems and applications that require post delivery engineering to operate within the joint architecture; 2) Increased number of developmental systems and applications that meet the Net-Ready Key Performance Parameter (NR-KPP) earlier in the developmental process reported to the milestone decision authority (MDA); 3) Increased identification and correction of interoperability issues of command and control systems and applications of fielded defense systems. 4) Increased number of assessment based recommendations of technology solutions that address the military utility of proposed and existing Service solutions. 5) Increased number of solutions that also include relevant, doctrinal impacts, training implications, personnel requirements, and life-cycle support deficiencies for capabilities deployed or soon to be deployed to forces.

FY 2007 Planned Output- Conduct interoperability assessments for Joint Battle Management Command and Control (JBMC2) Joint Test and Assessment (JT&A) Joint Close Air Support (JCAS) Joint Mission Thread (JMT) events; Joint Intelligence Operations Center Command and Control (JIOC C2) and Coalition Information Sharing; conduct interoperability demonstrations on joint command and control (JC2) developmental systems/applications for DISA; assess Time Sensitive Targeting (TST), Blue Force Tracking (BFT) data strategy efforts; and continue long-range planning for a Joint Systems Baseline Assessment 2008 (JSBA-08). Continue assessment and evaluation support to the four pilot portfolios (Battlespace Awareness, Joint Network Operations, Joint Command and Control, and Joint Logistics) as they mature and requirements become more defined. These assessment and demonstration results are programmed to include identification of interoperability problems/issues, recommended solutions, and associated programmatic implications are to be reported to the respective Combatant Commander and Milestone Decision Authority.

FY 2008 Planned Output- Interoperability assessments of JC2 pilots including Net Enabled Command Capability (NECC) and Coalition Information Sharing, execution of JSBA-08. Continue assessment and evaluation support to the four pilot portfolios (Battlespace Awareness, Joint Network Operations, Joint Command and Control, and Joint Logistics) as they mature and requirements are refined. These assessment and demonstration results are programmed to include identification of interoperability problems/issues, recommended solutions, and associated programmatic implications are to be reported to the respective Combatant Commander and Milestone Decision Authority. Additionally, other materiel and non-materiel recommendations that address joint warfighting shortfalls will be provided as appropriate as a transformation change package to the Combatant Commander.

FY 2009 Planned Output- Interoperability demonstrations to solve warfighting problems including coalition challenges, planning for JSBA-10. Continue assessment and evaluation support to the four pilot portfolios (Battlespace Awareness, Joint Network Operations, Joint Command and Control, and Joint Logistics) as they mature and requirements are refined. These assessment and demonstration results are programmed to include identification of interoperability problems/issues, recommended solutions, and associated programmatic implications are to be reported to the respective Combatant Commander and Milestone Decision Authority. Additionally, other materiel and non-materiel recommendations that address joint warfighting shortfalls will be provided as appropriate as a transformation change package to the Combatant Commander.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Capability Integration (CI) / Advanced Systems Prototyping (ASP)	0.000	2.900	2.900	2.900

Primary OUTCOME (objective) for this effort is to provide near-term solutions for integration, test and delivery of operational capabilities that address near-term operational and at time tactical requirements. Capability Integration uses organic laboratory resources, equipment, and technical personnel to integrate emerging technologies. Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604787D8Z - Joint Systems Integration Command (JSIC)**	**P787**

Facilities (DOTMLPF) recommendations on fielding strategies for USJFCOM and Joint Staff endorsement are also provided.

The primary outputs and efficiencies realized are: 1) Increase in reduced costs and delivery time to the warfighter through application of commercial technology to solve near-term Combatant Commander command and control capability gaps; 2) Increased Cost avoidance through transition of successful commercial technology integration in solving Combatant Commander capability shortfalls to applicable Service programs of record; 3) Decreased reliance on post delivery interoperability corrections; 4) Improved Assessment-based recommendations of technology solutions that address the military utility of proposed solutions and identify relevant Service programs, doctrinal impacts, training implications, and personnel requirements; 5) Improved accountability of life-cycle support for capabilities deployed to forces.

FY 2007 Planned Output- Continue development of Wireless for the Warfighter prototype incorporating wireless technologies for Joint Task Force-Civil Support (JTF-CS) and continue investigation of wireless technology advances to improve capability. Wireless for the Warfighter is a deployable capability that provides Joint Task Force Headquarters with the capability to rapidly initiate the exchange of time critical information via voice, video, and data over a broadband wireless medium between warfighters, non-DoD agencies, and local "First Responders". Deliver two Wireless for the Warfighter prototypes to USNORTHCOM's JTF-CS. This will provide JTF-CS the capability to immediately deploy and establish objective area communications. Transition Command and Control on the Move (C2OTM) to the Joint Special Operations Command (JSOC) and Executive Command and Control (EC2) to the U.S. Army Integrated Systems Engineering Command (ISEC).

FY 2008 Planned Output- Continue to leverage lessons learned during Wireless for the Warfighter development. Incorporate new technology supporting Ad Hoc Wireless Mesh Networking and multifunctional hand held devices. Match emerging critical warfighter requirements with current technologies and provide rapid near-term technology solutions to those requirements in support of the Combatant Commanders.

FY 2009 Planned Output- Leverage technology advances in wireless devices, satellite modem technology, and small lightweight secure digital capabilities to enhance warfighter C2 capabilities. Match emerging critical warfighter requirements with current technologies and provide rapid near-term technology solution to those requirements in support of the Combatant Commanders.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Capability Assessments and Combatant Commander's Requirements Analysis	0.000	2.900	2.900	2.900

Primary OUTCOME (objective) for this effort is to provide objective based assessment of Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) solution sets in support of the Joint Task Force Commander. JSIC will analyze Combatant Commander near-term requirements using DOTMLPF criteria. JSIC will identify current, emerging, or mature technologies to address materiel requirements. Comprehensive assessments covering joint maturity, warfighter utility, and operational effectiveness will be conducted on legacy and transformational projects. Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) recommendations on fielding strategies for USJFCOM and Joint Staff endorsement are also provided.

