OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0603161D8Z - Nuclear & Conventional Phys Sec Equip**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P162	Nuclear & Conventional Phys Sec Equip	38.861	49.131	38.758	39.913	40.826	41.315	41.780

A. Mission Description and Budget Item Justification: The purpose of this program is the advanced engineering development of conventional and nuclear 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: 1) the Army's PSE RDT&E efforts in the areas of Interior and Exterior Detection, Security Lighting, Security Barriers and Security Display Units; 2) the Air Force's PSE RDT&E efforts in the areas of Exterior Detection/Surveillance, Entry Control, Delay/Denial, Tactical Systems and Airborne Intrusion; 3) the Navy's PSE RDT&E efforts in the areas of Waterside Security, Explosive Detection, and improved technology for Locks, Safes and Vaults; and 4) DTRA's PSE RDT&E efforts that enhance the security of Navy and Air Force nuclear assets. This PE also funds Force Protection Commercial-Off-The-Shelf (FP COTS) evaluation and testing, which has received additional focus since the 1996 Khobar Towers terrorist bombing incident. The FP COTS testing applies to all available technologies that are considered effective for DoD physical security use.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	38.866	38.060	38.823
Current BES/President's Budget (FY 2009)	38.861	49.131	38.758
Total Adjustments	-0.005	11.071	-0.065
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases		11.071	
Reprogrammings			
SBIR/STTR Transfer			
Other	-0.005		-0.065

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

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
07						
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 BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603161D8Z - Nuclear & Conventional Phys Sec Equip**	**P162**

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A. Mission Description and Budget Item Justification: The purpose of this program is the advanced engineering development of conventional and nuclear 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: 1) the Army's PSE RDT&E efforts in the areas of Interior and Exterior Detection, Security Lighting, Security Barriers and Security Display Units; 2) the Air Force's PSE RDT&E efforts in the areas of Exterior Detection/Surveillance, Entry Control, Delay/Denial, Tactical Systems and Airborne Intrusion; 3) the Navy's PSE RDT&E efforts in the areas of Waterside Security, Explosive Detection, and improved technology for Locks, Safes and Vaults; and 4) DTRA's PSE RDT&E efforts that enhance the security of Navy and Air Force nuclear assets. This PE also funds Force Protection Commercial-Off-The-Shelf (FP COTS) evaluation and testing, which has received additional focus since the 1996 Khobar Towers terrorist bombing incident. The FP COTS testing applies to all available technologies that are considered effective for DoD physical security use.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Force Protection/Tactical Security Equipment (FP/TSE):	12.190	19.724	15.435

FY 2007 Accomplishments:
- Began Light Kit, Motion Detection (LKMD) Prototype Design, Fabrication, and Integration of 40 prototype systems.
- Developed an enhanced Command and Control Display Element (CCDE) for Physical Security Systems.
- Developed the software to support the Common Operational Picture.
- Conducted Combined Test Force Evaluation of Phase IV development of the Remote Detection and Tracking System (RDTS).
- Demonstrated the capability of Wireless Security Sensor Networks.
- Initiated development of a low-cost, low-power, miniature, thermal infrared camera with integrated video detection (VMD) and internet protocol (IP) data communications.
- Conducted Operational Test and Evaluation (OT&E) of automated installation access control systems.
- Executed a congressional add to continue designing software for Intelligent Decision Exploration.
- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continued to manage sensor and assessment product developments and tests.
- Continued to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have Physical Security Equipment (PSE) utility.

- Continued 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.
- Plan for automated installation access control system maintenance and sustainment.
- Interface automated installation access control systems with applicable database management systems.
- Conduct Light Kit, Motion Detection (LKMD) product qualification testing (PQT2).
- Continue development of a low-cost, low-power, miniature, thermal infrared camera with integrated video detection (VMD) and internet protocol (IP) data communications.
- 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.
- Execute a congressional add to continue the development of the Intelligent Design Exploration effort.
- Execute a congressional add to develop an Integrated Base Defense Operation Planning Process.

FY 2009 Plans:
- Develop a Trip Wire Sensor.
- Develop an improved active infrared detection system.
- Complete LKMD PQT2.
- Continue spiral development of the Aircraft Self-Protection System (ASPSS).
- Continue spiral development of the Tactical Automated Security System (TASS).
- Continue spiral development of base access control 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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Robotic Security Systems Integration (RSSI):	5.200	5.810	2.030

FY 2007 Accomplishments:
- Integrated data feeds obtained from unmanned air and ground vehicles to improve surveillance capability and the common operation picture.
- Began to integrate remote weapon systems with robotic platforms.
- Continued to develop a Human Presence and Detection and Assessment capability.
- Evaluated user and site requirements for and initiated development of the Multi-robot Operator Control Unit (MOCU) integration with an Unmanned Aerial Vehicle (UAV).
- Executed a congressional add to continue the development of the Digital Network Centric Remotely Operated Weapon System.
- Executed a congressional add to develop the Integrated High Activity Response System.
- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continued 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.
- Demonstrate the Human Presence Detection and Assessment capability.
- Continue development of a realist test facility defended by a network of remotely operated weapons.
- Continue to 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.
- Execute a congressional add to continue the development of the Digital Network Centric Remotely Operated Weapon System.
- Execute a congressional add to continue the development of the Integrated High Activity Response System.

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.

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

FY 2007 Accomplishments:
- Continued efforts to develop the next generation WQX-2 Sonar with Allies.
- Leveraged WSS efforts in support of nuclear-powered, ballistic nuclear missile-carrying submarines (SSBNs).
- Continued to explore opportunities to develop a viable non-lethal means to neutralize swimmer threats.
- Further developed brassboard WSS prototypes transitioned from concept development.
- Developed AN/WQV-2 ADCAP (advanced capability) version 3.1 software.
- Initiated the redesign of existing radar track processor.
- Continued to research technology to protect shipboard and Marine expeditionary forces.
- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continued to manage sensor and assessment product developments and tests.
- Continued to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continued 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 (advanced capability) processor.
- Add patrol boat and radar tracking capability to the ADCAP processor.
- Begin the development of a passive sonar with enhanced diver detection classification and localization (DCL) and engagement capability.
- Support an Expeditionary Waterside Security - JCTD by integrating the Tactical Integration Sensor (TIS) with the Tactical Automated Security System (TASS).
- Complete overwater development of Remote Detection and Tracking Sensor (RDTS).
- Continue the redesign of the existing radar track processor.
- Conduct study to determine the way ahead for Enhanced Harbor Security System (EHSS) algorithm improvements and initiate the Diver Classification Algorithm Project to evaluate potential COTS sonar systems.
- Conduct sensor fusion project to integrate data for sonar systems which have more than one sonar head.
- Conduct study to get a better understanding of the source of sonar nuisance alerts.
- Development of a prototype logging device for an Electronic Deck Log project and demonstrate the utility of a performance prediction tool for a port security system based on actual environmental conditions.
- 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 integrated anti-swimmer defense and detection capability.
- Continue to improve algorithms that provide target analysis of waterborne threat.
- Continue the development of a passive sonar with enhanced diver detection classification and localization (DCL) and engagement capability.
- Develop interior hull wireless communications enhancements.
- 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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Explosive Detection Equipment (EDE):	5.760	6.394	3.500

FY 2007 Accomplishments:
- Acquired emerging explosive detection technology for comparative testing and realignment of a Baseline Explosive Detection Architecture.
- Conducted System Design Review for a Video/Radar Concealed Bomb Detection capability.
- Continued to develop a hybrid image/explosive detection capability.
- Continued to invest in the development of a viable technology to provide a stand off explosive detection capability against Improvised Explosive Devices (IED's).
- Sought to reduce Remote/Standoff Explosive Detection System (R/SEDS) detection time yet increase detection capability.
- Added a capability for R/SEDS to detect obscurants material that may shield the detection of explosives.
- Conducted comparative testing of commercial and developmental explosive detection devices.

- Conducted operational testing and evaluation (OT&E) of R/SEDS.
- Determined the feasibility of using Computed Tomography (CT) X-Ray technology to detect explosives.
- Continued to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE/EDE utility.
- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continued to test, develop, and integrate equipment to improve security and access to facilities.

FY 2008 Plans:
- Continue development of a long range TeraHetz (THz) explosive detection capability.
- Continue development test and evaluation of mobile vehicle x-ray systems.
- Continue comparative testing and evaluation of Military Working Dogs vs. Trace Detectors.
- Refine the capability of Remote/Standoff Explosive Detection System (R/SEDS) to specifically identify types of explosives.
- Develop and test a backpack version of the Quantum Sniffer.
- Develop a CT Scan algorithm for explosive detection.
- Develop a representative prototype of a field-ruggedized, handheld, battery powered, THz spectrometer for use in military applications.
- 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 gigahertz (GHz) source for teacher imaging.
- Continue to explore TeraHertz 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.
- Continue to manage, develop, evaluate and test explosive detection products and systems.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Locks, Safes, Vaults:	1.560	1.731	1.750

FY 2007 Accomplishments:
- Developed an Integrated Locking Device (ILD) universal mount prototype.
- Incorporated ILD design improvements that will increase operational capability and improve resistance against forced entry.
- Developed an ILD with biometrics verification capability.
- Integrated biometrics technology with high security lock technology.
- Held 8th Annual Seals Symposium.
- Identified shock and vibration requirements for shipboard security containers.
- Continued to manage, develop, evaluate, and test Delay/Denial products.
- Continued to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.

- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continued to test, develop, and integrate equipment to improve security of facilities.

FY 2008 Plans:
- Integrate and automate locking systems into other support systems.
- Begin OT&E of Storage Magazine door redesign.
- Develop, prototype and test DoD/GSA shipboard security containers.
- Develop attack resistant systems for the protection of utilities systems.
- Plan and execute a Seals Symposium.
- Develop and maintain a voice recognition based 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 magazine doors.
- Coordinate and support the installation of redesigned storage magazine doors.
- 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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Commercial-Off-The-Shelf (COTS) Testing:	2.623	2.228	2.250

FY 2007 Accomplishments:
- Refined Force Protection Equipment Demonstration (FPED) VI on-line registration and informational website.
- Continued to seek near-term (commercial) solutions for immediate force protection needs.
- Executed FPED VI.
- Conducted qualification testing of the MicroTrack Buried Cable Sensor, the OminTrax Buried Cable Sensor and interior sensors.
- Conducted physical and chemical characteristics of COTS Oleroresin Capsicum (OC) pepper spray canister inserts for the TigerLight, a non-lethal defense system.
- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continued to manage sensor and assessment product developments and tests.
- Continued to test, develop, and integrate equipment to improve security and access to facilities.

FY 2008 Plans:

- Continue the environmental and human health assessment of COTS Oleroresin Capsicum (OC) pepper spray canister inserts for the TigerLight.
- Continue to seek near-term (commercial) solutions for immediate force protection needs.
- Plan FPED VII.
- Test the Laser Breakbeam Sensor.
- Continue qualification testing of various commercial intrusion detection sensors.
- 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 qualification testing of various commercial intrusion detection sensors.
- 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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Nuclear Weapon Physical Security:	8.600	9.994	10.503

FY 2007 Accomplishments:
- Demonstrated the capabilities and performed user evaluation of the Secure Brow prototype.
- Continued to develop a fully functioning, interactive, 3D view client workstation for the Joint Conflict and Tactical Simulation (JCATS) software.
- Continued to design, fabricate, and install prototype delay upgrade hardware in a (Payload Transporter (PT) III Van.
- Continued development and testing of the Virtual Perimeter Extended Detection (VPED) system, formerly entitled Virtual Perimeter Security System (VPS).
- Completed the study to improve capabilities to apply immediate sufficient duress at a Protective Aircraft Shelter.
- Initiated development of systems to prevent unauthorized access to submarines while located at pier-side and in dry dock.
- Continued to enhance the Navy's Marine Mammal System (MMS) by developing the Limpet Mine Detection capability and the Autonomous Patrol and Interdiction of Swimmers/Divers.
- Continued to build algorithms that model terrorist attacks against critical resources.
- Continued to improve the capability to apply immediate sufficient duress at a Protective Aircraft Shelter.
- Continued to develop hardened capability in the protection of nuclear weapons storage sites and launch facilities.
- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.
- Continued to manage sensor and assessment product developments and tests.
- Continued to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.
- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.
- Continued to test, develop, and integrate equipment to improve security and access to facilities.

FY 2008 Plans:
- Continue to develop a fully functioning, interactive, 3D view client workstation for the Joint Conflict and Tactical Simulation (JCATS) software.

- Demonstrate the capabilities of the upgraded Payload Transporter (PT) III Van prototype.
- Continue refinement and operational testing to the VPED system.
- Continue to develop systems to prevent unauthorized access to submarines while located at pier side and in dry dock.
- Continue to enhance the Navy's Marine Mammal System (MMS) by further development of the Limpet Mine Detection capability and the Optimizing the Vigilance of the MMS.
- 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.
- Continue to 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:
- Continue to enhance JCATS software.
- Continue testing high explosives against re-enforced concrete panels and testing mechanical couplers at high strain rates.
- 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.
- Continue to 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.

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

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes (ACDP)

PE NUMBER AND TITLE
0603161D8Z - Nuclear & Conventional Phys Sec Equip

PROJECT
P162

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
Force Protection/Tactical Security Equipment (FP/TSE)	MIPR	PM-FPS (USA), Ft. Belvoir, VA		4900	1Q	4200	1Q	5000	1Q		14100	
Force Protection/Tactical Security Equipment	MIPR	642nd ELSS (USAF), Hanscom AFB, MA		4290	1Q	4200	1Q	5000	1Q		13490	
Force Protection/Tactical Security Equipment	MIPR	DTRA, Ft. Belvoir, VA		700	1Q	1750	1Q	1985	1Q		4435	
Congressional Add for IDE (FP/TSE)	MIPR	NAVSEA Crane, IN		1600	3Q	5500	1Q				7100	
Robotic Security Systems Integration (RSSI)	MIPR	DTRA, Ft. Belvoir, VA		397	1-2Q						397	
Robotic Security Systems Integration (RSSI)	MIPR	PM-FPS (USA), Ft. Belvoir, VA				1020	1Q	2030	1Q		3050	
Congressional Add for INHARS (RSSI)	MIPR	AFRL, Tyndall AFB, VA		2600	1-3Q	4000	2Q				6600	
Congressional Add for Digital ROWS (RSSI)	MIPR	PM-FPS (USA), Ft. Belvoir, VA		1000	3Q	1000	2Q				2000	
Congressional Add for the Integrated Base Defense Operation Planning Process	MIPR	AFRL, Tyndall AFB, VA				1000	2Q				1000	
Waterside Security	MIPR	NSWC, Crane, IN		1600	1Q	3250	1Q	3290	1Q		8140	
Explosive Detection Equipment	MIPR	NAVEODTECHDIV, Indian Head, MD		3210	1Q	6300	1Q	3500	1-2Q		13010	
Explosive Detection Equipment	MIPR	PM-FPS (USA), Ft. Belvoir, VA		315	1Q						315	
Explosive Detection Equipment	MIPR	DTRA, Ft. Belvoir, VA		800	1-3Q						800	
Locks, Safes, and Vaults	MIPR	NFESC, Port Hueneme, CA		1383	1Q	1700	1Q	1750	1Q		4833	
Nuclear Weapons Physical Security	MIPR	DTRA, Ft. Belvoir, VA		4500	3-4Q	9694	1Q	10498	1Q		24692	
Nuclear Weapons Physical Security	MIPR	SSP, Arlington, VA		3750	3Q						3750	

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603161D8Z - Nuclear & Conventional Phys Sec Equip**	**P162**

Nuclear Weapons Physical Security	MIPR	SPAWAR, Charleston, SC		345	4Q						345	
Subtotal:				31390		43614		33053			108057	

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:												

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
Explosive Detection Equipment	MIPR	642nd ELSS, Hanscom AFB, MA		870	1-3Q						870	
COTS Testing	MIPR	PM-FPS (USA), Ft. Belvoir, VA		2247	1Q	2228	1Q	2250	1Q		6725	
Subtotal:				3117		2228		2250			7595	

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
Force Protection/Tactical Security Equipment	MIPR	642nd ELSS (USAF) , Hanscom AFB, MA		2047	1Q	2000		2000			6047	
Force Protection/Tactical Security Equipment		DATSD (Nuclear Matters)		1400	1Q	439		600			2439	
Waterside Security	MIPR	NAVSEA (Navy)		517	1Q	500		500			1517	

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603161D8Z - Nuclear & Conventional Phys Sec Equip**	**P162**

		Arlington, VA										
Locks, Seals, and Vaults	MIPR	NFESC (Navy), Port Hueneme, CA		390	1Q	350		355			1095	
Subtotal:				4354		3289		3455			11098	
Project Total Cost:				**38861**		**49131**		**38758**			**126750**	

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603161D8Z - Nuclear & Conventional Phys Sec Equip**	**P162**