The primary outputs and efficiencies realized are: 1) Increased number of recommended improvements that enhance the capability of Combatant Commander Joint Task Force Headquarters (JTF HQ); 2) Increased number of verifiable capability solutions recommended for fielding to the Combatant Commander sponsor based on quantified capability improvements; 3) Increased empirical data to support benefit-cost ratio improvements of JTF HQ investment decisions and ensure JTF HQs command and control (C2) capabilities are interoperable from technical and operational standpoints; 4) Increased number of assessments conducted that identify legacy JTF HQs C2 Systems that are interoperable and supported, that inform and recommend solutions to integrate, modify, or retire legacy systems; 5) Increased number of assessment based recommendations of technology solutions that address the military utility of proposed and existing Service solutions. 6) Increased number of solutions that also include relevant, doctrinal impacts, training implications, personnel requirements, and life-cycle support deficiencies for capabilities deployed or soon to be deployed to forces.

System of Record Program Management offices benefit because the JSIC program provides a venue for the Warfighter Utility Assessments of commercial technologies before committing to implementation. The potential savings associated with finding existing commercial technologies to provide gap filler solutions and avoid the fielding of systems that are not interoperable or that fail to meet warfighter needs

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604787D8Z - Joint Systems Integration Command (JSIC)**	**P787**

are difficult to quantify. Potentially life-threatening shortfalls can be identified and fixed in advance of fielding. Services benefit directly by reduced Program Manager costs and by fielding systems that are interoperable and meet warfighter needs.

FY 2007 Planned Output- Efforts will initially focus on four pilot portfolios (Battle Space Awareness, Joint Network Operations, Joint Command and Control, and Joint Logistics). In addition, assessments will continue on Joint Engineering, Planning, and Execution System (JEPES) and Theater Effects Based Operations (TEBO).

FY 2008 Planned Output- JSIC projects are nominated to meet Combatant Commander's and Joint Force transformation requirements for the fiscal year. As the pilot portfolio concepts mature, assessments will expand to cover concept of operations and mission effectiveness of Net Enabled Command and Control. Recommendations will address military utility, concept of operations, and JTF Headquarters mission effectiveness as Joint Command and Control concepts merge with web-based and wireless technologies The goal is to support the transformation of joint force command and control capabilities through the rapid integration of technology solutions, resolution of C2 interoperability problems, and by providing unbiased evaluations of existing and emerging C2 capabilities to improve the joint warfighters ability to plan and execute operations.

FY 2009 Planned Output- JSIC projects are nominated to meet Combatant Commander's and Joint Force transformation requirements for the fiscal year. As the pilot portfolio concepts mature, assessments will identify problematic JTF HQ capabilities and conduct Root-Cause-Analysis - DOTMLPF.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Federated Joint C2 Laboratores (FJC2L) / Concept Development and Experimentation (CD&E)	0.000	2.000	2.000	2.000

Primary OUTCOME (objective) for this effort is to strengthen and align activities across the Federated Joint C2 Laboratories (JJC2L). The FJC2L is a voluntary consortium sponsored by the JSIC that leverages the capabilities of the Service Battle Labs, Systems Engineering Commands, RDT&E labs and other aligned Agencies to promote near-term Joint C2 solutions for the joint warfighter based on operational needs/requirements. JSIC will continue to provide support by aggressively engaging the Services in a collaborative effort to bring joint solutions through prototyping, interoperability demonstrations and capability assessments. Joint Concept Development and Experimentation (CD&E) plays a critical role in transformational change. As Executive Agent for Joint CD&E, Commander USJFCOM works in collaboration and formal coordination with the Joint Staff, Combatant Commanders, Services, defense agencies, departments and agencies outside of DoD, as well as allies and other coalition partners in order to align efforts, create a culture of innovation, and foster the creation of new joint operational concepts, along with measures of merit, to serve as the basis for exploring future joint capabilities and operations through joint experimentation and assessments. JSIC provides a netted reconfigurable Joint Task Force (JTF) C2 testbed and experimental environment that allows the rapid evaluation of required interoperability and utility to the warfighter, insertion of technology, along with the joining of emerging technologies and operational doctrine. JSIC supports concept developments and experimentation through access to its facilities and capabilities.

The primary outputs and efficiencies to be realized are: 1) Increased number of consortium interactions and events to leverage the capabilities of like organizations; 2) Decreased duplication of existing command and control systems and applications used throughout the Department in assessing and evaluating these capabilities; 3) Increased full utilization of joint, service and agency unique facilities in order to further determine ability of consortium to develop synergies that result in increased output; 4) Increased identification of joint command and control solutions to Combatant Commanders needs through use of the FJC2L; 5) Decreased number of service developed command and control solutions that fail to meet Combatant Commander joint warfighter requirements; 6) Reduction in the duplication of project/solution efforts across the Department; 7) Increased number of assessment based recommendations of technology solutions that address the military utility of proposed and existing Service solutions. 8) Increased number of solutions that also include relevant, doctrinal impacts, training implications, personnel requirements, and life-cycle support deficiencies for capabilities deployed or soon to be deployed to forces.

FY 2007 Planned Output- The FJC2L will support the following JSIC projects: Command and Control On-the-Move (C2OTM) transition, Wireless for the Warfighter (W4W), collaboration with Army Mounted Battle Command on the Move (MBCOTM) and USMC Command and Control On-the-Move Network, Digital Over the Horizon Relay (CONDOR) Program Managers, National Security Agency

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604787D8Z - Joint Systems Integration Command (JSIC)**	**P787**

(NSA) wireless testing, USJFCOM Joint Deployment Process Owner (JDPO) Joint Force Projection (JFP) Advanced Concepts Technology Demonstration (ACTD) Limited Objective Experiments (LOE) spirals and final venue, Tactical Communications Systems (TACOMS) prototyping, engagements and the JSIC project development processes. JSIC will assess warfighter feedback and measures of effectiveness from the Deployed Joint Command and Control (DJC2) system in an operational environment for a six month post initial operating capability (IOC) assessment to enable improvements in system implementation and operational concept.