Event Name	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) Conduct Operational Test and evaluation (OT&E) of Smart Gate.			▲1																									
Interface automated access control systems with database management systems.	▬	▬	▬	▬	▬	▬	▬	▬																				
Develop an improved active infrared detection system.												▬																
(2) Complete Light Kit, Motion Detection (LKMD) product qualification testing (PQT).							▲2																					
Begin to integrate remote weapon systems with robotic platforms.	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬																
(3) Demonstrate NROWS capability to detect and track multiple targets.											▲3																	
(4) Transition FPASS web-based Trainer and system to USAF.																												
(5) Demonstrate NROWS detecting & tracking multiple targets under various scenarios.	▲5																											
Leverage WSS efforts in support of SSBNs.	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬												
Add patrol boat and radar tracking capability to ADCAP processor.	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬																

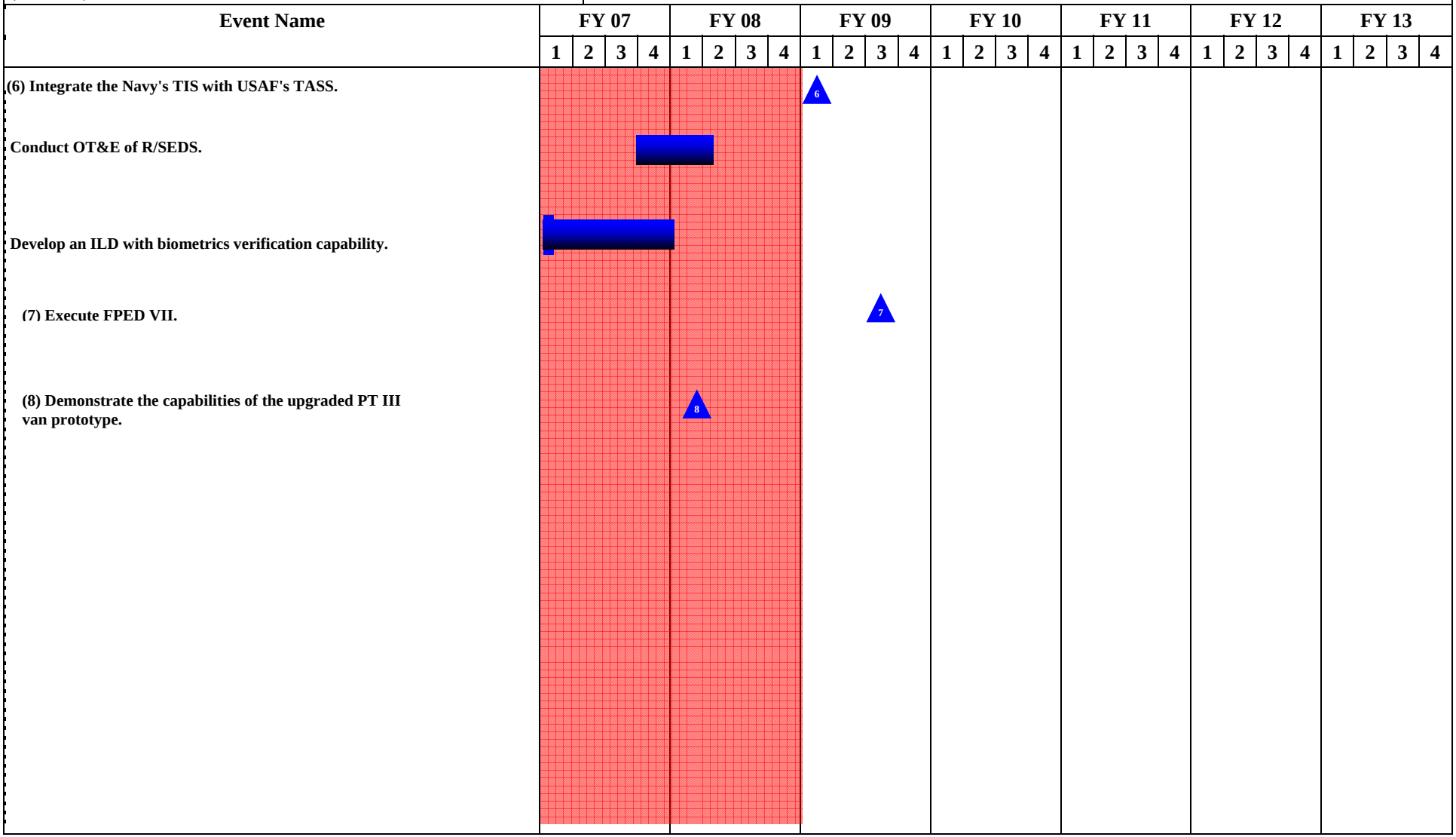
Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes (ACDP)

PE NUMBER AND TITLE
0603161D8Z - Nuclear & Conventional Phys Sec Equip

PROJECT
P162



Schedule Detail (R4a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603161D8Z - Nuclear & Conventional Phys Sec Equip**	**P162**

Schedule Detail	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Conduct Operational Test and evaluation (OT&E) of Smart Gate.	3Q - 4Q	1Q					
Interface automated access control systems with database management systems.	1Q - 4Q	1Q					
Develop an improved active infrared detection system.			2Q - 3Q				
Complete Light Kit, Motion Detection (LKMD) product qualification testing (PQT).	1Q - 4Q	4Q					
Begin to integrate remote weapon systems with robotic platforms.	1Q - 4Q	1Q - 4Q	1Q - 2Q				
Demonstrate NROWS capability to detect and track multiple targets.			1Q				
Transition FPASS web-based Trainer and system to USAF.	1Q - 4Q	1Q					
Demonstrate NROWS detecting & tracking multiple targets under various scenarios.	1Q - 4Q	1Q - 4Q	1Q - 2Q				
Leverage WSS efforts in support of SSBNs.	1Q - 4Q	1Q - 4Q	1Q - 4Q				
Add patrol boat and radar tracking capability to ADCAP processor.	1Q - 4Q	1Q - 4Q	1Q				
Integrate the Navy's TIS with USAF's TASS.			1Q - 2Q				
Conduct OT&E of R/SEDS.	4Q	1Q - 2Q					
Develop an ILD with biometrics verification capability.	1Q - 4Q	1Q					
Execute FPED VII.			3Q				
Demonstrate the capabilities of the upgraded PT III van prototype.		2Q					

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0603228D8Z - Physical Security**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P228 Physical Security		1.589					

A. Mission Description and Budget Item Justification: This program transitioned to program elements (PEs) 603287F and 604287F in FY 2004 and eventually to PEs 603161D8Z and 604161D8Z in FY 2007. This PE was funded in FY 2006 and FY 2008 with congressional increases. 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 Waterside Security Systems.

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

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)			
Current BES/President's Budget (FY 2009)		1.589	
Total Adjustments		1.589	
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases		1.589	
Reprogrammings			
SBIR/STTR Transfer			
Other			

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

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics:

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 BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603228D8Z - Physical Security**	**P228**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P228 Physical Security		1.589					

A. Mission Description and Budget Item Justification: This program transitioned to program elements (PEs) 603287F and 604287F in FY 2004 and eventually to PEs 603161D8Z and 604161D8Z in FY 2007. This PE was funded in FY 2006 and FY 2008 with congressional increases. 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 Waterside Security Systems.

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

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Waterside Security Systems (WSS)		1.589	

FY 2008 Plans:
- Begin to execute the Congressional Add to develop a Shipboard Visitor Control Center.

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

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0603527D8Z - Retract Larch**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
527 Retract Larch	22.253	22.172	22.945	23.508	23.976	24.582	25.200

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

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	22.254	22.365	22.983
Current BES/President's Budget (FY 2009)	22.253	22.172	22.945
Total Adjustments	-0.001	-0.193	-0.038
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other	-0.001	-0.193	-0.038

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

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics: Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603527D8Z - Retract Larch**	**527**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
527 Retract Larch	22.253	22.172	22.945	23.508	23.976	24.582	25.200

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

B. Accomplishments/Planned Program: Not Applicable.

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

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0603709D8Z - Joint Robotics Program**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P709	Joint Ground Robotics Enterprise (JGRE) ACD&P	22.975	23.654	11.847	12.005	12.268	12.589	12.916

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 technology transition and transformation for closing warfighter requirement capability gaps. 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.

All actions under this PE are within BA 4 and are identified with one project number.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	22.978	11.860	11.867
Current BES/President's Budget (FY 2009)	22.975	23.654	11.847
Total Adjustments	-0.003	11.794	-0.020
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other	-0.003	11.794	-0.020

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

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics:

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

Comment: Metrics for the Joint Ground Robotics Enterprise (JGRE) funded Research, Development, Test & Evaluation (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 BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603709D8Z - Joint Robotics Program**	**P709**

	COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P709	Joint Ground Robotics Enterprise (JGRE) ACD&P	22.975	23.654	11.847	12.005	12.268	12.589	12.916

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 technology transition and transformation for closing warfighter requirement capability gaps. 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.

All actions under this PE are within BA 4 and are identified with one project number.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
(U) Autonomous & Tactical Behaviors	4.618	4.061	2.085

FY 2007 Accomplishments:

* Experimentation and testing of next-generation platform stabilization systems (Perfect Horizon)
* Began development of three different sizes (75, 150, and 300 lbs) of a linear actuator version of the Perfect Horizon for stabilization of larger payloads.
* Initiated effport to develop a Computer Aided Fire Control system for robotic platforms to enhance accuracy and effectiveness of Less than Lethal weapons and reduce Operator workload associated with aiming, tracking and firing from a mobile platform.
* Advanced convoy following operations in collaboration with the University of Florida
* Developed JAUS software development kits to allow non-compliant hardware to more easily integrate into a JAUS complaint system.
* Supporting Convoy following operations: Developed algorithm to determine the location of the lead vehicle relative to the follower based on the sensed infrared targets; Performed initial testing of system to evaluate the accuracy of the sensed lead vehicle location.

* Continued support to refine, maintain for and transition of documentation for Joint Architecture for Unmanned Systems (JAUS) to a Society of Automotive Engineers (SAE) standard.
* Integrated JAUS into Simulation Systems for experimentation/validation.
* Continued production of second-generation Automatically Deployable Communications Relays (ADCR) systems.

FY 2008, 2009 and 2010 Plans: Support the development of vehicle onboard intelligence and tactical behaviors to allow the fielding of advanced autonomous unmanned systems. Including integration and testing of specific tactical behaviors for fielded EOD robots. Baseline user identified 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. Plans include:

* Autonomous Navigation for Small UGVs - Develop, test, and prototype navigation sensors and software designed specifically for small UGVs to enable autonomous navigation.
* Automated Aircraft Refueling
* Standoff Explosives Detection Using Hyperspectral Imaging
* Mine Area Clearance Equipment - Automated guidance (navigation) and control technology
* Autonomous Range Clearance - Demonstrate automated detection and clearance of unexploded submunition items
* Robotic Route Clearance and Interrogation System Equipment
* Chemical Biological Radiological & Nuclear (CBRN) Package for Unmanned Ground & Aerial Vehicles
* Robotic Firefighting Technologies
* Automatic Payload Deployment System (APDS) - UGV-mounted module to deploy payloads and a stand-alone networked sensor payload and conduct demonstrations and tests.
* Human Presence Detection (HPD)
* Continued development of the Joint Architecture for Unmanned Systems (JAUS)
* Convoy Active Safety Technologies (CAST)
* Joint Training and Experimentation Center (JTEC) Joint Robotics Program

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
(U) Manipulation Technologies	3.984	2.622	2.005

FY 2007 Accomplishments:

* Conducted Military Utility Assessment on a Mobile Under Vehicle Inspection
* Initiated Robotic Refueling capability for the Joint Strike Fighter.
* Supported capability development via the Joint Architecture for Unmanned Systems (JAUS) development process.
* Continued 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 support of 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.

FY 2008, 2009 and 2010 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. Plans include:

* Integration of Access and Forced Entry Tools on Small UGV
* Autonomous Navigation for Small UGVs
* Developing and demonstrating meso-fluidic actuators: enabling technology in developing robotic manipulators with high level fidelity and dexterity.
* Advanced EOD Robot System (AEODRS) Analysis of Alternatives
* Advanced EOD Robot System Technology Development
* Autonomous UAV Mission System (AUMS)
* Joint Training and Experimentation Center (JTEC) Joint Robotics Program

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
(U) Collaborative Operations	3.782	4.212	2.035

FY 2007 Accomplishments:

* Continued to refine, maintain and progress transition of documentation for Joint Architecture for Unmanned Systems (JAUS) to a Society of Automotive Engineers (SAE) standard.
* Continued refinement of Joint Architecture for Unmanned Systems (JAUS) message sets and MOCU implementation for the Autonomous UAV Mission System (AUMS) refueling platform and Rotomotion UAV.
* Initiated research to extend the dynamic discovery of JAUS, supporting UAV and UGV collaborations.
* Algorithm development, implementation and testing for precision landing of the Rotomotion UAV utilizing a NovAtel Differential Global Positioning System (DGPS).
* Initiated effort to integrate & fuse data from a variety of sensors, imagers, access control, robotic platforms and IFF systems to more effectively execute defensive battle space actions.
* Continue integration of JAUS into Simulation Systems for experimentation/validation.
* Continued efforts to determine and identify Mission Essential Modules to improve COTS system multi-mission capability.
* Demonstrated and validated support for network-based systems.
* Demonstrated ability to extend Non-Line-of-Sight operator control of UGVs up to 20 miles through use of a communications repeater integrated onto a UAV
* Developed a Phase I user interface for UAV/UGV range extension operations that allow the operator to view optimal communications regions for uninterrupted telemetry and control
* Convoy following operations: Designed infrared targets to be placed on the lead vehicle ; fabricated 1st target prototypes; Developed algorithm to determine the location of the lead vehicle relative to the follower based on the sensed infrared targets; Performed initial testing of system to evaluate the accuracy of the sensed lead vehicle location ; new target design initiated to improve tracking performance.
* Procured and modified a commercially available vertical take off & landing (VTOL) UAV for JAUS compliant message set operation in support of the UAV and UGV mission collaboration program.

FY 2008, 2009 and 2010 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. Included: Unmanned System Collaboration Demonstration. Collaborative and tactical behaviors include system convoying, teamed obstacle avoidance, area perception and relative position information sharing. Plans include:

* Autonomous Range Clearance
* Marsupial (SEGWAY) for APS and UXO

* Continued development of the Joint Architecture for Unmanned Systems (JAUS)
* Autonomous UAV Mission System (AUMS) - Develop and integrate Collaborative Technology Enablers essential to allow unmanned system collaboration.
* Automatically Deployed Communications Relays (ADCR)
* Joint Collaborative Technologies Experiment (JCTE)
* Convoy Active Safety Technologies (CAST)
* Joint Training and Experimentation Center (JTEC) Joint Robotics Program

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
(U) Interoperability	3.585	4.930	2.628

FY 2007 Accomplishments:

* Demonstrated integrated capabilities in support of Force Protection Joint Experiments Integration Assessments (FPJEIA).
* Continued to refine, maintain for and transition of documentation for Joint Architecture for Unmanned Systems (JAUS) to a Society of Automotive Engineers (SAE) standard.
* Under the Automatically Deployable Communications Relays (ADCR) effort, continued testing on complete system.

FY 2008, 2009 and 2010 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. Plans include:

* Continued development of the Joint Architecture for Unmanned Systems (JAUS)
* Autonomous Control Development - Advanced Technologies Development to expand technologies required for unmanned systems to operate autonomously.
* Universal UGV Platform - Inexpensive man-portable ground robotic platform, non-proprietary open architecture capable of accommodating a wide range of 3rd party payloads, interfaces, sensors, manipulators, etc.
* Networked Robotic Communication Solutions
* SUGV Range Extension (SRE)
* Robotic Systems Technical & Operational Metrics Correlation
* Covert Tracking Robots/Sensors
* Autonomous Robotic Countermine (ARCS2)
* Convoy Active Safety Technologies (CAST)
* Joint Training and Experimentation Center (JTEC) Joint Robotics Program

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
(U) Man-Portable Unmanned Ground System Technologies	3.172	3.063	1.845

FY 2007 Accomplishments:

* Continued Next Generation Explosive Ordnance Disposal Remote Control Vehicle (NGEODRCV) Level Development

* Continued the transition of technologies from the NGEODRCV Project.
* Conducted Remote Ordnance Neutralization System (RONS) Continuous Improvement Program (CIP) Projects.
* Continued EOD Cooperative Robotics Project.
* Automatically Deployable Communications Relays (ADCR), continued support of Man-Portable Robotic System (MPRS).
* Continued development, fielding and life cycle development of systems deployed for IED defeat missions.

FY 2008, 2009 and 2010 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. Plans include:

* Man-Portable ISR Robot - Develop a man-portable ground robot optimized for ISR applications.
* Advanced Control Schemes for EOD Robotics
* Automatically Deployable Communications Relays (ADCR)
* Continued development of the Joint Architecture for Unmanned Systems (JAUS)
* Autonomous Navigation for Small UGVs - Demonstrate an advanced obstacle detection suite for small UGVs.
* Advanced EOD Robot System (AEODRS) Analysis of Alternatives
* Advanced EOD Robot System Technology Development
* Joint Training and Experimentation Center (JTEC) Joint Robotics Program

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
(U) Technology Transition/Transformation	3.834	4.766	1.249

FY 2007 Accomplishments:

* Continued to support fielding and support of RCSS COTS systems to War on Terrorism forces.
* Continued to provide support to determine and identify Mission Essential Modules to improve COTS system multi-mission capability.
* Established baseline information on taxonomy of international ground robotics development thrusts and key performers
* Experimentation and testing of next-generation platform stabilization systems (Perfect Horizon)
* Continued refined optimization of Simultaneous Localization and Mapping (SLAM) capabilities for outdoor applications in GPS-denied areas.
* Began development of three different sizes (75, 150, and 300 lbs) of a linear actuator version of the Perfect Horizon for stabilization of larger payloads.
* Initiated technology transfer efforts as part of a joint experiment initiative leading to support of the Joint Force Protection Advanced Security System (JFPASS) JCTD.
* Continued transition of technologies from the NGEODRCV Project
* Refined, maintained for and began transition of documentation for Joint Architecture for Unmanned Systems (JAUS) to a Society of Automotive Engineers (SAE) standard.
* Continued (Active Range Clearance) 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 2008, 2009 and 2010 Plans: Facilitate integration of and ensure the ultimate transfer or transformation of technologies to ongoing programs. Including a Technology Demonstration for Advanced EOD Robot System (AEODRS). 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. Plans include:

* Legged Robotics - Improved robotic mobility, improved payload carrying capability for a dismounted squad, and increased survivability for the dismounted soldier.
* Investigating advances in technology that focuses on the COCOM Homeland Defense Community - mission analysis and requirements investigation to identify technology gaps for future leverage of technology.
* Continuing to pursue automatically deployed communications relays (ADCR) from unmanned ground vehicles.
* Robotic Convoy Technologies - introduce robotic technologies into military land convoy operations and demonstrate methods of robotic convoy technologies.
* Convoy Active Safety Technologies (CAST) - focus on development of a low-cost convoy solution for current force tactical wheeled vehicles with leverage of technologies developed under Robotic Follower (RF) ATO.
* Automatic Sensor Deployment
* Continued transition of the Joint Architecture for Unmanned Systems (JAUS)
* Advanced EOD Robot System Technology Development - transition to program of record (POR)
* Man-portable Robot Systems
* Automated Aircraft Refueling
* Autonomous Robotic Countermine (ARCS2)
* Joint Collaborative Technologies Experiment (JCTE)
* Integration of Access and Forced Entry Tools on Small UGV
* Joint Training and Experimentation Center (JTEC) Joint Robotics Program

C. Other Program Funding Summary	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
PE 0603711D8Z (BA3) Joint Robotics/Autonomous Systems	7.700	11.256	14.202	14.626	14.825	15.019	15.231
PE 0604709D8Z (BA5) Joint Ground Robotics Enterprise (JGRE) SDD	6.004	2.911	5.725	5.212	4.245	3.242	3.111

Comment:

D. Acquisition Strategy The Joint Ground Robotics Enterprise (JGRE) utilizes several contracting and management strategies to achieve its objectives. JGR has established relationships with the several agencies to include the National Center for Defense Robotics (NCDR) and the Army s Rapid Equipping Force (REF) to support the rapid acquisition and evaluation of promising unmanned system technologies.

Funding is provided to Service lab partners and other developers to promote common technology solutions across platforms and Services.

Beginning in FY08, JGRE will encourage the establishment of a robotics consortium to broaden the research and development of robotics technologies.

E. Major Performers Not applicable for this item.

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603709D8Z - Joint Robotics Program**	**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
Joint Ground Robotics Enterprise Support				22975							22975	
Subtotal:				22975							22975	

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
Joint Ground Robotics Enterprise Support					1-4Q	23654	1-4Q	11847	1-4Q		35501	
Subtotal:						23654		11847			35501	

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
Joint Ground Robotics Enterprise Support												
Subtotal:												

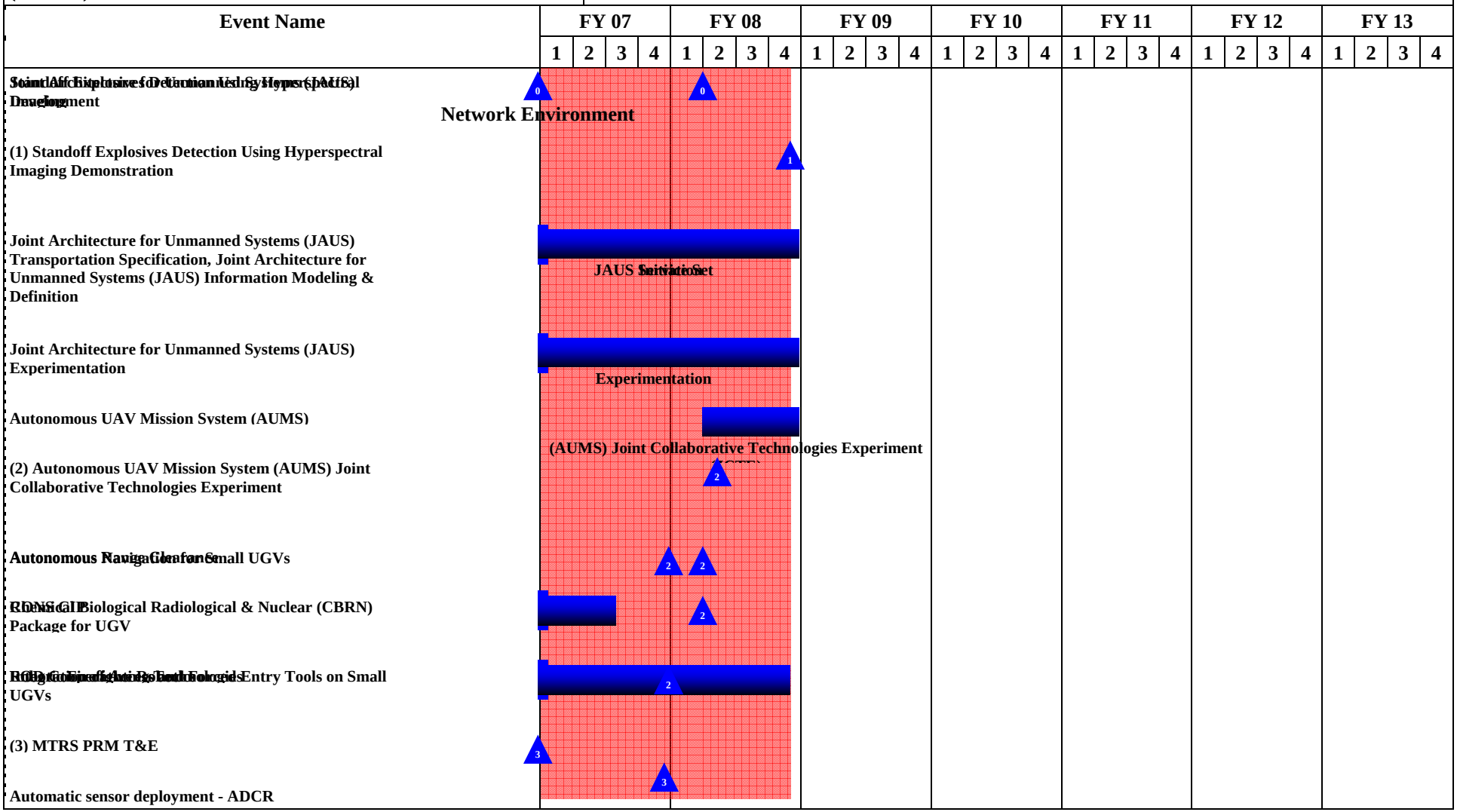
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Joint Ground Robotics Enterprise Support												

OSD RDT&E COST ANALYSIS (R3)											February 2008
BUDGET ACTIVITY **4 - Advanced Component Development and Prototypes (ACDP)**	PE NUMBER AND TITLE **0603709D8Z - Joint Robotics Program**										PROJECT **P709**
Subtotal:											
Project Total Cost:		**22975**		**23654**		**11847**			**58476**		

Schedule Profile (R4 Exhibit)

February 2008

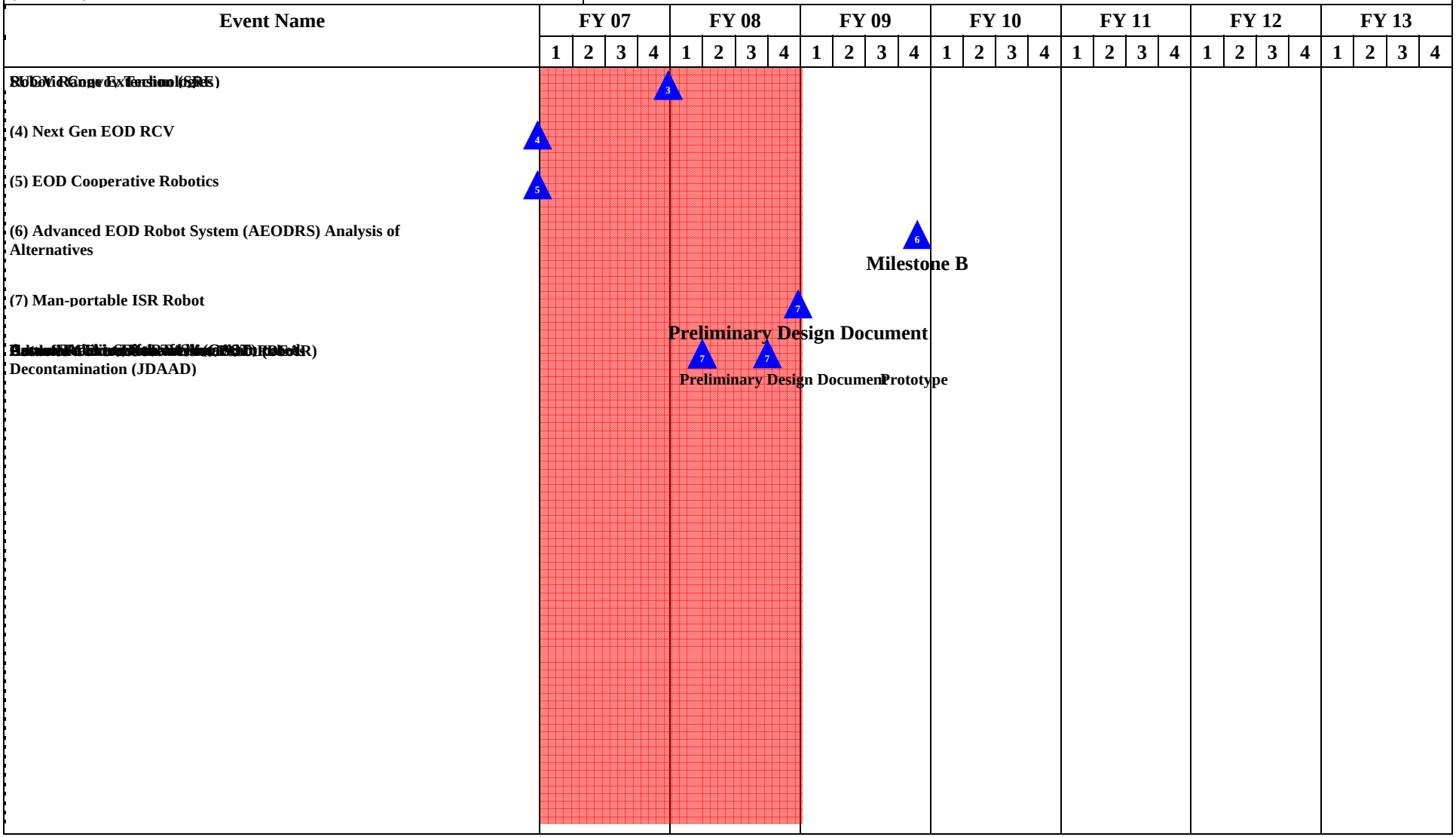
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603709D8Z - Joint Robotics Program**	**P709**



Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603709D8Z - Joint Robotics Program**	**P709**



Schedule Detail (R4a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603709D8Z - Joint Robotics Program**	**P709**

Schedule Detail	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Joint Architecture for Unmanned Systems (JAUS) Development	1Q - 4Q	1Q - 4Q					
Standoff Explosives Detection Using Hyperspectral Imaging		2Q - 4Q	1Q - 4Q				
Standoff Explosives Detection Using Hyperspectral Imaging Demonstration		4Q					
Joint Architecture for Unmanned Systems (JAUS) Transportation Specification	2Q - 4Q	1Q - 4Q					
Joint Architecture for Unmanned Systems (JAUS) Development			1Q				
Joint Architecture for Unmanned Systems (JAUS) Information Modeling & Definition	1Q - 4Q	1Q - 4Q					
Joint Architecture for Unmanned Systems (JAUS) Experimentation	1Q - 4Q	1Q - 4Q					
Autonomous UAV Mission System (AUMS)		2Q - 4Q					
Autonomous UAV Mission System (AUMS) Joint Collaborative Technologies Experiment		2Q					
Autonomous Navigation for Small UGVs		2Q - 4Q					
Autonomous Range Clearance		1Q - 4Q					
RONS CIP	1Q - 3Q						
Chemical Biological Radiological & Nuclear (CBRN) Package for UGV		2Q - 4Q					
EOD Cooperative Robotics	1Q - 4Q	1Q - 4Q					
Robotic Firefighting Technologies		1Q - 4Q	1Q				
Integration of Access and Forced Entry Tools on Small UGVs		1Q - 4Q	1Q - 4Q	1Q			
MTRS PRM T&E	1Q - 4Q	1Q - 4Q	1Q - 4Q				

Automatic sensor deployment - ADCR		1Q - 4Q	1Q - 4Q	1Q			
MTRS PSVM T&E							
Robotic Convoy Technologies		1Q - 4Q	1Q - 4Q	1Q			
SUGV Range Extension (SRE)		1Q - 4Q	1Q - 4Q	1Q			
MTRS AAP PROD DEC							
RONS CIP							
Next Gen EOD RCV	1Q - 4Q	1Q - 4Q					
EOD Cooperative Robotics	1Q - 4Q	1Q - 4Q					
Advanced EOD Robot System (AEODRS) Analysis of Alternatives			4Q				
Man-portable ISR Robot		4Q					
Covert Tracking Robots Sensors		4Q					
			4Q				
Advance Control Schemes for EOD Robots		2Q - 4Q					
Automated Aircraft Refueling		2Q - 4Q					
Battlefield Extraction - Assist Robot (BEAR)		4Q					
Convoy Active Safety Tech. (CAST)		2Q - 4Q					
Decon II - Joint Forward Area Automated Decontamination (JDAAD)		2Q - 4Q					

Exhibit R-2, RDT&E Budget Item Justification							**Date:** February 2008
Appropriation/Budget Activity RDT&E Defense-Wide, BA 04	R-1 Item Nomenclature: Advanced Sensor Applications Program PE 0603714D8Z						
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	24.128	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

The program focuses 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 supports military requirements identified in Joint Vision 2010, the Defense Science and Technology Strategy, Full Spectrum Dominance and the Joint Warfighting Capability Objectives. This program is funded under Budget Activity 4, Demonstration and Validation because it supports advanced technology demonstrations that evaluate technology transition to operational use.

Effective with FY08, this program was terminated.

Program Accomplishments and Plans:

FY 2007 Accomplishments:

- Mission Support $18.681M
- Congressional add of $3.250M for Secure Airborne Freespace Optical Comm.
- Congressional add of $1.200M for Subterranean Defense Communications System. While not an Intelligence effort; this was executed by USD-I on behalf of AT&L. It will not be reported within the CJB.