FY 2008 Planned Output- Continue to develop FJC2L Strategic Partnerships that directly support rapid integration of C2 capabilities by engaging the Services and Communities of Interest (COI) in a collaborative effort to bring joint solutions through integration, interoperability and capability assessments. Leveraging the FJC2L, JSIC will focus on identifying emerging technologies, C2 interoperability solutions and supporting the following: NATO Consultation, Command and Control Agency (NC3A) and Allied Transformation Command (ACT), Net-Enabled Command Capability (NECC), Tactical Communications (TACOMS) Post 2000 NATO, Joint Systems Baseline Assessment (JSBA), C2 logistics and Joint Deployment Process, Theater Effects Based Operations (TEBO) Advanced Concept Technology Development (ACTD), next generation Command and Control (C2) On-the-Move satellite communications, wireless technology, Turnkey C2 Net-Centric Enterprise Services (NCES) and Counter Improvised Explosive Device (CIED). Continue experimentation and prototyping laboratory support for Standing Joint Force Headquarters, Joint National Training Capability and Joint Experimentation events as well as the four pilot portfolios (Battlespace Awareness, Joint Network Operations, Joint Command and Control, and Joint Logistics).

FY 2009 Planned Output- JSIC will focus on identifying future technology trends that have the potential to support the Joint Warfighter when developed and inserted as disruptive technology. Emerging technologies and C2 interoperability solutions that JSIC will pursue include: field-based computers (rugged, low cost), mobile, secure and wearable wireless communications, "user" defined communications, digital projection technology, graphic display technology, 3-D data management and visualization, next generation database search engines, multi-functional devices (GPS, camera, phone), nanotechnology (high capacity handheld devices & power cells), better electronic media convergence (data, voice, video), embedded GIS functionality, reducing warfighter overload with more effective information delivery technology, cyber security, and RFID chip technology for Joint Deployment Process logistical tracking and containerized cargo for Maritime Domain Awareness and Homeland Security applications. Support to major legacy systems and programs will continue: NATO NC3A/ACT, Joint Mission Threads, NECC, NCES, Standing Joint Force Headquarters (SJFHQ) support, and Joint Mission Modeling Tools (JMMT). JSIC will continue experimentation and prototyping laboratory support for Standing Joint Force Headquarters, Joint National Training Capability and Joint Experimentation events as well as the four pilot portfolios (Battlespace Awareness, Joint Network Operations, Joint Command and Control, and Joint Logistics).

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# 4	**0604828D8Z - Joint FIRES Integration and Interoperability Team**

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	16.686	16.596	16.934	17.441	17.622	17.854	18.104
P857	Joint Fires Integration & Interoperability	0.000	16.686	16.596	16.934	17.441	17.622	17.854	18.104

A. Mission Description and Budget Item Justification: The FY 2005 National Defense Authorization Act (NDAA) directed the transfer of US Joint Forces Command (USJFCOM) RDT&E funding of joint warfare experimentation and training programs from Navy accounts to new Defense Wide RDT&E accounts beginning in FY 2007. Funding to support the Joint Fires Integration and Interoperability Program prior to FY 2007 was reflected in the Navy's RDT&E Program under PE 0603857N. The new funding alignment brings the Joint Fires Integration & Interoperability (JFIIT) Program into oversight by the Office of the Secretary of Defense (OSD)/Defense Research & Engineering (DR&E) as executed by the Advanced Systems & Concepts (AS&C) Office.

Joint Requirements Oversight Council Memo (JROCM) 183-4, dated 8 Oct 04, directs U.S. Joint Forces Command to "produce a Joint Fires Support Organization". The Joint Fires Integration and Interoperability Team (JFIIT) is the lead agent for USJFCOM to investigate, assess and recommend improvements for the integration, interoperability and operational effectiveness of Joint Fires and Combat Identification (CID). JROCM 241-05, dated 3 Nov 05, validated the JFIIT mission and acknowledged "contributions to joint fires through completed products, activities in progress, and planned activities".

The JFIIT mission is to improve the integration, interoperability, and operational effectiveness of Joint fires focusing at the tactical level while informing operational level related activities and process. JFIIT takes a holistic approach to improving joint fires by providing solutions that produce effective target acquisition, command and control, and interoperable firing systems, thereby reducing fratricide and collateral damage. In effect, JFIIT is an organization integrated with acquisition, training, doctrine development, technical assessment, and test & evaluation. This results in not only near-term tactical identification of issues and solutions, but informs and provides foundation for longer-viewed operational and tactical solutions as well. JFIIT supports the USJFCOM mission of joint concept development & experimentation, as well as integration and interoperability, as directed in the Secretary of Defense (SECDEF) Defense Planning Guidance. JFIIT involvement in identifying solutions in support of the irregular warfare force and process construct has increased in response to changes in Tactics, Techniques and Procedures (TTPs) evolved in the current effort to combat terrorism.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	0.000	16.782	17.103	17.408
Current BES/President's Budget (FY 2008/2009)	0.000	16.686	16.596	16.934
Total Adjustments	0.000	-0.096	-0.507	-0.474
Congressional Program Reductions		-0.096		
Congressional Rescissions				

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0604828D8Z - Joint FIRES Integration and Interoperability Team**

Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other			-0.507	-0.474

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						

Comment: OSD and USJFCOM are developing performance criteria for JFIIT that will closely align this program with mission support priorities for integrated Joint Command & Control. As with the Joint Integration & Interoperability (JI&I) Program, JFIIT effectiveness ultimately hinges on delivering successful joint solutions to Combatant Commands by customer-specified delivery dates. The deliverables may include discrete improvements to training processes, doctrine, Tactics, Techniques & Procedures (TTPs), and/or technical system performance specifications and standards. OSD and USJFCOM will work in concert to approve the annual agenda of work and validate results. As with other joint programs executed by USJFCOM and overseen by OSD, provisions will be emplaced to handle emergent, high-priority requests from CoComs, Services, and Defense Agencies.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604828D8Z - Joint FIRES Integration and Interoperability Team**	**P857**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P857	Joint Fires Integration & Interoperability	0.000	16.686	16.596	16.934	17.441	17.622	17.854	18.104

A. Mission Description and Project Justification: The FY 2005 National Defense Authorization Act (NDAA) directed the transfer of US Joint Forces Command (USJFCOM) RDT&E funding of joint warfare experimentation and training programs from Navy accounts to new Defense Wide RDT&E accounts beginning in FY 2007. Funding to support the Joint Fires Integration and Interoperability Program prior to FY 2007 was reflected in the Navy's RDT&E Program under PE 0603857N. The new funding alignment brings the Joint Fires Integration & Interoperability (JFIIT) Program into oversight by the Office of the Secretary of Defense (OSD)/Defense Research & Engineering (DR&E) as executed by the Advanced Systems & Concepts (AS&C) Office.