FY 2008 Plans: N/A

FY 2009 Plans: N/A

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Authority RDT&E Defense-Wide, BA 04	R-1 Item Nomenclature Advanced Sensor Applications Program PE 0603714D8Z

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget	24.131	0	0
Current President's Budget	24.128	0	0
Total Adjustments	- 1.000		
Congressional reductions			
Congressional increases			
Other adjustments	- 0.003		

Change Summary Explanation:

FY 2007: In June 2007, the Department reprogrammed a $1.000 million Congressional add for "Total Force Education Initiative" from OUSD-I to Navy for proper execution. This was not an Intelligence effort. The increase of $0.997 was due to rounding adjustments at the Department level.
FY 2008: N/A
FY 2009: N/A

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

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)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0603851D8Z - Environmental Security Technology Certification Program (ESTCP)**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P514	Environmental Security Technology Certification Program (ESTCP)	32.251	38.860	31.600	32.031	31.750	32.092	32.451

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 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	32.257	33.199	31.652
Current BES/President's Budget (FY 2009)	32.251	38.860	31.600
Total Adjustments	-0.006	5.661	-0.052
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases		6.000	
Reprogrammings	-0.066		
SBIR/STTR Transfer	-0.398		
Other	0.458	-0.339	-0.052

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

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 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 quarterly 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 BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603851D8Z - Environmental Security Technology Certification Program (ESTCP)**	**P514**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P514	Environmental Security Technology Certification Program (ESTCP)	32.251	38.860	31.600	32.031	31.750	32.092	32.451

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. Accomplishments/Planned Program:

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

(U) FY 2007 Accomplishments:

The focus of the program is on UXO detection and discrimination, cleanup; range and installation sustainment; and eliminating/reducing waste streams associated with DoD weapon systems. Funds are primarily required to continue ongoing investments.
- Continued 75 demonstration projects
- Reviewed and selected 32 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 Focus Area:
- Environmental Restoration: ($10.405 million)
- Munitions Management: ($9.234 million)
- Weapons Systems and Platforms: ($8.480 million)
- Sustainable Infrastructure: ($3.674 million)
- AT&L/WHS administrative support cost ($0.458 million)

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603851D8Z - Environmental Security Technology Certification Program (ESTCP)**	**P514**

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
ESTCP:	32.251	38.860	31.600

FY 2008/2009 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 Focus Area for FY2008:
- Environmental Restoration: ($12.956 million)
- Munitions Management: ($9.900 million)
- Weapons Systems and Platforms: ($8.632 million)
- Sustainable Infrastructure: ($7.712 million)
- Provided pro-rata share to AT&L/WHS to cover administrative support cost ($.339 million)

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

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 for this item.

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603851D8Z - Environmental Security Technology Certification Program (ESTCP)**	**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			41325	32251		38860		31600			144036	
Subtotal:			41325	32251		38860		31600			144036	

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:												

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:												

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:												

Project Total Cost:			**41325**	**32251**		**38860**		**31600**			**144036**	

Schedule Detail (R4a Exhibit)		February 2008
BUDGET ACTIVITY **4 - Advanced Component Development and Prototypes (ACDP)**	PE NUMBER AND TITLE **0603851D8Z - Environmental Security Technology Certification Program (ESTCP)**	PROJECT **P514**

Schedule Detail: Not applicable for this item.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0603920D8Z - SO/LIC Humanitarian De-mining**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P920 SO/LIC Humanitarian De-mining P920	14.404	13.923	14.373	14.778	14.762	14.995	15.226

A. Mission Description and Budget Item Justification: The Humanitarian Demining Research and Development (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 HD R&D Program focuses on development of technologies to improve the efficiency and safety of the removal of post conflict landmines and UXO, which are a significant danger to US forces performing peace and stability operations, as well as to civilians. The HD R&D Program adapts commercial-off-the-shelf equipment, integrates mature technologies, and leverages R&D activity within DoD, particularly in the Army Night Vision Electronic Sensors Directorate (NVESD) Tactical Countermine mission area. Equipment capabilities are assessed by host nation demining partners in actual demining conditions. The program aims to improve existing technologies for: individual mine/UXO and minefield detection; wide area survey; mechanical mine/UXO 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 identified/validated at an annual Requirements Review held by the Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (OASD SO/LIC). The Requirements Review involves representatives from the combatant commands and from mine affected nations. Under OASD SO/LIC, the HD R&D Program is a strong participant in the International Test and Evaluation Program (ITEP).

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	14.406	14.013	14.396
Current BES/President's Budget (FY 2009)	14.404	13.923	14.373
Total Adjustments	-0.002	-0.090	-0.023
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other			

Remarks: The FY 2007 program value reflects rounding adjustments at the Department level.

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

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 Night Vision and Electronic Sensors Division (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
08	see comment below					
09	see comment below					

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

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 R&D Program Requirements Review
Complete scheduled R&D project tasks

Transition scheduled projects to user communities

Basis of FY 2008 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 BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603920D8Z - SO/LIC Humanitarian De-mining**	**P920**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P920	SO/LIC Humanitarian De-mining P920	14.404	13.923	14.373	14.778	14.762	14.995	15.226

A. Mission Description and Budget Item Justification: The Humanitarian Demining Research and Development (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 HD R&D Program focuses on development of technologies to improve the efficiency and safety of the removal of post conflict landmines and UXO, which are a significant danger to US forces performing peace and stability operations, as well as to civilians. The HD R&D Program adapts commercial-off-the-shelf equipment, integrates mature technologies, and leverages R&D activity within DoD, particularly in the Army Night Vision Electronic Sensors Directorate (NVESD) Tactical Countermine mission area. Equipment capabilities are assessed by host nation demining partners in actual demining conditions. The program aims to improve existing technologies for: individual mine/UXO and minefield detection; wide area survey; mechanical mine/UXO 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 identified/validated at an annual Requirements Review held by the Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (OASD SO/LIC). The Requirements Review involves representatives from the combatant commands and from mine affected nations. Under OASD SO/LIC, the HD R&D Program is a strong participant in the International Test and Evaluation Program (ITEP).

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
2007 Accomplishments	14.404		

In FY2007, the HD R&D Program actively engaged in the operational field evaluations of 22 humanitarian demining (HD) technologies in 11 countries. Of those technologies, the program completed three evaluations, including the Handheld Standoff Mine Detection System (HSTAMIDS) in Thailand; the Uni-Disk in Laos; and the Mantis in Nicaragua. The HD R&D Program initiated eight new evaluations, including the Maxx+ in Cambodia; the Multi-Tool Excavator and Air-Spade in Chile; the Rotary Mine Comb in Angola; the Orbit Sifter and Excavator Attachments in Afghanistan; the Improved Backhoe in Yemen; and the Tempest in Ecuador. The HD R&D Program continued ten evaluations, including the Rhino Earth Tiller in Azerbaijan; the Survivable Demining Tractor, Beaver, Tempest and Uni-Disk in Thailand; and the Explosive Harvesting System, HSTAMIDS, Tempest and Sifting Attachments in Cambodia; and Maxx in Guinea Bissau. In addition, the program performed field assessments in Tunisia, Vietnam, Ecuador, and Chile to determine whether HD equipment could be effectively utilized. In support of US military operations in Afghanistan, HD R&D Program provided support and repair parts for seven PM-CCS front loader mine sifting systems in use by US forces. In addition, data from the HD R&D Program's intensive evaluation of HSTAMIDS in the humanitarian deminining context provided critical new training and operation techniques to the US Army's Tactical Countermine HSTAMIDS program. In FY2007 prototype development, program engineers completed several prototypes, including the Raptor and Badger mine/vegetation clearing vehicles, which will be tested technically and evaluated in the field in FY2008. In FY2007 the program tested 14 mine detection and clearance systems at Fort AP Hill, Yuma Proving Grounds, and Aberdeen Proving Grounds. Lastly, the HD R&D Program conducted its FY2007 Requirements Review, in which 48 participants from 11 mine action organizations, five non-governmental organizations (NGOs), three international organizations and six US government entities discussed demining equipment needs. Countries represented included Cambodia, Chile, Nicaragua, Guinea-Bissau, Sri Lanka, Thailand, Ecuador, Afghanistan, Iraq, Vietnam, and Angola. Representatives from the Department of State, the Joint Staff and the Combatant Commands (SOUTHCOM and CENTCOM) 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).

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2008 Plans		13.923	

As a result of requests made during the annual Requirements Review, OCONUS field assessments, and in-house developments in FY2007, the HD R&D program is deploying many of its systems to humanitarian demining organizations overseas, including locations in Afghanistan and Iraq. These deployments include the STORM and additional HSTAMIDS to Cambodia, the Uni-Disk, PECO to Thailand, Sifting Buckets to Iraq, and MANTIS to Afghanistan. In addition, the HD R&D Program will continue its deployments of the Tempest, Maxx, Maxx+, Survivable Demining Tractor, Explosive Harvesting System, Multi-Tool Excavator, Air-Spade, Improved Backhoe, Beaver, HSTAMIDS, Sifting Attachments, and the Rotary Mine Comb to countries in Africa, South America and Asia. The HD R&D Program will continue final development, test and evaluation of prototype technologies in the following areas: detection discrimination and confirmation; vegetation clearance; mechanical mine excavation and clearance; individual deminer/soldier tools; and aerial survey area reduction. The HD R&D Program will support the combatant commands and Embassy staffs by conducting site surveys, country assessments and technology development and evaluations.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2009 Plans			14.373

The HD R&D Program will complete ongoing equipment developments/modifications and operational evaluations from FY2008. The HD R&D Program will support the combatant commands and Embassy staffs by conducting site surveys, country assessments and technology development and evaluation. The program will continue development, test and evaluation of prototype technologies in the following areas: detection discrimination and confirmation; vegetation clearance; mechanical mine excavation and clearance; and individual deminer/soldier tools.

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

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 US Army's Night Vision and Electronic Sensors Directorate.

E. Major Performers

Category	Name	Location	Type of Work and Description	Award Date
Contractors				
	Major Performer	Fibertek	Engineering; Operational test and evaluation support	

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603920D8Z - SO/LIC Humanitarian De-mining**	**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 2	104408	6181		5975		6168		25645	148377	
Ancillary Hardware Development												
Systems Engineering												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal:			104408	6181		5975		6168		25645	148377	

Remarks: 1: The Humanitarian Demining R&D Program manages many individual contracts for the development of mine/UXO and minefield detection, mine/UXO 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	2014		1946		2009		8355	19543	
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal:			5219	2014		1946		2009		8355	19543	

OSD RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603920D8Z - SO/LIC Humanitarian De-mining**	**P920**

Remarks: See Notes 1, 2, 3 and 4 in the Product Development Section Remarks.
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 RDECOM 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												
Operational Test & Evaluation	N/A	RDECOM-NVESD Fort Belvoir, VA	5032	1165		1126		1162		4833	13318	
Tooling												
GFE												
Subtotal:			5032	1165		1126		1162		4833	13318	

Remarks: See Notes 1, 2, 3 and 4 in the Product Development Section Remarks.

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	994		961		993		4123	14540	
Government Engineering Support	N/A	RDECOM-NVESD Ft Belvoir, VA	7587	1101		1064		1098		4567	15417	
Program Management Support	Note 1	Note 2	10063	764		738		762		3169	15496	
Program Management Personnel	N/A	RDECOM-NVESD Ft Belvoir, VA	1210	156		152		157		651	2326	
Travel	N/A	N/A	2500	349		338		348		1449	4984	
Labor (Research Personnel)	N/A	RDECOM-NVESD Ft Belvoir, VA	12410	1680		1623		1676		6969	24358	
Overhead												
Subtotal:			41239	5044		4876		5034		20928	77121	

OSD RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603920D8Z - SO/LIC Humanitarian De-mining**	**P920**

Remarks: See Notes 1, 2, 3 and 4 in the Product Development Section Remarks.

Project Total Cost:	**155898**	**14404**		**13923**		**14373**		**59761**	**258359**	

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0603923D8Z - Coalition Warfare**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P923 Coalition Warfare	5.844	9.960	14.030	14.135	14.459	14.715	14.972

A. Mission Description and Budget Item Justification: The Coalition Warfare (CW) initiative is the only Office of the Secretary of Defense (OSD) program dedicated to initiating cooperative research and development (R&D) 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 U.S. programs. This adds value to the Department's security cooperation strategy through collaborative development of warfighter capabilities to enhance operations of U.S. and coalition forces.

Fighting the war on terrorism and coping with the new and emerging threats have put 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. Interoperability gaps between and among coalition partners have compromised operational effectiveness and jeopardized force protection (e.g., fratricidal incidents). CW strives to bridge these gaps, for example, by providing the necessary financial support to internationalize the Coalition Combat Identification Advanced Concept Technology Demonstrations and promote interoperability and integration of Mode 5 Identification, Friend, or Foe systems for U.S., NATO and allied platforms.

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 and allow for sustainable coalition enabled U.S. systems. The OSD CW initiative encourages Combatant Commands, Services, Defense Agencies and OSD to involve friendly countries in development projects to meet coalition requirements that would otherwise not be realized. Partner nations participate 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 security cooperation and regional threat scenarios.

The CW approach to cooperative R&D projects is consistent with OSD-articulated, preferred methodologies: spiral development and evolutionary 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 U.S. 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: meeting the needs and requirements specified by the Joint Staff and the Combatant Commanders, equitable contributions from international partners, potential for transitions and leverage across the regional and functional Combatant Commands, addressing potential risks related to security and controlled technology, responsiveness to USD (AT&L) priorities for international armaments cooperation (e.g., maritime domain awareness, combat identification, joint and coalition experimentation and coalition logistics).

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0603923D8Z - Coalition Warfare**

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	5.845	14.047	14.053
Current BES/President's Budget (FY 2009)	5.844	9.960	14.030
Total Adjustments	-0.001	-4.087	-0.023
Congressional Program Reductions		-4.000	
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-0.164		
Other	0.163	-0.087	-0.023

Change Summary Explanation: In FY 2007, GWOT supplemental funding ($0.163 million) has been displayed although it is actually for PE 0305125D8Z.

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

D. Acquisition Strategy The Combatant Commands, Services, Defense Agencies, and the Office of the Secretary of Defense (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 Coalition Warfare Program (CW) criteria, which are based on DoD priorities (e.g. CONPLAN 7500, the QDR Roadmap for Building Partner Capacity, Combatant Commanders' Integrated Priority Lists (IPLs) and Joint staff's Most Pressing Military Issues): meeting the needs and requirements specified by the Joint Staff and the Combatant Commanders, equitable contributions from international partners, potential for transitions and leverage across the regional and functional Combatant Commands, addressing potential risks related to security and controlled technology, responsiveness to USD (AT&L) priorities for international armaments cooperation (e.g., maritime domain awareness, combat identification, joint and coalition experimentation and coalition logistics).

FY08 new starts support the DoD needs to support the following commands: TRANSCOM, SOUTHCOM, SOCOM, JFCOM, and PACOM. New start projects include interoperable secure radio waveforms, tactile situation awareness, tracking of coalition medical evacuees, miniaturized chemical agent detector, distributed simulation for urban environments, among others.

E. Performance Metrics:

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**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
08	Select projects for COCOM coalition priorities	Priorities for coalition, COCOM shortfalls	Continued partnership with COCOMs and Services.	Improved coordination between DoD organizations.	100%	
07	Select projects for COCOM coalition priorities	Priorities for coalition, BPC goals	Increased engagement to support strategic goals.	Partnerships with COCOMs and key allies stronger	100%	90%
07	Assess performance of tasks as defined.	As defined by project.	Increased reporting requirements.	Increased visibility at the OSD level.	100%	100%
06	Delivery of final reports at end of project.	As defined by project.	Increased reporting requirements.	Final reports due Oct. 07	100%	100%

Comment:

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603923D8Z - Coalition Warfare**	**P923**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P923 Coalition Warfare	5.844	9.960	14.030	14.135	14.459	14.715	14.972

A. Mission Description and Budget Item Justification: The goal of the Coalition Warfare Program (CW) is to assist the Combatant Commands, Services, and Agencies with integrating coalition-enabling solutions into existing and planned U.S. programs. This adds value to the Department's security cooperation strategy through collaborative development of warfighter capabilities to enhance operations of U.S. and coalition forces.

Fighting the war on terrorism and coping with the new and emerging threats have put 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. Interoperability gaps between and among coalition partners have compromised operational effectiveness and jeopardized force protection (e.g., fratricidal incidents). CW strives to bridge these gaps, for example, by providing the necessary financial support to internationalize the Coalition Combat Identification Advanced Concept Technology Demonstrations and promote interoperability and integration of Mode 5 Identification, Friend, or Foe systems for U.S., NATO and allied platforms.

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 and allow for sustainable coalition enabled U.S. systems. The OSD CW initiative encourages Combatant Commands, Services, Defense Agencies and OSD to involve friendly countries in development projects to meet coalition requirements that would otherwise not be realized. Partner nations participate 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 security cooperation and regional threat scenarios.

B. Accomplishments/Planned Program:

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

2006 projects have completed their work and performed demonstrations.

This includes very successful demonstrations of maritime security capabilities in Europe, the Caribbean and Singapore. Other highlights include successful interoperability tests on coalition communication capabilities with both Pacific partner nations and European partners; trials and demonstrations of geo-spatial information systems for disaster relief/humanitarian assistance in the SOUTHCOM AOR; workshops to develop an understanding of network centric warfare systems' impact to the operational leader in coalition environments; and engagement of over 25 nations and NATO to commonly develop CONOPS and interoperability measures for in-transit visibility networks.

FY07 projects are mid-way through their performance cycles, and are working well against their individual project plans.

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

Completion of FY07-08 projects, and start of FY08-09 projects. FY08 new start projects will support TRANSCOM, SOUTHCOM, SOCOM, EUCOM and PACOM needs for U.S. combined with coalition partners. The nomination and selection process for FY09-10 new start projects will take place to prepare for FY09.

New start projects are selected based on the DoD priorities (e.g. CONPLANs, Security Cooperation Guidance, USD(AT&L) International Goals, COCOM Theater Security Cooperation Goals and Joint Staff's Most Pressing Military Issues) that drive coalition capability requirements.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Small Boat Modeling and Validation	0.400		

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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Coalition Airspace Management and Deconfliction	0.275		

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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Geolocation and Identification Enhancement	0.500		

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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Battle Simulation Models	0.316		

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

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Maritime Coalition Interoperability - Coalition Distributed Engineering Plant	0.695		

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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Global Coalition In-Transit Visibility Network	0.415		

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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Maritime Information Exchange	0.230		

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).

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Multinational C4 National Planning System	0.485	0.485	

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 (CTFs).

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
EUCOM J2 Project	0.300	0.300	

(CLASSIFIED)

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Mode 5 Identification Friend or Foe	0.534	0.560	

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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Preplanned Response and Emergency Action (PREACT)	0.235	0.365	

Increase regional stability in the US Southern Commands (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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Everything over Internet Protocol	0.200	0.300	

Develop Coalition Communications Interoperability with the Defense Information Systems Network (DISN) services, for Deployed Warfighters, utilizing Everything over IP(EoIP) over Transponded Satellites technology.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Undersea FORCEnet Coalition Interoperability	0.182	0.272	

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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Passive, Remote and Open Situation Awareness System	0.230	0.450	

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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Miniature Chemical Warfare Detection Agent		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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
US Joint Tactical Radio Systems (JTRS) and UK Bowman Radio C2 Interoperability		0.700	0.700

Port JTRS Bowman Waveform onto a JTRS platform and demonstrate interoperability between JTRS and Bowman radios. This second phase of the US/UK Bowman project consists of four primary objectives: Mission management task will focus on delivering BOWMAN VHF mission information to the JTRS loader through a representative scenario. Porting JBW and PII to JTRS hardware. Investigation of enhanced interoperability opportunities through HF and UHF waveform development. A JBW demonstration to pass situational awareness information in both directions between peer C2 systems.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Coalition Access to TRANSCOM Regulating C2 Evacuation System (TRAC2ES)		0.375	

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APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603923D8Z - Coalition Warfare**	**P923**

Upgrade the existing TRANSCOM Regulating And Command/Control Evacuation System (TRAC2ES) to allow coalition forces access to required functionality while protecting the sensitive information in the TRAC2ES database from unauthorized disclosure.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Tactile Situation Awareness System		0.390	0.380

Deliver a technology that will reduce the workload of pilots; increase the situational awareness, and reduce the incidence of brownout mishaps in the desert environment.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Distributed Simulation for Coalition Warfare Training		0.070	

Integrate a prototype US Army virtual simulation with US and Coalition Air Force simulators to create a common distributed simulation environment that would support training for a wide range of Joint Interagency, Inter-governmental, and Multi-national operations, including Coalition Warfare.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Integrated Surveillance, Targeting and Reconnaissance Sensor & Sea Eagle ACTD Sensor Network Deployment Planning Tool		0.350	0.560

Provide visual and sensor coverage through the use of networked buoys in order to increase maritime situational awareness. 1. Integrate the UK ISTARS sensor system into an existing US developed pop-up buoy platform that is part of the Sea Eagle sensor network system. 2. Develop a Sensor Network Deployment Planning Tool (SNDPT) by combining undersea communications nodes and sensor nodes for modeling undersea signatures with the functionality of existing GIS technologies. 3. Allow interoperability for CoCom's forces operating in the littorals.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Stabilized Weapons System Installation		0.490	0.490

Design and test a specially mounted stand-off weapon to be used on SOF low-profile boats, in order to preserve low-signature and provide increased offensive and defensive fires capacity.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Stake Holder Asset-Based Planning Environment		0.450	0.550

Develop requirements for a joint, interagency, and multi-national response; identify existing and emerging best in class methods and technologies that can support this whole of government and multi-national response; and then deliver those capabilities to the user communities.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Advanced Dynamic Magnetometer for Static and Moving Applications		0.530	0.440

Develop a compact and inexpensive micro-fluxgate magnetometer for use in multiple COCOMs.

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

Virtual Regional Maritime Traffic Center		0.140	0.350

Develop the capability to: detect, track, identify, and display information on surface vessels; identify cooperative traffic; correlate, fuse, monitor, and analyze vessel tracks to enable timely and actionable decisions; collaborate and share MDA information such as vessel ID, manifest, and cargo, with desired users; enable participation in cross-language information sharing among all participants; and eventually, enable Partner Nations to acquire, own, operate, and maintain the capability without US DoD support.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
US-Singapore Unmanned Vehicle		0.700	0.300

Develop and integrate a remotely operated small arms mount with two SPIKE missiles and .50 caliber gun onto the SPARTAN 7-meter RHIB; to expand operations for SPARTAN over-the-horizon by use of a Tactical Unmanned Air Vehicle.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
NATO Friendly Force Information (NFFI) Interface Prototype Standard (NIPS) Project		0.210	0.210

Improve existing defense asset tracking technologies to permit US, allied and/or coalition countries to view personnel and asset position, status, and location information on national or NATO Common Operational/Tactical Pictures. This project will permit greater integration of allied/partner forces into on-going US Blue Force Situational Awareness (BFSA) initiatives. Specifically, the project will focus on: improving the current US Joint Blue Force Situational Awareness (BFSA) extensible markup language (XML) to permit a robust data exchange with future versions of the NATO Friendly Force Information (NFFI) data exchange standard, permitting secure classified transfer of information through the use of robust cross-domain solutions, and migrating this capability into net-enabled command and control (NECC).

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Optimizing Coalition Leader & Team Operational Readiness to Achieve Technical Interoperability in Network Centric Operations		0.140	0.315

Define critical knowledge and skills required to work in a multinational net-centric operational environment and develop a repository of NCE human behavior factors for acquisition and operational consideration.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Multi-National Turnkey C2		0.480	0.490

Provide NATO with a repeatable methodology and tools to accelerate C2 interoperability and reduce the ad hoc nature of the HQs formation process. This will enable a NATO HQ to rapidly determine required capabilities based on its specific JTF mission, ID shortfalls, and to develop sourcing solutions.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Multinational Virtual Learning Environment (MVLE)		0.290	0.210

Establish the South Eastern Europe/Black Sea Region Multinational Virtual Learning Environment Training Site and to establish a real-time, online communications that includes a multilingual machine language translation and natural language interface development in support of the Bulgarian, Romanian, and Ukrainian languages.

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APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603923D8Z - Coalition Warfare**	**P923**

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Coalition Warfare Command & Control Interoperability Enhancement		0.600	0.247
Enhance coalition fire support capability where each Fires Coordination organization of partner nations may coordinate Fires from supporting coalition platforms and other Fires Coordination organizations.			

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Software Defined Radio Coalition Waveform			0.300
Define and standardize a US Software Communications Architecture (SCA) Software Defined Radio waveform for interoperable NATO and coalition operations.			

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Collaborative Portals	0.033	0.018	0.018
Development of web-based collaborative portals to support bilateral and multilateral forces.			

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
CW Support	0.639	0.636	0.698
Support to OUSD(AT&L)/IC for Coalition Warfare			

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Collaborative Initiatives		0.100	0.100
Engagements with coalition partners to support USD(AT&L) priorities.			

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Multinational Outreach		0.117	0.312
Engage with Combatant Commanders and coalition partners on development and execution of coalition warfare projects.			

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
FY 2009 Plans			7.110
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. CONPLANs, Security Cooperation Guidance, COCOM Theater Security Cooperation goals, Joint Staff's Most Pressing Military Issues, USD(AT&L) International Goals) that drive coalition capability requirements.			

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APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0603923D8Z - Coalition Warfare**	**P923**

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
AT&L Program Reductions	0.175	0.192	
Anticipated program reductions			

C. Other Program Funding Summary	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Small Boat Modeling and Validation	0.400						
Coalition Airspace Management and Deconfliction	0.275						
GLIDE	0.500						
US-Korea Battle Simulation Model	0.316						
Maritime Coalition Interoperability-Coalition CDEP	0.695						
Global Coalition In-Transit Visibility Network	0.415						
Maritime Information Exchange	0.230						
Multinational C4 National Planning System	0.485	0.485					
EUCOM J2 INMARSAT	0.300	0.300					
Mode V IFF/ Mark XII	0.534	0.560					
Preplanned Response and Emergency Action (PREACT)	0.235	0.365					
Coalition Communications Interoperability and Data Sharing using EoIP	0.200	0.300					
Undersea FORCEnet Coalition Interoperability	0.182	0.272					
Passive, Remote and Open Situation Awareness System (PROSAS)	0.230	0.450					
Miniature Chemical Warfare Detection Agent		0.250	0.250				
US Joint Tactical Radio System (JTRS) & UK Bowman Radio C2 Interoperability		0.700	0.700				
Coalition Access to TRANSCOM Regulating C2 Evacuation System (TRAC2ES)		0.375					
Tactile Situation Awareness		0.390	0.380	0.330			
Distribution Simulation for Coalition Warfare Training		0.070					
Integrated Surveillance, Targeting and Reconnaissance Sensor		0.350	0.560				

Stabilized Weapons System Installation		0.490	0.490	0.410			
Stake Holder Asset-Based Planning Environment (SHAPE)		0.450	0.550	0.400			
Advanced Dynamic Magnetometer		0.530	0.440	0.430			
Virtual Regional Maritime Traffic Center		0.140	0.350	0.350			
US-Singapore Unmanned Vehicle		0.700	0.300				
NATO Friendly Force Information Interface Prototype Standard		0.210	0.210				
Optimizing Coalition Leader & Team Operational Readiness		0.140	0.315				
Multi-National Turnkey C2		0.480	0.490				
Multinational Virtual Learning Environment		0.290	0.210				
Coalition Warfare Command & Control Interoperability Enhancement		0.600	0.247				
Coalition Software Defined Radio			0.300	0.500			
Collaboration Portal	0.033	0.018	0.018	0.018	0.030	0.050	0.050
CW Program Support	0.639	0.636	0.698	0.732	0.760	0.790	0.810
Collaborative Initiatives		0.100	0.100	0.100	1.200	1.200	1.200
Multinational Outreach		0.117	0.312	0.328	0.500	0.500	0.500
New Start Programs			7.110	5.300	5.500	5.500	5.500
Continuing Project Funding				5.371	6.612	6.818	7.057
AT&L Program Reductions	0.175	0.192					

Comment:

D. Acquisition Strategy The Combatant Commands, Services, Defense Agencies, and the Office of the Secretary of Defense (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 Coalition Warfare Program (CW) criteria, which are based on DoD priorities (e.g. CONPLAN 7500, the QDR Roadmap for Building Partner Capacity, Combatant Commanders' Integrated Priority Lists (IPLs) and Joint staff's Most Pressing Military Issues): meeting the needs and requirements specified by the Joint Staff and the Combatant Commanders, equitable contributions from international partners, potential for transitions and leverage across the regional and functional Combatant Commands, addressing potential risks related to security and controlled technology,

responsiveness to USD (AT&L) priorities for international armaments cooperation (e.g., maritime domain awareness, combat identification, joint and coalition experimentation and coalition logistics).

FY08 new starts support the DoD needs to support the following commands: TRANSCOM, SOUTHCOM, SOCOM, JFCOM, and PACOM. New start projects include interoperable secure radio waveforms, tactile situation awareness, tracking of coalition medical evacuees, miniaturized chemical agent detector, distributed simulation for urban environments, among others.

E. Major Performers

Category	Name	Location	Type of Work and Description	Award Date
Labs/Centers				
	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.)NIPS: Develop an interim U.S. message standard for blue force situational awareness data exchange with NATO.C2 Turnkey: A Multi-National HQs Template for the ISAF mission, selected architectural views, the implementation of the methodology the Template with ISAF.	Sep 05
	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).MVLE: Establish a real-time, online communications including a multilingual machine language translation and natural language interface development in Bulgarian, Romanian, and Ukrainian languages.	Sep 06
	SPAWARSYSCOM	San Diego, CA	GLIDE will improve coalition capabilities to perform target location and identification; develop a compact and inexpensive micro-fluxgate magnetometer; JTRS Coalition waveforms. US-UK JBW and coalition SDR waveform.	Sep 05
	NRL	Carderock, MD	MIE - 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).	Sep 06
	PACOM	Honolulu, HI	SPARTAN: To develop and integrate a remotely operated small arms mount with two SPIKE missiles and .50 caliber gun onto the SPARTAN 7-meter Rigid Hull Inflatable Boat (RHIB); to expand operations for SPARTAN over-	Sep 07

			the-horizon by use of a Tactical Unmanned Air Vehicle.	
	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.	Sep 05
	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 (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.	Sep 05
	PEO STRI	Orlando, FL	Development of models and simulations for all services that is suitable for use in joint and combined exercises between Republic of Korea and U.S. forces.	Sep 05
	Army Corps of Engineers	Washington, DC	PREACT/SHAPE: 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.	Sep 06
	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.	Sep 06
	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.	Sep 06
	DTIC	Ft. Belvoir, VA	Development of web-based collaborative portals to support bilateral and multilateral forces.	Aug 06
	Naval Air Systems Command	Patuxent River, MD	Jointly sponsored flight trials with collaboration by multiple nations to demonstrate the interoperability of production-ready Mode 5 IFF transponders and interrogators.	Sep 06
	JTRS JPEO	San Diego, CA	JTRS Coalition waveforms. US-UK JBW and coalition SDR waveform.	Sep 07

	TRANSCOM	Scott AFB, IL	Upgrade existing TRAC2ES to allow coalition forces access to required functionality while protecting the sensitive information in the TRAC2ES database from unauthorized disclosure.	Sep 07
	NAMRED	Pensacola, FL	TSAS: Deliver a technology that will reduce the workload of pilots; increase the situational awareness, and reduce the incidence of brownout mishaps in the desert environment. To enlarge the surface area of the TSAS garment to extend the capability beyond hovering to include complete forward flight control.	Sep 07
	RDECOM/STTC	Orlando, FL	Distro Sim: Research and development, using their massively multi-player game to support training for asymmetric warfare in dense urban environments	Sep 07
	SOCOM	McDill AFB, FL	ISTAR: Provide visual and sensor coverage through the use of networked buoys in order to increase maritime situational awareness.	Sep 07
	NSWC - CD	Crane, VA	Stabilized Weapon: design and test a specially mounted stand-off weapon to be used on low-profile boats, in order to preserve low-signature and provide increased offensive and defensive fires capacity.	Sep 07
	SOUTHCOM	Miami, FL	SHAPE: Develop a web-enabled tool with embedded business process and associated analysis tools for multinational and interagency planning for stabilization and reconstruction operations. VRMTC: Define and establish a multinational maritime traffic center to allow web-based virtual interagency, multinational access.	Sep 07
	Naval Air Systems Command TSD	Orlando, FL	Development of a Human System Performance Assessment Capability repository for US and coalition use.	Sep 07
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.	Sep 06
FFRDCs				
	IDA	Alexandria, VA	Engagements with Combatant Commanders and coalition partners on development and execution of coalition warfare projects to support USD(AT&L) priorities.	Jun 06
	University of Texas, Applied Research Lab	Austin, TX	ISTAR: Provide visual and sensor coverage through the use of networked buoys in order to increase maritime situational awareness.	Sep 07

Contractors

	DreamHammer, Inc	Santa Monica, CA	Support to OUSD(AT&L)/IC for Coalition Warfare.	Feb 06
	Telephonics Corporation	Lexington Park, MD	Jointly sponsored flight trials with collaboration by multiple nations to demonstrate the interoperability of production-ready Mode 5 IFF transponders and interrogators.	Sep 06
	Booz Allen Hamilton	McLean, VA	Upgrade existing TRAC2ES to allow coalition forces access to required functionality while protecting the sensitive information in the TRAC2ES database from unauthorized disclosure.	Sep 07
	General Dynamics	Falls Church, VA	JTRS Coalition waveforms. US-UK JBW and coalition SDR waveform.	Sep 07
	Mustang Survival	Bellingham, WA	TSAS: Deliver a technology that will reduce the workload of pilots; increase the situational awareness, and reduce the incidence of brownout mishaps in the desert environment. To enlarge the surface area of the TSAS garment to extend the capability beyond hovering to include complete forward flight control.	Sep 07
	Forterra	Orlando, FL	Distro Sim: Research and development, using their massively multi-player game to support training for asymmetric warfare in dense urban environments	Sep 07
	Ingenuity Research Corporation	Colorado Springs, CO	NIPS: Develop an interim U.S. message standard for blue force situational awareness data exchange with NATO.	Sep 07
	Scitor	Washington DC	NIPS: Develop an interim U.S. message standard for blue force situational awareness data exchange with NATO.	Sep 07
	Northrop-Grumman	McLean, VA	NIPS: Develop an interim U.S. message standard for blue force situational awareness data exchange with NATO.	Sep 07
	Raytheon	Ft. Wayne, IN	CWC2IE: Enhance coalition fire support capability.	Sep 07
	IBM Technologies	Armonk, NY	MVLE: Establish a real-time, online communications that includes a multilingual machine language translation and natural language interface development in support of the Bulgarian, Romanian, and Ukrainian languages.	Sep 07