Joint Requirements Oversight Council Memo (JROCM) 183-4, dated 8 Oct 04, directs U.S. Joint Forces Command to "produce a Joint Fires Support Organization". The Joint Fires Integration and Interoperability Team (JFIIT) is the lead agent for USJFCOM to investigate, assess and recommend improvements for the integration, interoperability and operational effectiveness of Joint Fires and Combat Identification (CID). JROCM 241-05, dated 3 Nov 05, validated the JFIIT mission and acknowledged "contributions to joint fires through completed products, activities in progress, and planned activities".

The JFIIT mission is to improve the integration, interoperability, and operational effectiveness of Joint fires focusing at the tactical level while informing operational level related activities and process. JFIIT takes a holistic approach to improving joint fires by providing solutions that produce effective target acquisition, command and control, and interoperable firing systems, thereby reducing fratricide and collateral damage. In effect, JFIIT is an organization integrated with acquisition, training, doctrine development, technical assessment, and test & evaluation. This results in not only near-term tactical identification of issues and solutions, but informs and provides foundation for longer-viewed operational and tactical solutions as well. JFIIT supports the USJFCOM mission of joint concept development & experimentation, as well as integration and interoperability, as directed in the Secretary of Defense (SECDEF) Defense Planning Guidance. JFIIT involvement in identifying solutions in support of the irregular warfare force and process construct has increased in response to changes in Tactics, Techniques and Procedures (TTPs) evolved in the current effort to combat terrorism.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Joint Fires and Combat Identification (CID)	0.000	16.686	16.596	16.934

As endorsed by JROCM 183-4, USJFCOM chartered JFIIT as the lead field agent for USJFCOM with the objective to investigate, assess and recommend improvements for the integration, interoperability and operational effectiveness of Joint Fires and Combat Identification (CID).

JFIIT performs this function by conducting capabilities and training assessments and providing subject matter expertise to ensure joint context for fires integration at the tactical level. In coordination with the JFCOM Staff, JFIIT interfaces with the Services and Combatant Commanders (COCOMs) at the tactical level to address their highest priority joint fires issues and develops recommendations for resolution

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604828D8Z - Joint FIRES Integration and Interoperability Team**	**P857**

and courses of action. JFIIT conducts assessments and evaluations of joint fires and combat identification (CID) capabilities to increase combat effectiveness and reduce the risk of fratricide and other friendly fire incidents. The program assesses the performance potential of Tactics, Techniques, and Procedures (TTP), doctrine, and weapons systems, and expedites solutions that meet warfighters' needs.

The primary outcome of the JFIIT effort is to provide the warfighter with the ability to effectively execute command and control in the application of "fires", through the seamless integration of joint fires and the coherent application of interoperable and integrated combat identification.

JFIIT's primary outputs and efficiencies are demonstrated by delivery of Doctrine-Organization-Training-Material-Leadership-Personnel-Facilities (DOTMLPF) Change Recommendations, Military Utility Assessment (MUA) reports, proposed TTP and doctrine which ensure the provision of: 1) Early identification of joint fires vulnerabilities; 2) Improvements in coordination of fires, command and control, and interoperability of firing systems resulting in increased effectiveness and efficiency; 3) Jointly trained forces; 4) Increased effectiveness and confidence in combat identification and 5) Reduced collateral damage and decreased number of fratricide incidents across the force.

FY 2007 Planned Output: JFIIT will conduct joint fires and combat identification assessments and evaluations in conjunction with JFCOM exercises, experiments, and test and evaluation events primarily in the areas of joint ISR support to joint air-to-ground fires integration with maneuver. JFIIT is also chartered to develop techniques for promising combat identification enhancements and joint fires initiatives.

- JFIIT will assist in the identification of solutions in support of irregular warfare issues identified during these evaluations. Specifically, JFIIT will provide analysis support for the SOCOM Atlantic Strike V exercise. This is the fifth in an ongoing series of Joint Terminal Attack Controller (JTAC) training exercises.

- JFIIT will support the Joint National Training Capability Integrated Training Event conducted during PACOM exercise Terminal Fury 2007. JFIIT will conduct data collection and analysis, provide feedback to exercise participants, and submit DOTMLPF Change Recommendations as required.

- JFIIT will also act as the analytical lead for the Coalition Combat Identification Advanced Concept Technology Demonstration (CCID ACTD) Extension exercise Bold Quest and will produce analytical reports as input to the CCID ACTD Military Utility Assessment intended to inform POM 10-15.

- JFIIT planning and analytical support has been requested to support the Air Force Special Operations Command exercise Emerald Warrior 2007. JFIIT is programmed to provide real-time mission monitoring, feedback to participants, and if warranted, DOTMLPF Change Recommendations.

- JFIIT will continue support to National Training Center (NTC) for pre-deployment mission rehearsal exercises and Leadership Training Program (LTP) training capabilities development.

- JFIIT support has also been requested for evaluation of the Joint Fire Coordination Measure Joint Test and Evaluation (JFCM JT&E) mini-test in conjunction with Talisman Saber 2007.

- USJFCOM Joint War fighting Center has also requested JFIIT support as part of Talisman Saber 2007 objectives.

FY 2008 Planned Output:
- JFIIT is programmed to develop the pre-deployment mission rehearsal exercises support package as requested by the Services and COCOMs to vet joint fires issues identified through the JFCOM Joint Center for Operational Analysis (JCOA) Lessons Learned.

- JFIIT will act as the lead planner and analytical lead for the biennial USAF Air Combat Command (ACC) Joint Expeditionary Force eXperiment (JEFX) 2008. This event identifies gaps and seams in the integration and interoperability of equipment in the joint environment. JFIIT will contribute to the JEFX report including DOTMLPF Change Recommendations and MUAs based on JFIIT capabilities

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

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604828D8Z - Joint FIRES Integration and Interoperability Team**	**P857**

assessment. The joint community assesses the DOTMLPF changes and MUA to develop procurement and production decisions for acquisition of the appropriate joint interoperable solutions.