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603923D8Z - Coalition Warfare**	**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
Coalition Warfare Program			5521	5844	1Q	9960	1Q	14030	1Q		35355	
Subtotal:			5521	5844		9960		14030			35355	

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:												

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:												

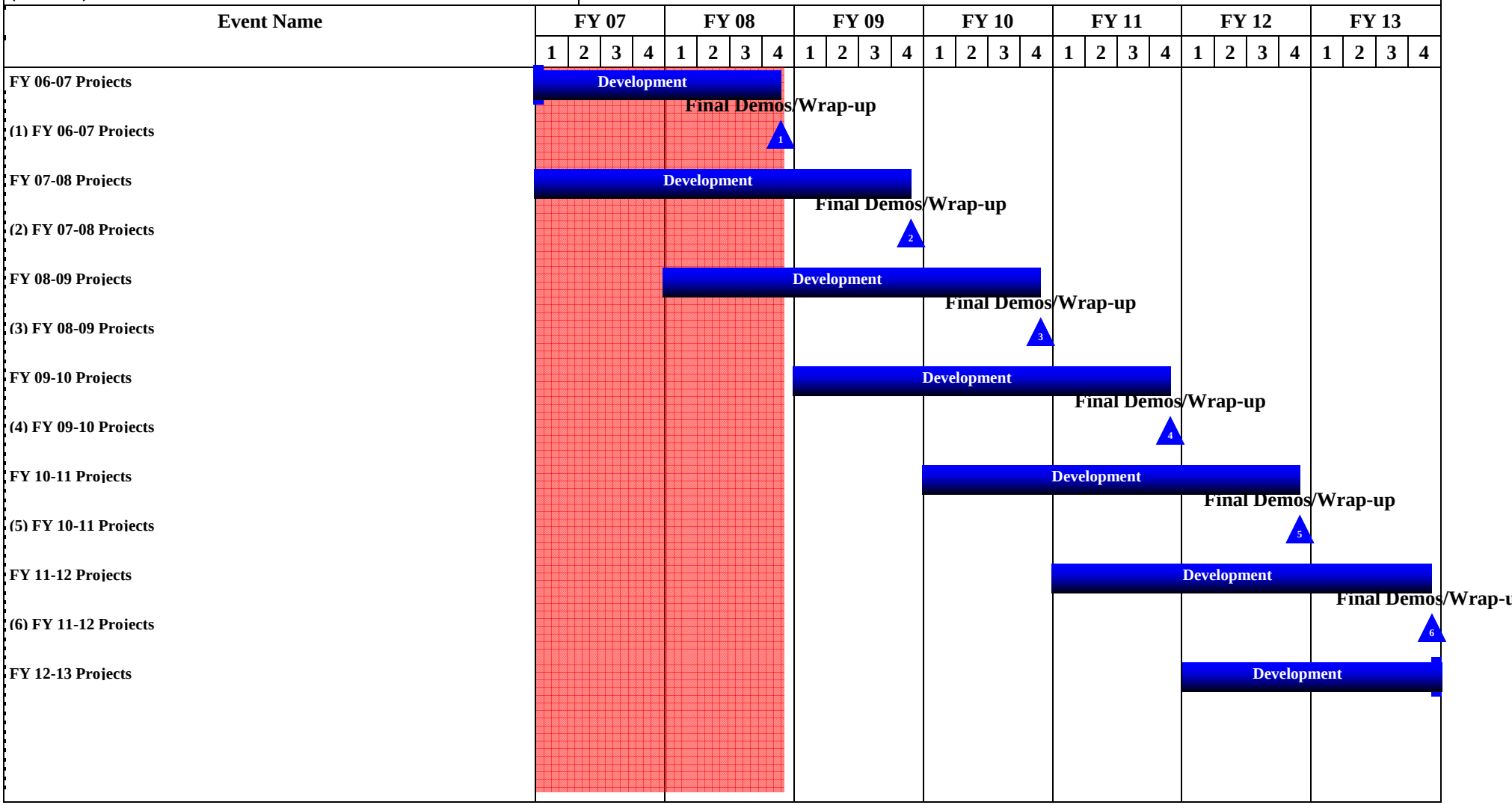
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

Project Total Cost:			**5521**	**5844**		**9960**		**14030**			**35355**	

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603923D8Z - Coalition Warfare**	**P923**



Schedule Detail (R4a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0603923D8Z - Coalition Warfare**	**P923**

Schedule Detail	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FY 06-07 Projects	1Q - 4Q	1Q - 4Q					
FY 06-07 Projects		4Q					
FY 07-08 Projects	1Q - 4Q	1Q - 4Q	1Q - 4Q				
FY 07-08 Projects			4Q				
FY 08-09 Projects		1Q - 4Q	1Q - 4Q	1Q - 4Q			
FY 08-09 Projects				4Q			
FY 09-10 Projects			1Q - 4Q	1Q - 4Q	1Q - 4Q		
FY 09-10 Projects					4Q		
FY 10-11 Projects				1Q - 4Q	1Q - 4Q	1Q - 4Q	
FY 10-11 Projects						4Q	
FY 11-12 Projects					1Q - 4Q	1Q - 4Q	1Q - 4Q
FY 11-12 Projects							4Q
FY 12-13 Projects						1Q - 4Q	1Q - 4Q

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0604016D8Z - Corrosion Prevention and Control (CPC)**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P015	Corrosion Prevention and Mitigation R&D Technologies and Projects	7.124	18.917	5.102	5.050	4.810	4.936	5.063

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 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 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 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	7.125	4.983	5.110
Current BES/President's Budget (FY 2009)	7.124	18.917	5.102
Total Adjustments	-0.001	13.934	-0.008
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other	-0.001	13.934	

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

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 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.

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
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 BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0604016D8Z - Corrosion Prevention and Control (CPC)**	**P015**

	COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
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B. Accomplishments/Planned Program:

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

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

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

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Corrosion Prevention and Mitigation:	0.770	0.550	0.526
Maintenance and Cathodic Protection Technologies and Practices			

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Corrosion Prevention and Mitigation:	0.862	0.390	0.431
Materials Selection Processes			

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Corrosion Prevention and Mitigation:	1.697	1.443	1.480
Corrosion Control Management Activities			

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Corrosion Prevention and Mitigation		13.934	

University initiatives for Corrosion Prevention and Control

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

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.
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 requ

E. Major Performers Not applicable for this item.

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604016D8Z - Corrosion Prevention and Control (CPC)**	**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				2162	1-4Q	1435		1475			5072	
Diagnostics, Prognostics, Monitoring and NDI Technologies				1045	1-4Q	665		580			2290	
n, Modeling and Supporting Technologies				600	1-4Q	500		501			1601	
Maintenance and Cathodic Protection Technologies and Practices				770	1-4Q	550		565			2687	
Materials Selection Processes				850	1-4Q	390		501			1741	
Corrosion Control Management Activities				1697	1-4Q	1443		1480			4620	
University initiatives for Corrosion Prevention and Control						13934					13934	
Subtotal:				7124		18917		5102			31945	

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:												

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:												

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604016D8Z - Corrosion Prevention and Control (CPC)**	**P015**

Remarks: Test and Evaluation included in Product Development Costs

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:												

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

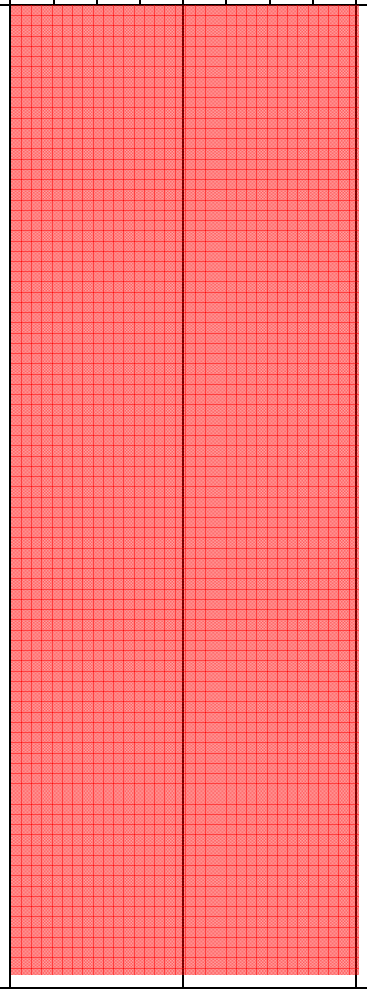
Project Total Cost:		**7124**		**18917**		**5102**			**31945**		

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604016D8Z - Corrosion Prevention and Control (CPC)**	**P015**

Event Name	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



Schedule Detail (R4a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604016D8Z - Corrosion Prevention and Control (CPC)**	**P015**

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

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P649	Joint Capability Technology Demonstration (JCTD)	3.029	2.934	14.962	18.911	18.886	19.917	19.959

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 JCTDs that have proven military utility and are deemed critical by the 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 JCTD Transition BA4 funds as part of the new JCTD model supports fast paced technology transfer and enables an agile program to more smoothly tie into the deliberate, traditional programming and budgeting process. This funding can propel a successful JCTD into acquisition just prior to the Milestone B phase and can result in a Capability Demonstration Document (CDD) linking to the JCIDS process. It will better support the rapid transition of joint, CoCom/coalition operational capabilities. While not all JCTDs require transition funding, these resources provide a "transition bridge" to enable sustainment for innovative, "joint-unique" 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 JCTD model include 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 Transition resources help provide transition path and will pioneer a new model for Department of Defense acquisition that enhances the ability to rapidly bridge successful agile development efforts into fielded capabilities. Specifically, the JCTD Transition BA4 will provide a path for the rapid fielding of 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. The JCTD model will facilitate the transition of successful technologies past the initial development/demonstration phase and into early acquisition.

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

- DUSD (AS&C) will maintain oversight of the JCTD program.
- 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.
- The ACTDs selected to use the BA4 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.
- FY08 AC/JCTD candidates are under consideration for the JCTD transition funds are Joint Forces Projection (JFP) single integrated force projection picture, the Active Denial System (ADS) non-lethal weapon, and the Joint Modular Intermodal Distribution System (JMIDS) for efficient and seamless movement of supplies.
- 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). In addition to HyCAS, other FY09 candidates not yet selected are Champion, COSMOS and Large Data. A transfer of $10 million from the JCTD BA3 developmental PE into the JCTD Transition BA4 PE will enable a wider selection of potential successful candidates for transition funds while waiting for funding in a program of record.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	3.029	2.960	4.970
Current BES/President's Budget (FY 2009)	3.029	2.934	14.962
Total Adjustments		-0.026	9.992
Congressional Program Reductions			
Congressional Rescissions		-0.026	
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other			9.992

In FY 2007 there were no congressional increases or decreases to the JCTD Transition program element. The SBIR/STTR transfer totaled $147 thousand. Congressional rescissions and other taxes such as Section 8023 for FFRDC totaled $22.

For FY 2008 there were no Congressional adjustments in this PE, there were congressional recissions (Sections 8025, 8097 and 8104) of $26 thousand.

In FY09 there is a $10 million transfer from JCTD BA3 Program Element (PE) 0603648D8Z in to the JCTD BA4 Transition PE. Also there was a small reduction for economic assumptions for inflation and fuel.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**

C. Other Program Funding Summary	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
ACTD PE 0603750D8Z (RDT&E/DW BA-3/Line #44)	158.313	1.589					
JCTD PE 0603648D8Z (RDT&E/DW BA-3/Line #36)	35.594	202.484	206.337	201.975	195.537	198.276	201.211

Comment: In FY08 all ACTD funding transfers to the JCTD program. This will complete the transition 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) represents 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 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 utility require transition funds to "bridge" them to a program of record. Any promising remaining ACTD 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 Not applicable for this item.

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
08	Project Selection Focus					
	Spiral Technologies					
	Time to Final Demonstration					
	Adequately Shared Funding and Visibility					
	Independent Assessment Capability					
	Successful Military Utility Assessment (MUA)					

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**

Comment: The majority of funding from this Program Element is forwarded to the Services/Defense Agencies that execute the individual JCTD projects. DUSD(AS&C) maintains and provides overall programmatic oversight for the JCTD program, to include the individual JCTD projects. The JCTD performance metrics center on how fast relevant joint and/or transformational technologies can be demonstrated and provided to the joint warfighter. The JCTD BA4 funding, unlike the JCTD BA3 developmental funding, is specifically targeted at increasing the rate of transition for critical CoCom/Coalition capabilities. The JCTD model has developed a set of metrics, two of which are centered around spiraling products and transitioning capability. The JCTD Transition funds are specifically targeted to towards these two in particular. 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 the metrics of the new JCTD business process model.

1) Project Selection Focus: Capability Based: Greater CoCom influence looking at nearer term joint/coalition needs.

2) Sprial Technologies: 25% of JCTDs will provide an operationally relevant product demonstration within 24 months of ID signature.

3) Final Demonstation Completed: 75% of JCTD projects complete final demonstration within three years of ID signature.

4) Shared Funding and Viability of resources: OSD provides significantly more funding than the former ACTD program, greater than 30% in some cases a majority of projected funding, especially in the first two years.

5) Complete independent assessment.

6) Number of capabilities transitioned to the warfighter.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

	COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P649	Joint Capability Technology Demonstration (JCTD)	3.029	2.934	14.962	18.911	18.886	19.917	19.959

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). FY 2006 was the first year of a three to five year transition period from the current ACTD to the improved JCTD program. However, in FY08 all ACTD funding is being transferred to the JCTD program to complete this transition more quickly than originally anticipated. Beginning in FY07 all new starts will be JCTDs. This will implement a process that will more rapidly provide demonstrated solutions to joint warfighter needs, and unique transformational capabilities through the application of new operational concepts or technology from the Science and Technology (S&T) domain. The resources are aimed at carrying successful projects through the difficult transition stage ("S&T valley of death"). The remaining ongoing ACTDs that were started in previous years but not yet complete will be funded to completion in the JCTD program element and will complete in two to three years. It is anticipated that all ongoing ACTDs will be complete by FY09. In FY 2007, 11 JCTD new start projects were initiated. In FY 2008, eight projects have been selected as new starts and five projects as potential "rolling starts". To better support the rapid transition of joint, CoCom/coalition operational capabilities, the JCTD business model includes a JCTD Transition program element. While not all ACTDs and JCTDs require transition funding, these resources provide a "transition bridge" to enable sustainment for innovative, "joint-unique" and 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)

In FY 2006, DUSD(AS&C) shifted an initial allocation of resources ($40 million) from the ACTD PE 0603750D8Z to populate three JCTD program element (PE)s. In FY08 all remaining ACTD resources will shift into the JCTD BA 3 PE 0603648D8Z. This will initially establish a funding stream to support approximately five to ten new JCTDs each year. The BA-3 JCTD PE will replace the current ACTD BA-3 PE in FY08; The JCTD and remaining ACTD projects used the combined resources of both the JCTD and ACTD PEs in FY07. In FY08 and out any remaining ACTDs will be supported with funding from the JCTD PE until completion in the next two or three years. JCTDs are initiated in Budget Activity three (BA-3) and are pre-acquisition demonstrations, characterized by Technology Readiness Levels 4, 5 or 6. Although not fully developed for production, the new JCTD model can provide a path for transition of Science and Technology to acquisition and are low-to-moderate risk vehicles for pursuing those objectives. 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 the transition issues of supportability, maintainability and training identified by the JCTD/ACTD. As described, the JCTD Program has established a new model that enhances successful demonstrations with the addition of a transition arm through funding in the JCTD Transition BA4 program element (PE). The JCTD transition PE provides a path for rapid fielding of successful, transformational capabilities that may require additional transition resources to "bridge" to a program of record. To ensure successful capabilities transition to the CoCom this budget requests a shift of $10 million in FY09 from the JCTD BA3 PE into the JCTD Transition BA4 PE. This shift will better balance the JCTD model and enhance the ability to fully transition the most compelling capabilities to the CoComs.

FY 2008/2009 General Program Plan: DUSD (AS&C) will maintain oversight of the JCTD program. The FY 2008 review and validation process began in March 2007, with JROC validation in June of 2007. Congressional notification of the eight candidate new starts and five candidate "rolling starts" occurred on November 28, 2007. Rolling start projects represent important warfighter concerns and potential capabilities that are not fully developed for initiation. However, to remain agile, because of the compelling capability a plan to start is derived if the development for starting is completed. Four of the five rolling starts were initiated in FY 2007. These projects address issues with emerging technologies that could be significant "game changers". While these projects have been successfully vetted through the JCTD selection process, some additional proposal development must be addressed with the stakeholders (i.e., Services, Agencies, Coalition and Inter-agency partners), prior to project initiation. This year, five candidate rolling starts emerged that were particularly compelling; however, due to technology or resource related issues, they are still in a developmental stage. For FY 2009, the new start selection process will be repeated beginning in March 2008. It is anticipated that new start initiatives will range from 5 to 7 JCTDs. In FY09 all JCTD funding is anticipated to be approximately $50 million will be available for JCTD new start/rolling start initiatives. Due to the accelerated pace of JCTD development over ACTDs (JCTDs demonstrate in 2 to 3 years), the turnover rate is faster, thus funding for new starts each year has increased to approximately $50 million per year.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Joint Distance Support and Response (JDSR)	1.100		

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. The User Sponsor is U. S. Joint Forces Command (JFCOM), the lead service is the Navy.

- Transition accomplishments to date: JDSR capabilities and products have transitioned to Navys 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).

- FY 2007 Transition Outcome - was 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.

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

Language and Speech Exploitation Resources (LASER)	1.000		

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 2007 Outcome - LASER ACTD yielded the SEQUOYAH Transition Management Office and a Interim Capability Document toward establishment of a SEQUOYAH Program office within the Army. BA4 funding for LASER transition supported the development of a Capability Development Document, which when approved will support the full establishment of the SEQUOYAH POR. This BA4 funding also established a test bed for analysis of machine foreign language translation systems. This test bed has completed analysis of both text and speech translation systems.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Personnel Recovery Mission Software (PRMS)	0.400		

Personnel Recovery Mission Software (PRMS) began as an Advanced Concept Technology Development (ACTD) to develop and assess the military utility of a new personnel recovery application for use with USPACOM and USCENTCOM. The PMRS ACTD provided the Warfighter an early evaluation of this advanced technology that was sufficiently mature to permit field-testing and to secure a leave-behind operational capability. The PRMS ACTD resulted in the current PRMS software, which is currently mandated by the Joint Staff and Combatant Commands as the accepted mean of collecting, tracking, and accessing Isolated Personnel Reports (ISOPREPs) and Evasive Plans of Action (EPAs). The current PRMS effort is now a sustained Program of Record and includes the design, development, testing, evaluation, modification, installation, training, support, and deployment of PRMS to the Warfighter at various CONUS and OCONUS locations. Transition funding was provided to complete the final spiral development of Personnel Recovery Mission Software (PRMS). The funding completed the web-enabling and hierarchy development to meet a March fielding to CENTCOM. The formal transition to ESC was on 1 October 2007.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Advanced Tactical Laser (ATL)	0.400		

ATL is an ACTD that was initiated in 2001, it completed in 2007. The system currently is in transition and required transition funding to allow the system to attain the specifications for a program of record. The current ATL system is configured to support ~40 seconds of laser firing before the aircraft has to return to base and to refuel the laser. This is sufficient to complete the Special Operation Forces design reference mission demonstrations against a moving target (ground vehicle) and communications node. Funding constraints will limit the number of flights the Air Force will be able to accomplish during the FY08 extended user evaluation. With the increase in the number of seconds of laser firing, the Air Force will be able to execute more shots and evaluate a broader array of employment scenarios within the same EUE budget. This will afford them the opportunity to demonstrate the ATL's unique attributes to provide ultra precise, clandestine target attack in scenarios of interest to SOUTHCOM, including attack of go-fast boats, buildings, and unmanned aerial vehicles (UAVs). (The interest in buildings includes forcing evacuation or destroying them by setting fires.) The major activities include: (3QFY07) Conduct engineering analyses to assess the impact potential changes will have on the overall system performance and to insure flightworthiness requirements are satisfied. Conduct trade analyses to determine the optimum set of changes to maximize the increase in shot capability within the budget constraints. (4QFY07) Procure hardware needed to accommodate the additional shot capacity. Execute system mods on a non interference basis with the ACTD demonstrations. (1QFY08) Conduct ground and test flights to validate the system mods provide the expected increase in shot capability without adverse impacts on overall system performance and sustainability.

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

COSMOS Shared Operational Picture Exchange Service (SOPES)	0.129		

To provide transition funding for COSMOS Shared Operational Picture Exchange Service (SOPES) to increase the capapbilities for better program of record transition. Develop a submission package in response to the Object Management Group (OMG) Shared Operational Picture Exchange Service (SOPES) Information Exchange Data Model (IEDM) request for proposals (RFP) based on reuse of the Multilateral Interoperability Programme (MIP) Joint Consultation, Command & Control Information Exchange Data Model (JC3IEDM). Conduct close technical and process coordination with the ongoing MIP and OMG Consultation, Command, Control, Communications, and Intelligence (C4I) Domain Task Force (DTF) communities.

Ensure that C2-core information exchange requirements represented support a wide variety of communities of interest (COI), e.g. operations involving first responders (police, fire, emergency medical personnel), non-governmental organizations, and military command and control.

Model driven architecture techniques and tools will be used in as much as is practical to create the required SOPES Universal Modeling Language (UML) and Object Constraint Language (OCL) representations

Broaden the international and industry engineering/standards impact of the JC3IEDM, a foundational building block of the COSMOS ACTD. Support the migration to Service Oriented Architecture (SOA) processes and information exchange standards embraced by DoD.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Mapping the Human Terrain (MAP-HT)		0.900	

The MAP-HT JCTD demonstrate technologies, concepts, and architecture paths to integrate a multimodal human computer interface (entity navigators, timeline, link charts) Allows link chart web clients to view entities in correlated data base. Adds Human Terrain reporting formats and C/JMTK compliant geospatial visualization tool. Integrates to an entity extraction tool, possibly as a spin-off from the CHAMPION JCTD. Adds export utilities to support interoperability between HDWS and HTS. Products from MAP-HT have been requested for operational use in OIF. The user sponsor is U.S. Central Command. The MAP-HT JCTD is targeting the DCGS-A Human Domain Workstation as the Program of Record. There are currently 50+ HDWS currently fielded in support of OIF. This accelerated fielding to a Program of Record is based on the pre-JCTD foundation, built using CTTF, JIEDDO, and AS&C funds and currently deployed with six Human terrain teams under the Human Terrain System (HTS) project.

FY 2008 Planned Output - The MAP-HT JCTD will integrate capabilities into the Human Domain Workstation (HDWS) and field capability in support of OIF within the year. Funds would initiate the collapsing of the two systems: HTS and HDWS. Human Terrain Teams (HTT) will be able to generate structured reports using the HDWS Reporting Tool. Additionally, integration of a multi-modal analytical interface from the HTS into the HDWS will be accomplished. The combination of structured reporting from HTTs and a significantly improved analytical interface will improve the analytical capabilities of both the Human Terrain System and intelligence analysts. Human Domain Users within the theater will benefit from this early transition and implementation within OIF.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Active Denial System (ADS)		0.150	

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 2008 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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Joint Force Projection (JFP)		0.650	1.000

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 2007 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.

- FY 2008/2009 Planned Transition Output - 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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Joint Modular Intermodal Distribution System (JMIDS)		1.000	0.690

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. 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 2008/2009 Planned Transition 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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Hyperspectral Collection and Analysis System (HyCAS)			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.

FY 2009 Planned Transition 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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Counterintelligence, Human-intelligence Advanced Modernization Program - Intelligence Operations NOW (CHAMPION)		0.234	0.300

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 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 2007 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. Complete the Unified Army Metadata Model Database (UAMMDB) and the Discretionary Access Layer (DAL) which is required by the target POR _ DCGS-A HDWS.

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

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
CORSOM			1.000

The Joint Requirements Oversight Council (JROC) validated the capability need for CORSOM as an FY04 new start. The outcome of CORSOM is to demonstrate a set of technologies, provide modeling and simulation support, and establish procedures to provide Joint Force Commanders with an enhanced Reception, Staging and Onward-Movement (RSOM) Planning and Execution Monitoring capability for coalition deployment operations. The primary outputs and efficiencies to be realized by CORSOM ACTD deliverables are: 1) 10% percent decrease in delays of convoy movements caused by congestion, and as a result decreases in number of units that do not meet Required Delivery Dates 2)5% percent decrease in numbers of movement control personnel needed to manage RSOI efficiently; 3) 5% decrease in average time to offload strategic movement assets, move assets through marshalling areas, and on to staging areas; 4) comparison of total cost of RSOI when using CORSOM deliverables compared to current costs; 5) identification of reductions in logistics response times, i.e., reduced sustainability requirements, and reductions in losses in supply chain.

- FY 2007 Output - Completed transition to NATO Logistics Functional Area Services to include provision of required system documentation such as Data Dictionaries, Architecture Descriptions, User Documentation and Training Packages. CORSOM was used successfully in Exercises STEADFAST MOVE 07 and STEADFAST JACKPOT 07 to plan the RSOM portion of a NATO Response Force Deployment. CORSOM ACTD scheduled completion date is December 2007.

FY 2009 Planned Transition: CORSOM products will transition into NATO's Logistics Functional Area Services (LOGFAS) with NATO Communications and Systems Operating and Support Agency providing operations and maintenance. Additional transition into Global Combat Control Systems (GCCS) through Defense Information Systems Agency (DISA) support is also planned. This is a four-year project under the sponsorship of six NATO nations, NATO Strategic Commands and Supreme Headquarters Allied Powers, Europe, are User Sponsors and the lead agency is the NATO C3 Agency.

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

Multi-Sensor Aerospace-ground Joint ISR IC (MAJIIC)			1.000

The JROC approved the capability need for MAJIIC as an FY04 new start. The outcome of MAJIIC is to develop, test and transition a set of standards, eXtensible Markup Language (XML) formats, and information services to promote intelligence, surveillance and reconnaissance (ISR) interoperability between U.S. and Coalition ground stations and systems. MAJIIC will demonstrate near-real-time interoperability of data from electro-optical, infrared, motion video, moving target indicators, synthetic aperture radar, and other sensors; enhance collaborative targeting operations; improve ISR data accessibility and sense making to support U.S. Joint ISR operations. Outputs and efficiencies include: 1) Near real-time MAJIIC ISR mission and sensor data is available for discovery and smart pull within the Collateral Space in near real time (i.e. Post in Parallel); 2) MAJIIC services and data are readily discoverable via portals, C2 Visualization and other applications, and other Global Information Grid (GIG) service providers; 3) MAJIIC data pedigree is trustable by users; 4) MAJIIC service access is assured for authorized users and denied for unauthorized users; 5) MAJIIC data access is provided based on user clearance, country affiliation, and role and protected from those not meeting the minimum policy requirements. Transition is planned for FY 2008/2009 by the U.S. Army Training and Doctrine Command (TRADOC) System Manager to the Service Distributed Command Ground Station (DCGS) programs, to satisfy their requirements for coalition ISR interoperability and Network Centric Enterprise Services compatibility. Transition already Accomplished: The MAJIIC Full-Motion Video ISR Information Services (ISRIS) capability deployed as part of JIOC-I to OIF, and is transitioning to the Army Distributed Common Ground System (DCGS-A). NATO is deploying the MAJIIC coalition shared database (CSD) as part of the NATO Intelligence Management and Reporting Tool (IMART) to OEF. Remaining transition: NATO, Supreme Headquarters Allied Power_Europe (SHAPE), and the U.S. will adopt demonstrated capabilities and concepts of operation into existing national and coalition systems. MAJIIC technology and lessons learned will transition to the Service DCGS programs to satisfy their requirements for Coalition ISR interoperability and Network Centric Enterprise Services compatibility. U.S. Joint Forces Command is the operational sponsor and the Air Force is lead service.
- FY 2008 Planned Output - Participate in the annual MAJIIC coalition exercise with possible NATO Allied Command transformation with NATO Air Group IV ISR capability. Validate CONOPs and conduct MUA. Complete the ACTD.
- FY 2009 Transition Output - Transition capability into the DCGS Integration Backbone spiral baseline.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Joint Enable Theater Access (JETA-SPOD)			3.000

The Joint Requirements Oversight Council (JROC) validated the need for JETA-SPOD capabilities as a FY06 new start. The outcome of JETA-SPOD is to develop and demonstrate: a Lightweight Modular Causeway System (LMCS) transportable by and employable from intra-theater sealift vessels such as the JHSV or other current Army/Navy watercraft; and an austere port Decision Support Tool for selection of optimal sites from multiple austere SPOD options. The capabilities proposed for development in this ACTD will optimize the use of the Joint High Speed Vessel (JHSV), current Army/Naval watercraft, and Lines of Communication (LOC) bridging requirements by providing increased and more rapid flow of combat power and sustainment through multiple theater austere seaport locations. This provides to Joint/Combined Force (J/CFC) commanders a means to mitigate threat anti-access activities and increases flexibility to conduct operational maneuver from strategic distances. JETA-SPOD ACTD is a three-year project under sponsorship of U.S. Pacific Command, with completion of development and demonstration by end of FY2008; and transition to U.S. logistics systems as early as FY2009. The lead service is Army. The primary outputs and efficiencies to be demonstrated in the ACTD Military Utility Assessment (MUA) are: 1) the LMCS will reduce weight, volume, and deployment time compared to existing military causeway and bridging systems; 2) the operational parameters for evaluating the military utility of the LMCS are based on a quantitative and qualitative comparison to the capability provided by the existing Modular Causeway System (MCS); 3) LMCS will result in a reduction in weight and volume by 50% over the MCS; a reduction in deployment time by 50% over the MCS; and elimination of in-water connections; 4) the Decision Support Tool capability equates to an increase in availability of throughput prediction information for 50-80% of worldwide small ports; and 5) the combination of LMCS and the Decision Support Tool includes a five-fold increase in the number of JHSV-compatible ports and doubling of the port throughput rate. LMCS Output includes incorporation of state-of-the-art connector and tensioning technology; innovative emplacement and recovery system applicable to multiple military/civilian platforms; innovative self-locking and strap tensioning technologies; high strength fabrics for robust, lightweight floatation technology that quickly inflates/deflates for rapid LMCS emplacement and recovery; puncture/abrasion resistant floatation components; lightweight decking materials; and common 8x20 rapid transport footprint design. The efficiency is that the transport (land/sea) cost of moving causeway capabilities into austere SPODs will be significantly reduced; and causeway capabilities will arrive in theater more rapidly with a smaller logistics footprint. Austere Port Decision Support Tool Output includes query-able austere world port data; a port characterization model; rapid port enhancement tool; austere port throughput simulation; a comprehensive set of environmental and physical factors affecting ingress/egress throughput rates; and parametric algorithms for throughput rates in small ports and rates for planning and execution of vessel offload operations; developed with an open source tool; user friendly Graphical User Interfaces (GUI); and runs on a laptop computer. The efficiency is that the

warfighter will possess flexibility and a broader range of options to establish austere seaports as strategic or operational maneuver entry points with a greater assurance of success. The transition strategy for LMCS and the Decision Support Tool is to establish Programs of Record under the guidance of two Transition Managers: Product Director, Army Watercraft Systems (PD AWS) and USTRANSCOM, respectively.

- FY 2007 Output - Refer to the ACTD R2a.

- FY 2008 Accomplishments _ Develop final LMCS and Decision Support Tool CONOPS; finalize extended user evaluation and Interim Transition Planning; conduct LMCS full-scale functional system demonstrations conduct CONUS LMCS testing; complete system integration and incorporate lessons learned; complete LMCS fabrication; conduct Decision Support Tool Limited User Evaluations (LUE); deliver final version of Decision Support Tool; complete Training Plan; conduct user training in preparation for MUA; complete MUA/Final Demonstration in Sep 2008; develop final MUA and ACTD report; and plan transition of LMCS and Decision Support Tool to Programs of Record in FY 2011.

- FY 2009 Planned Output _ Deliver pre-transition and interim capability/residuals to the user (includes LMCS system and Decision Support Tool with Final Data Set); plan the use of LMCS and Decision Support Tool in exercises for continued refinement and continued socialization for transition; JETA-SPOD ACTD scheduled completion date is September 2009.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
OVERWATCH			1.032

The Joint Requirements Oversight Council (JROC) validated the capability need for Overwatch as an FY-03 start. The need to rapidly detect and locate hostile weapons fire was addressed by the Overwatch ACTD. The outcome is to demonstrate a sensor/targeting system that can detect, classify, and locate weapons fire in real time while stationary or on the move. This capability provides ground forces the ability to immediately direct precision fire support during land and urban warfare, peacekeeping, and peace enforcement missions. The primary ACTD outputs are to deploy two residual on-the-move capable sensor/targeting systems that will enhance both force protection and force application for the warfighter. Efficiencies and outputs include: percent of firing signatures detected; percent of firing signatures located; overall percent of successful detections resulting in accurate messages; false target rate; and percent of messages garbled or not received. The user sponsor is U.S. Pacific Command. The lead service is US Army and the Transition Manager is the Program Manager for Night Vision/Reconnaissance, Surveillance, and Target Acquisition (PM NV/RSTA). A major demonstration of stationary and on-the-move capability to locate hostile fire with a HMMWV was completed in June 2006. While the stationary capability was effective, there was degraded performance on-the-move. The ACTD completes in FY 2007. Using FY 2006 funds, the ACTD will: Demonstrate improved on-the-move performance; Prepare to deploy residuals in theater to support military police operations; Complete Military Utility Assessment and interim support phase.