- JFIIT will continue to serve as the analytical lead for the CCID ACTD Extension and will produce analytical reports as input to the CCID ACTD MUA intended to inform POM 10-15.

- JFIIT will support the Joint National Training Capability (JNTC) certification and accreditation program and execution of joint fires related JNTC exercises. JFIIT will identify operational issues for the unit's pre-deployment rehearsals, just prior to their deployment to the theater of operations, incorporating the most current lessons learned for implementation in combat.

- JFIIT will also continue capabilities and training assessments development to ensure other rotational units benefit from the latest lessons learned prior to deployment. By integrating this vital information into the FORSCOM National Training Center's LTP, information is amplified from staff level to the tactical level.

FY 2009 Planned Output:
- JFIIT will continue to refine and enhance support to pre-deployment mission rehearsal exercises as requested by the Services and COCOMs. Without identification of lessons learned and validation of corrective actions, the deploying units will not benefit from the subject matter expertise that JFIIT can provide in vetting these solutions at the tactical level of war. Evolving joint fires issues identified during the rotational units pre-deployment exercises form the basis to develop tactical level recommendations to address the gaps and seams.

- JFITT will act as lead planner and analytical lead for the 2009 Joint National Training Capability Integrated Training Event (ITE). JFIIT will contribute to an ITE exercise report that will include DOTMLPF Change Recommendations and Military Utility Assessment.

- JFITT will continue support for the Joint National Training Capability (JNTC) certification and accreditation program of joint fires related JNTC venues. JNTC Full Operational Capability (FOC) is scheduled for FY 2009 culminating this program for the services. JFIIT will assist in transitioning this program into service capabilities to enable tactical level joint training.

- JFIIT will continue support for irregular warfare in the capability and training assessment of special operations exercises and events in preparation for deployment.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0604828D8Z - Joint FIRES Integration and Interoperability Team

PROJECT
P857

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Evaluation Other Costs	MIPR	Various	0	4468	1-4Q	4400	1-4Q	4500	1-4Q	0	13368	0
Operations Costs/Research	MIPR	JFIIT/Various	0	1660	1-4Q	1700	1-4Q	1750	1-4Q	0	5110	0
Subtotal:			0	6128		6100		6250		0	18478	0

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Development Test and Evaluation	MIPR	JFIIT/Various	0	738	1-4Q	700	1-4Q	750		0	2188	0
Operational Test and Evaluation	CPFF	SAIC, BAE, NG/Eglin AFB	0	9297	1-4Q	9396	1-4Q	9484		0	28177	0
Operational Test and Evaluation	CPAF	TAMS/Eglin AFB	0	323	1-4Q	400	1-4Q	450		0	1173	0
Subtotal:			0	10358		10496		10684		0	31538	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Travel/Conferences	MIPR	JFIIT/Various	0	200		0		0		0	200	0

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604828D8Z - Joint FIRES Integration and Interoperability Team**	**P857**

Subtotal:	0	200		0		0		0	200	0
Project Total Cost:	**0**	**16686**		**16596**		**16934**		**0**	**50216**	**0**

Schedule Profile (R4 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0604828D8Z - Joint FIRES Integration and Interoperability Team

PROJECT
P857

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	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
Operational Test, Planning, Publications																																

Schedule Detail (R4a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0604828D8Z - Joint FIRES Integration and Interoperability Team**	**P857**

Schedule Detail	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Operational Test		2-4Q	2-4Q	2-4Q				

Comment:

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**

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		23.733	25.144	25.225	24.805	25.327	25.885	26.554	27.239
P017	Reduction in Total Ownership Cost Projects	23.733	25.144	25.225	24.805	25.327	25.885	26.554	27.239

A. Mission Description and Budget Item Justification: The Under Secretary of Defense (Acquisition, Technology & Logistics)(USD(AT&L)-defined mission for the Reduction in Total Ownership Cost (R-TOC) program is the reduction of ownership costs for defense systems. The R-TOC program provides funding for activities and initiatives that will:

1. Increase the reliability, maintainability, supportability and thus increase readiness of new or existing defense systems
2. Reduce logistics footprint
3. Generate future cost reductions in total ownership cost

These individual initiatives are complete efforts within themselves that yield complete redesigns that the Services are committed to put into production and operation. The initiatives optimize cost avoidance, ultimately reducing the operating and support costs for systems.

The USD(AT&L) has set an FY 2010 R-TOC goal of reducing the total defense systems inflation increase in Operations and Support (O&S) cost by 30 percent between FY 2004 and FY 2010. This Program Element (PE) provides a major portion of the program funding to achieve this goal. The successful demonstration of the R-TOC program initiatives should stimulate additional initiatives by the Services to achieve even greater cost avoidances.

The R-TOC program lead is within DUSD(A&T) and is supported by the Institute for Defense Analyses (IDA). Individual R-TOC Project Management rests with the Services and their Project Managers. Each Service has an active R-TOC Point of Contact (POC) for the initial interface between Office of Secretary of Defense (OSD) and the R-TOC Project Managers.

The average Return on Investment (ROI) for FY 2007 projects (based on discounted cash flow calculations) is approximately 6.1:1 with $582 million in cost avoidance across the Future Years Defense Program (FYDP). The ROI is approximately 31.5:1 with $3.1 billion in cost avoidances across the life cycle of the affected systems. These cost avoidances will be lost without the requested funding in FY 2008, which is needed to complete the projects begun with FY 2007 funding. The average Return on Investment (ROI) for these FY 2008 new start projects (based on discounted cash flow calculations) is approximately 7.0:1 with $266 million in cost avoidance across the FYDP. The ROI is approximately 46.8:1 with $1.424 billion in cost avoidances across the life cycle of the affected systems. The remaining FY 2009 funding and out year funding has been grouped into three project areas: Reliability Improvements, Maintainability Improvements, and Supportability Improvements. These three areas have proven to be the highest payoff areas for cost reductions and corresponding increases in system readiness.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	24.429	25.289	26.030	25.563

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**

Current BES/President's Budget (FY 2008/2009)	23.733	25.144	25.225	24.805
Total Adjustments	-0.696	-0.145	-0.805	-0.758
Congressional Program Reductions		-0.149		
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer	-0.696			
Other		0.004	-0.805	-0.758

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy There is an annual USD(AT&L) call for proposed project plans in October. Projects are submitted by the Services annually in January. The project plan format is provided with the call for submission of Service projects. Each project plan contains:
1. Problem statement
2. Impact statement
3. Technical description
4. Risk analysis
5. Proposed phases
6. Expected deliverables and results or outcomes
7. Program management
8. Cost/benefit analysis
9. Schedule
10. Implementation plan

The project evaluation criteria are also provided as part of the call for use by the Services in arriving at their prioritized project list. There are eleven categories for evaluation:
Objective measures:
1. ROI (Future Years Defense Program), Score 10, 5, or 3 points, respectively for high (>10:1), medium (between 10:1 and 5:1), low (<5:1)
2. ROI (System"s or Program"s Life Cycle), Score 10, 5, or 3 points, respectively for high (>20:1), medium (between 20:1 and 10:1), low (<10:1)
3. Service ranking, Score 10, 5, 1 points, respectively for top 1/3, middle 1/3, and bottom 1/3
4. Crossover year (return greater than investment), Score 5, 3, 1 points, respectively for <5 years, 3 years, >3 years
5. Payback year (total return greater than total investment), Score 5, 3, 1 points, respectively for <4 years, 4 years, >4 years

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**

Subjective measures:
1. Operational readiness improvement, 10, 5, 1 points, respectively strong, medium, weak discussion of operational readiness improvements
2. Benefits credibility, 5, 3, 1 points, respectively strong, medium, weak discussion of projected benefits
3. Technology maturity, 3, 2, 1 points, respectively strong, medium, weak discussion of technology maturity
4. Schedule confidence, 3, 2, 1 points, respectively strong, medium, weak discussion of schedule confidence
5. Budget confidence, 3, 2, 1 points, respectively strong, medium, weak discussion of budget confidence
6. Management support, 3, 2, 1 points, respectively strong, medium, weak discussion of management support

The Services receive project plans and make a Service priority ranking based on detailed analysis of each proposed initiative against the eleven evaluation criteria. This priority ranking is sent to the OSD lead. Upon acceptance and approval of the projects by OSD, the projects are briefed to the R-TOC Forum and Congressional staff, as required. Funding is distributed equally between the Services based on priority and the evaluation process results.

Upon final funding approval, OSD transfers individual project funding to the appropriate funding sites that are provided by the Services. After receiving the project funding, the Services are responsible for the funding and management of the projects. OSD retains oversight and direction of the R-TOC Initiative through the OSD lead office.

A Quarterly Project Report (QPR) format has been defined, approved by the Services, and is required for each funded project. These reports require:
1. Statement of progress
2. Outstanding issues
3. Upcoming events
4. Schedule status
5. Current investment status
6. Current estimate of savings or cost avoidance

These QPRs are submitted to the OSD R-TOC Initiative lead office. OSD analyzes project status, progress and project statistics and informs the Service POCs of any project problems. Projects are also required to report verbally at the quarterly R-TOC Forums, as appropriate.

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					

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**

Comment: The vision is that "all defense systems will perform with increasing readiness and capability while avoiding increased operations and support costs and improve logistics footprint by institutionalizing the continuous implementation of innovative process and hardware improvement." Existing Baseline: FYDP O&S Costs for FY 2004; Planned Performance Improvement/Requirement Goal: The goal is to "maximize cost avoidance on total defense systems FY 2010 O&S costs by offsetting 30 percent of the inflation predicted from an FY 2004 baseline." Actual Performance Improvement: Unknown at this time. Planned Performance Metric/Methods of Measurement: Return on Investment (ROI) measured over both the period of the FYDP and over the Life Cycle (LC) of each system. Actual Performance Metric/Methods of Measurement: Return of Investment (ROI) measured over both the period of the FYDP and over the Life Cycle (LC) of each system.

Comment: The objective of each of the projects is the reduction of operations and support (O&S) costs for the affected systems. ROI is the primary performance metric for the projects and for the R-TOC initiative. Each project plan includes a cost/benefit analysis, which is based on discounted cash flow calculations of project investment costs and projected cost avoidances. OMB discount rates are used to provide real comparisons of future value against current uses of resources. Projected cost avoidances are based on engineering estimates of the benefits provided by project implementations. Sources of cost avoidances are defined as part of the project submittal and come from any O&S cost source (fewer spares, lower maintenance hours, faster turnaround times, reduced scheduled maintenance, etc.). Updated ROI calculations are part of the required quarterly project reports to provide tracking of this metric.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**	**P017**

Cost ($ in Millions)		FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P017	Reduction in Total Ownership Cost Projects	23.733	25.144	25.225	24.805	25.327	25.885	26.554	27.239

A. Mission Description and Project Justification: The Under Secretary of Defense(Acquisition, Technology & Logistics)(USD(AT&L))-defined mission for the Reduction in Total Ownership Cost (R-TOC) program is the reduction of ownership costs for defense systems. The R-TOC program provides funding for activities and initiatives that will:

1. Increase the reliability, maintainability, supportability and thus increase readiness of new or existing defense systems
2. Reduce logistics footprint
3. Generate future cost reductions in total ownership cost

These individual initiatives are complete efforts within themselves that yield complete redesigns that the Services are committed to put into production and operation. The initiatives optimize cost avoidance, ultimately reducing the operating and support costs for systems.

The USD(AT&L) has set an FY 2010 R-TOC goal of reducing the total defense systems inflation increase in Operations and Support (O&S) cost by 30 percent between FY 2004 and FY 2010. This Program Element (PE) provides a major portion of the program funding to achieve this goal. The successful demonstration of the R-TOC program initiatives should stimulate additional initiatives by the Services to achieve even greater cost avoidances.

The OSD R-TOC program lead is within DUSD(A&T) and is supported by the Institute for Defense Analyses (IDA). Individual R-TOC Project Management rests with the Services and their Project Managers. Each Service has an active R-TOC Point of Contact (POC) for the initial interface between OSD and the R-TOC Project Managers.

The average Return on Investment (ROI) for FY07 projects (based on discounted cash flow calculations) is approximately 6.1:1 with $582 million in cost avoidance across the Future Years Defense Program (FYDP). The ROI is approximately 31.5:1 with $3.1 billion in cost avoidances across the life cycle of the affected systems. These cost avoidances will be lost without the requested funding in FY 2008, which is needed to complete the projects begun with FY 2007 funding. The average Return on Investment (ROI) for these FY 2008 new start projects (based on discounted cash flow calculations) is approximately 7.0:1 with $266 million in cost avoidance across the FYDP. The ROI is approximately 46.8:1 with $1.424 billion in cost avoidances across the life cycle of the affected systems. The remaining FY 2009 funding and out year funding has been grouped into three project areas: Reliability Improvements, Maintainability Improvements, and Supportability Improvements. These three areas have proven to be the highest payoff areas for cost reductions and corresponding increases in system readiness.

B. Accomplishments/Planned Program:

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 RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0605017D8Z - Reduction Of Total Ownership Cost**			PROJECT **P017**
Army	0.465	0.000	0.000	0.000
60mm Celluloid MICs				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	2.197	0.000	0.000	0.000
CGA Development				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	1.232	0.000	0.000	0.000
HIMARS UFCS				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.425	0.000	0.000	0.000
Elim. Wirebound Box				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.867	0.000	0.000	0.000
UV for RDX				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	0.000	0.000	0.000
Torsion Leaf Spring Improvement				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	0.000	0.000	0.000
Replace AL layer				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	1.825	0.000	0.000	0.000
Bradley Transmission				

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**	**P017**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.508	0.000	0.000	0.000
Paladin Rammer Assembly				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	2.100	0.000	0.000
H-60 Tailcone				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	2.244	0.000	0.000
Guardrail Low Band Antenna				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	0.681	0.000	0.000
Lightweight Composite Container				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	1.992	0.000	0.000
REMBASS II Stand Alone Sensor				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	0.450	0.000	0.000
Replace PDU				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	0.325	0.000	0.000
ANS-157 Interface Software Loader				
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# 4	**0605017D8Z - Reduction Of Total Ownership Cost**	**P017**

Army	0.000	0.000	2.231	0.769
CECOM SKO Optimization				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	0.000	0.120	0.000
MG Barrel Cooling Device				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	0.000	1.500	0.000
New Barrel Coating				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	0.000	0.440	0.000
Photostripping				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	0.000	1.242	0.000
HH-60M ECS				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Army	0.000	0.000	3.000	0.000
AH-64 Servos				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.400	0.000	0.000	0.000
Fuel Management Control Panel				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.890	0.000	0.000	0.000
Midrange FLIR				

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**	**P017**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.780	0.000	0.000	0.000
CASS				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.280	0.000	0.000	0.000
Armament System Controller TPS Dev				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.425	0.075	0.000	0.000
Ship's Material Condition Model				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.605	0.450	0.000	0.000
T-1 Fuel System Upgrade				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.500	0.150	0.000	0.000
EFV Aft Hydraulic Manifold				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	1.668	1.949	0.000	0.000
F/A-18 BIT Maturation				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.480	0.480	0.000	0.000
Self Cleaning Oil Filter				
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 RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0605017D8Z - Reduction Of Total Ownership Cost**			PROJECT **P017**
Navy	0.569	0.055	0.000	0.000
Digital Electronic Control Unit (DECU)				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.315	0.315	0.000	0.000
PSS II Mechanical Seal				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.660	0.000	0.000	0.000
DDG 51 Gas Seal				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.000	0.900	1.100
H-60 Damper Assemply				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.000	0.315	0.315
PSS II Mechanical Seals				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.100	0.000	0.150
H-1 UGHW Cost Reduction				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.150	0.000	0.427
TPI Digitization				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.427	0.000	0.450
PALs and Power Suppy				

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**	**P017**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.450	0.000	0.170
CRALTS				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.170	0.000	0.180
H-1 Main Rotor Cuff Closures				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.360	0.000	0.000
DRT Model				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	1.066	1.685	0.000
HV Module Repairability				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.000	1.813	0.187
Fiber Optic Network				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.000	0.393	0.393
Power Configuration Management				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	0.000	0.452	0.452
1000 Gal VSD				
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# 4	**0605017D8Z - Reduction Of Total Ownership Cost**	**P017**

Navy	0.000	0.000	1.744	1.356
IR Camera				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Navy	0.000	2.210	1.230	0.000
CVN Magnetic Coupling				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	1.270	1.130	0.000	0.000
Engine Component Repair				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	4.040	3.388	0.000	0.000
Engine Reliability Centered Maintenance (RCM)				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.453	0.000	0.000
MILSTAR Radome Replacement				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	1.450	2.100	0.000	0.000
Fuel System Icing				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	1.500	0.807	0.000	0.000
Aircrew Bladder Relief				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	1.067	1.056	0.000
F101-GE-102				

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**	**P017**

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.382	0.000	0.000	0.000
Intermittent Fault Detection System				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.000	1.074	0.000
F100 LC Closure Cost Trans (LCCCT)				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.000	0.967	1.571
F110-GE-129/129B RCM Calculator				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.000	0.500	0.000
Adv Composite Tower (ACT)				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.000	0.500	0.490
Field Backshop Test Data System				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.000	0.978	1.222
F119 Engine NI 100 IBR Repair				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.000	0.985	1.285
FPS-117 Radome Fleet Replacement				
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 RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0605017D8Z - Reduction Of Total Ownership Cost**			PROJECT **P017**
Air Force	0.000	0.000	0.600	0.000
Restoration of Dimensional Tolerances				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.000	1.500	2.500
Dia/Prog Life Mgt System for the 100				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.000	0.000	4.581
Reliability Improvements				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.000	0.000	4.108
Maintainability Improvements				
Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Air Force	0.000	0.000	0.000	3.099
Supportability Improvements				

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy There is an annual USD(AT&L) call for proposed project plans in October. Projects are submitted by the Services annually in January. The project plan format is provided with the call for submission of Service projects. Each project plan contains:

1. Problem statement
2. Impact statement
3. Technical description
4. Risk analysis
5. Proposed phases
6. Expected deliverables and results or outcomes

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

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**	**P017**

7. Program management
8. Cost/benefit analysis
9. Schedule
10. Implementation plan

The project evaluation criteria are also provided as part of the call for use by the Services in arriving at their prioritized project list. There are eleven categories for evaluation:

Objective measures:

1. ROI (Future Years Defense Program), Score 10, 5, or 3 points, respectively for high (>10:1), medium (between 10:1 and 5:1), low (<5:1)
2. ROI (System's or Program's Life Cycle), Score 10, 5, or 3 points, respectively for high (>20:1), medium (between 20:1 and 10:1), low (<10:1)
3. Service ranking, Score 10, 5, 1 points, respectively for top 1/3, middle 1/3, and bottom 1/3
4. Crossover year (return greater than investment), Score 5, 3, 1 points, respectively for <5 years, 3 years, >3 years
5. Payback year (total return greater than total investment), Score 5, 3, 1 points, respectively for <4 years, 4 years, >4 years

Subjective measures:

1. Operational readiness improvement, 10, 5, 1 points, respectively strong, medium, weak discussion of operational readiness improvements
2. Benefits credibility, 5, 3, 1 points, respectively strong, medium, weak discussion of projected benefits
3. Technology maturity, 3, 2, 1 points, respectively strong, medium, weak discussion of technology maturity
4. Schedule confidence, 3, 2, 1 points, respectively strong, medium, weak discussion of schedule confidence
5. Budget confidence, 3, 2, 1 points, respectively strong, medium, weak discussion of budget confidence
6. Management support, 3, 2, 1 points, respectively strong, medium, weak discussion of management support

The Services receive project plans and make a Service priority ranking based on detailed analysis of each proposed initiative against the eleven evaluation criteria. This priority ranking is sent to the OSD lead. Upon acceptance and approval of the projects by OSD, the projects are briefed to the R-TOC Forum and Congressional staff, as required. Funding is distributed equally between the Services based on priority and the evaluation process results.

Upon final funding approval, OSD transfers individual project funding to the appropriate funding sites that are provided by the Services. After receiving the project funding, the Services are responsible for the funding and management of the projects. OSD retains oversight and direction of the R-TOC Initiative through the OSD lead office.

A quarterly project report (QPR) format has been defined, approved by the Services, and is required for each funded project. These reports require:

1. Statement of progress
2. Outstanding issues
3. Upcoming events
4. Schedule status
5. Current investment status
6. Current estimate of savings or cost avoidance

These QPRs are submitted to the OSD R-TOC Initiative lead office. OSD analyzes project status, progress and project statistics and informs the Service POCs of any project problems. Projects are also required to report verbally at the quarterly R-TOC Forums, as appropriate.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)		Date: February 2007
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 4	PE NUMBER AND TITLE **0605017D8Z - Reduction Of Total Ownership Cost**	PROJECT **P017**

E. Major Performers Not Applicable.

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0605017D8Z - Reduction Of Total Ownership Cost

PROJECT
P017

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Amry			7825	7708	1Q	8259	1Q	8118	1Q	0	31910	0
Navy			7522	7715	1-3Q	8258	1Q	8258	1Q	0	31753	0
Air Force			7572	8468	1Q	8258	1Q	8118	1Q	0	32416	0
Subtotal:			22919	23891		24775		24494		0	96079	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Support			64	803	1-4Q	0		0		0	867	0
Subtotal:			64	803		0		0		0	867	0

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
RTOC Program Support and Analysis (IDA)			750	450	1Q	450	1Q	311	1Q	Continue	1961	0
Subtotal:			750	450		450		311		Continue	1961	0

OSD RDT&E COST ANALYSIS (R3)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 4	**0605017D8Z - Reduction Of Total Ownership Cost**	**P017**

Project Total Cost:	**23733**	**25144**		**25225**		**24805**		**Continue**	**98907**	**0**

Schedule Detail (R4a Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY
RDT&E/ Defense Wide BA# 4

PE NUMBER AND TITLE
0605017D8Z - Reduction Of Total Ownership Cost

PROJECT
P017

Schedule Detail	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Contract Preparation	2Q	2Q	2Q	2Q	2Q	2Q	2Q	2Q
System Development	3Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Quality Design and Build	4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Developmental Technical Testing		3-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Developmental Evaluation		4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

Comment: In January each year Services submit selected projects for budget year plus one. As funds become available in 2Q of the execution year, funds are distributed to the Services for obligation/contract award. The individual contracts (starting in 3-4Q) are for the system development, quality and Design testing and test evaluation. These contract generally have a period of performance of 1-2 years.

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2007	
Appropriation/Budget Activity RDT&E Defense Wide, BA 4				R-1 Item Nomenclature: Joint Electromagnetic Technology (JET) Program PE 0303191D8Z				
Cost ($ in millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	16.383	7.827	3.482	3.530	4.012	4.074	4.138	4.202

A. Mission Description and Budget Item Justification:

The JET Program supports the Defense Community in general with a particular emphasis on the requirements of Special Forces and Intelligence. Details of the program are classified. This program is funded under Budget Activity 4, Demonstration and Validation.

Program Accomplishments and Plans:

FY 2006 Accomplishments: ($16.383 million)

- Program planning and support.

FY 2007 Plans: ($7.827 million)

- Program planning and support.

FY 2008 Plans: ($3.482 million)

- Program planning and support.

FY 2009 Plans: ($3.530 million)

Program planning and 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 POM/BES	12.440	3.672	3.482	3.530
Current Presidents Budget	16.383	7.827	3.482	3.530
Total Adjustments	3.943	4.155		
Congressional rescissions, Inflation Adjustments		-.045		
Congressional increases	3.943	4.200		
Reprogrammings				
Transfer				
Supplemental				

Change Summary Explanation:
FY 2006: Congressional Add 3.943 million.
FY 2007: Congressional Adds 4.200 million, FFRDC .015 million, Economic Assumptions .030 million.
FY 2008: No change.
FY 2009: No change.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics:

- Numbers of operational field demonstrations.
- Numbers of false-positive results.
- Successful technology transfer to service component.
- Number of service requirements satisfied.