- FY 2009 Transition Planned Output: Conduct the operational demonstration of Overwatch on-the-move capability that was not preformed during the ACTD period due to late resolution of technical difficulties. This demonstration will mature the capability and enable transition. Transition Sustainment: Stryker Platform, response to CDD requirement for multi-modal identification and tracking of multiple hostile fires. Transition decision dependent upon demonstration of multi-modal capability (integration of PDCue Four Corners acoustic system with Overwatch) and assessment of current Overwatch during in-theater OIF deployment of Full Spectrum Effects Platform Stryker

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Chemical Unmanned Ground Reconnaissance (CUGR)			0.500

The Joint Requirements Oversight Council (JROC) validated the capability need for CUGR as an FY05 new start. The outcome of CUGR is to provide manned nuclear, biological and chemical (NBC) reconnaissance units with two new technology applications to be demonstrated in the Joint Service Light NBC Reconnaissance System's (JSLNBCRS) High Mobility Multipurpose Wheeled Vehicle (HMMWV) variant providing an unmanned capability. The first of these new systems (Thrust One) will replace the Double Wheel Sampling System (DWSS), currently in use, with a mobile Mass Spectrometer, using RAMAN technology. Since the DWSS can only be used when the vehicle is moving at a fast walk, replacing it with the RAMAN detector, which is producing reliable results at maximum vehicle speed, greatly increases mobility and flexibility for these units. The second technology (Thrust Two) is the incorporation of a small, remote controlled, sensor-equipped robot to be the recon crew's "point man" in high risk contamination reconnaissance. The efficiency of CUGR will be to utilize a machine rather than put a soldier at risk. CUGR addresses the capability gaps identified in the CBRN Baseline Capability Assessment, the JRO-CBRN Defense Mobilization Plan, and the supporting JCIDS Functional Area Analysis. Thrust One will transition as part of the Reconnaissance and Platform integration sensor block upgrade program and replace DWSS on Stryker, HMMWV and LAV vehicles. Thrust Two will become part of the Joint CBRN Dismountable Reconnaissance System (JCDRS). DTRA provides overarching program management. The Technical Manager is the U.S. Army Research, Development and Engineering Command's Edgewood Chemical and Biological Center. The Joint Program Executive Office for CBD assigned the Joint Product Manager for NBC Reconnaissance as the Transition Manager. The U.S. Pacific Command is the ACTD sponsor with Operational Manager responsibility with the U.S. Army Pacific who is providing the 95th Chemical Company as the ACTD demonstration unit. ACTD will complete in FY 07. Outputs will be: to increase maneuver speed to 45 kph vice 11-22 kph: allow detection/identification of various classes of substances simultaneously vice one at a time; reduce mission consumables; enable reconnaissance into areas that otherwise would be inaccessible by manned vehicles; can be deployed into hazardous environments; offer a point detection capability; and provide the ability to collect liquid, solid and aerosol samples.

- FY 2007 Output - Refer to the ACTD R2a.
- FY 2008 Planned Output - Provide two JCSD equipped CBRN Reconnaissance platforms and 2 CUGR's for residual phase support to the 95th Chemical Company (CMLCO) and initiate Extended User Evaluation. Complete mounted CUGV system design and integration on the third JSLNBCRS. Conduct mounted CUGV early user assessment. Complete CUGV test methodology development as well as the technical manual and user training plan. Conduct mounted CUGV technical and operational demonstrations. Receive integrated system and complete the ACTD. Develop documentation and planning for Thrust One installation and transition to Stryker vehicle (new request from U.S. Army).

FY 2009 Transition Planned Output: Move to Stryker requested by Army; Testing on maturity to accept new CBRN sensor suite; additional environmental and reliability testing on Stryker to bridge to transition.

Transition Sustainment: for CUGV: Joint NBC Reconnaissance System Increment 2 Program. For JCSD: Stryker NBCRV.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Comprehensive Maritime Awareness (CMA)			4.440

The Joint Requirements Oversight Council validated the capability need for CMA as an FY06 new start. The outcome of CMA is demonstration and transition of technologies and operations concepts showing the value of information sharing and effective information management for improving global Maritime Domain Awareness. CMA will demonstrate the value of both interagency and international (Republic of Singapore) information sharing. CMA will demonstrate data management techniques such as automated anomaly detection and threat evaluation, and application of the Department of Defense Net-Centric Data Strategy. CMA is a 4-year project sponsored by U.S. Pacific Command, U.S. Northern Command, and U.S. European Command. Initial capabilities will be demonstrated and operated in CY-06, with advanced capability spirals in FY07 and FY08, and transition support in FY09. The lead Service is U.S. Navy. The primary outputs and efficiencies to be demonstrated in CMA Military Utility Assessments are (1) percent increase in the number of maritime tracks and identified tracks in U.S. military, interagency, and coalition maritime operational pictures; (2) percent increase in numbers of maritime contacts with amplifying information (such as crew list, cargo manifest, port-of-call history, etc.); (3) percent increase in numbers of vessels of interest monitored by maritime intelligence analysts; (4) number of automated anomaly detections and threat alerts provided to maritime intelligence analysts; (5) increase in number of agencies (U.S. and international) engaged in information sharing across a common service oriented architecture.

- FY 2007 Output - Continue operating FY 2006 spiral capability. Integrate capabilities of the U.S. Coast Guard Vessel Tracking Program, and automated anomaly and threat assessment, at key regional sites determined by architecture decisions. Conduct interim military utility assessment.

- FY 2008 Planned Output - Complete planning for network services and architecture implementation.
- FY 2009 Planned Transition Output - Transition Funds needed to maintain existing operational sites until Navy and Coast Guard Programs of Record funding in FY10. The transition funds will sustain existing capabilities, and allow establishment, maturity and spread of capability in FY10 and beyond. FY09 transition funds will also be used to maintain efforts to document authorities to operate on classified nets. Selection as core to Secretary of the Navy Maritime Domain Awareness Initiative Service Oriented Architecture enables widespread use for focusing Navy/Coast Guard maritime security efforts.

C. Other Program Funding Summary	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Advanced Concept Technology Development (ACTD) RDT&E BA 3 line # 44	158.313	1.589					
Joint Capability Technology Demonstration (JCTD) RDT&E BA3 Line#36	35.594	202.484	206.337	201.975	195.537	198.276	201.211

Comment: In FY08 all ACTD funding transfers to the JCTD program. This will complete the transition 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) represents 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 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 utility require transition funds to "bridge" them to a program of record. Any promising remaining ACTD 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 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); Mapping the Human Terrain (MAP-HT); Theater Effects Based Operations (TEBO) and Large Data.

The Joint Distance Support and Response (JDSR) ACTD has completed 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, 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 are several 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. Funds are needed for early transition to DCGS-A and fielding to OIF of the MAP-HT JCTD. The Champion ACTD requires funds for interfaces to the target POR DCGS-A.

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. Other probable successful candidates are: Large Data, Champion, CORSOM, JPADS, MAJIIC, TEBO, ASAP, CMA, and CJSMPT.

E. Major Performers Not applicable for this item.

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes (ACDP)

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
JDSR				1100							1100	
LASER				1000							1000	
PRMS				400							400	
ATL				400							400	
COSMOS				129							129	
MAP-HT					2-4Q	900					900	
JFP					2-4Q	650	2-4Q	1000	2-4Q		1650	
ADS					2-4Q	150					150	
JMIDS					2-4Q	1000		690	2-4Q		1690	
HyCAS								2000	2-4Q		2000	
Champion					2-4Q	234		300	2-4Q		534	
CORSOM								1000	2-4Q		1000	
MAJIIC								1000	2-4Q		1000	
JETA-SPOD								3000	2-4Q		3000	
OVERWATCH								1032	2-4Q		1032	
CUGR								500	2-4Q		500	
CMA								4440	2-4Q		4440	
Subtotal:				3029		2934		14962			20925	

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, 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:												

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:												

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604648D8Z - Joint Capability Technology Demonstration (JCTD)**	**P649**

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:												
Project Total Cost:				**3029**		**2934**		**14962**			**20925**	

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0604670D8Z - Human, Social and Culture Behavior Modeling (HSCB) Advanced Development**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P670	Human, Social and Culture Behavior Modeling (HSCB) Advanced Development		0.991	5.991	7.132	7.823	12.875	15.621

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 four 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 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)		5.700	6.000
Current BES/President's Budget (FY 2009)		0.991	5.991
Total Adjustments		-4.709	-0.009
Congressional Program Reductions		-4.709	
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other			-0.009

C. Other Program Funding Summary	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
PE 0602670D8Z BA 2 HSCB Applied Research		6.246	7.685	9.609	9.902	16.539	18.818

PE 0603670D8Z BA 3 HSCB Research & Engineering		2.974	9.381	11.689	12.080	20.204	22.978	

Comment:

D. Acquisition Strategy The program will produce software prototypes configured for use in programs such as the Distributed Common Ground Station (DCGS). The program will be executed by a targeted request for proposals (RFP) process. RFPs will be issued in the first quarter of FY08. Proposals will be solicited from all DoD organizations, other Federal Agencies and the commercial sector. Proposals will be competed using review panels.

E. Performance Metrics: Not Applicable.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0604670D8Z - Human, Social and Culture Behavior Modeling (HSCB) Advanced Development**	**P670**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P670	Human, Social and Culture Behavior Modeling (HSCB) Advanced Development		0.991	5.991	7.132	7.823	12.875	15.621

A. Mission Description and Budget Item 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:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Data collection tool		0.900	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.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Visualization Software		0.091	3.991

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

FY 2008 Plan: Identify the software modification/integration issues related to the maturation of 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).

FY 2009 Plan: Mature and 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 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
R&D 0602670D8Z HSCB Applied Research BA 2		6.246	7.685	9.609	9.902	16.539	18.818
R&D 0603670D8Z HSCB Advanced Development BA 3		2.974	9.381	11.689	12.080	20.204	22.978

Comment:

D. Acquisition Strategy The program will produce software prototypes configured for use in programs such as the Distributed Common Ground Station (DCGS). The program will be executed by a targeted request for proposals (RFP) process. RFPs will be issued in the first quarter of FY08. Proposals will be solicited from all DoD organizations, other Federal Agencies and the commercial sector. Proposals will be competed using review panels.

E. Major Performers Not applicable for this item.

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604670D8Z - Human, Social and Culture Behavior Modeling (HSCB) Advanced Development**	**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
System Design	MIPR	NAVSEA										
Subtotal:												

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
Access to Contract Support	MIPR	ARMY										
Subtotal:												

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
Developing a Schedule												
Subtotal:												

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
Prograqm management						991		5991			6982	
Subtotal:						991		5991			6982	
Project Total Cost:						**991**		**5991**			**6982**	

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604670D8Z - Human, Social and Culture Behavior Modeling (HSCB) Advanced Development**	**P670**

Event Name	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

Schedule Detail (R4a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604670D8Z - Human, Social and Culture Behavior Modeling (HSCB) Advanced Development**	**P670**

Schedule Detail	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Data Collection Tools							
Visualization Software							

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0604787D8Z - Joint Systems Integration Command**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P787 Joint Systems Integration Command	20.635	19.207	19.643	20.098	20.360	20.631	20.922

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 Agency 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 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 associated, Command and Control (C2) Board. The C2 Capability Portfolio Manager (C2 CPM) has tasked JSIC to provide analysis and assessment of C2 portfolio systems.

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 integration, technical assessment, and operational evaluation 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 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	20.637	19.375	19.675
Current BES/President's Budget (FY 2009)	20.635	19.207	19.643
Total Adjustments	-0.002	-0.168	-0.032

Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings	0.250		
SBIR/STTR Transfer	-0.127		
Other	-0.125	-0.168	-0.032

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

D. Acquisition Strategy JSIC supports interoperability of systems selected for acquisition, integration and fielding. JSIC is intended to be a forcing function to discover and provide interoperable joint solutions as a means to foster rapid, near-term insertion of C2 technology by promoting the ability to meet the DoD direction for spiral development and evolutionary acquisition. Services and Defense Agencies are responsible for conducting acquisition activities in Programs of Record (POR).

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/Capability Integrations	5% increase in assessments, integrations & demos		Number of assessments, integrations & demos	
09	JC2	Number of FY 2008 Assessments/Interoperability Demonstrations/Capability Integrations	5% increase in assessments, integrations & demos		Number of assessments, integrations & demo	

Comment: Performance of Joint Systems Integration Command is measured by successful delivery of JSIC products to customers by required delivery dates.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0604787D8Z - Joint Systems Integration Command**	**P787**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P787	Joint Systems Integration Command	20.635	19.207	19.643	20.098	20.360	20.631	20.922

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 Agency 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 and 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 JSIC's analysis and assessment, systems are evaluated for "value-added" prior to employment in 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 associated, Command and Control (C2) Board. The C2 Capability Portfolio Manager (C2 CPM) has tasked JSIC to provide analysis and assessment of C2 portfolio systems.

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 integration/prototyping, technical assessment, and operational evaluation 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:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Interoperability Technology Demonstration Center (ITDC) and Interoperability Assessments (IA)	13.008	11.685	11.843

Primary Outcome (objective) for this effort is seamless interoperability across DoD systems programmed for introduction to the warfighter. The Joint System Integration Command's (JSIC) Interoperability Technology Demonstration Center (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; and 5) Increased number of solutions deployed with recognized DOTMLPF impacts.

FY 2007 Accomplishments - Conducted interoperability assessments for Joint Battle Management Command and Control (JBMC2), Joint Test and Assessment (JT&A) Joint Close Air Support (JCAS) Joint Mission Threads (JMT); Joint Intelligence Operations Command and Control (JIO C2); Coalition Information Sharing; and Deployable Joint Command and Control (DJC2). Conducted interoperability demonstrations of Command and Control (C2) developmental systems/applications for DISA; assessed Time Sensitive Targeting (TST) Data Support Strategy (DSS); and continued long-range planning for the Joint Systems Baseline Assessment 2008 (JSBA-08) assessment. Continued assessment and evaluation support to the four pilot Capability Portfolio Management (CPM) 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 included identification of interoperability problems/issues, recommended solutions, and associated programmatic implications.

FY 2008 Planned Output _ Provide evidence required to support decision makers efforts to eliminate redundant systems being deployed, maintained, and supported by the Warfighter. Unifying DoD/joint level instructions and alignment of standards with a coordinated revision cycle is a strategy with the goal of reducing the number of duplicative directives and policies that address interoperability. To achieve policy alignment:
- The Interoperability Test Demonstration Center (ITDC) will provide support to the Capability Portfolio Managers as requested. The Joint Systems Integration Command (JSIC) serves as an honest broker (_the attitude of the CPM_) to supply objective observations of systems capabilities based on independent analysis.

- ITDC will substantiate _Command and Control (C2) Systems of Interest_ based on the functions performed and the capabilities those functions support through _Mapping_; Identify capability gaps, overlaps, disconnects, and issues to be analyzed through the _Command and Control (C2) Registry_; Estimate the degree to which systems of interest comply with existing interoperability policy through the _Scorecard_; Analyze and assess the outputs of mapping, registry, and scorecard initiatives.
- ITDC will support the following C2 Capability Portfolio Manager (C2 CPM) or Joint Network Operations (JNO) CPM focus areas as requested.
Joint Task Force (JTF) Headquarters as a Weapons System
- Data Strategy
- Deployable Command and Control
- Decision Support Tools
- Language Translation
- Joint Close Air Support
- Combat Identification/Blue Force Tracking
- Collaborative Information Environment
- Net-Enabled Command Capability (NECC) C2 Migration
- Airborne Networking/Gateways (JNO)

- Cross Domain Solutions (JNO)
- Spectrum Management (JNO)
- Terrestrial Network (JNO)

ITDC will support NECC by:

- Conducting interoperability assessments in accordance with Secretary of Defense (SECDEF) and Chairman assigned missions and JSIC assessment processes.
- Conducting capability module risk assessments and early risk reduction events to address dynamic user needs, minimize integration risk, and identify interoperability issues.
- Assessing emerging solutions impacts to current level of interoperability with coalition or non-DoD capabilities.
- Conducting interoperability assessments to address specific Combatant Commander critical issues.
- Ensuring assessment objectives of all solutions necessary for the joint warfighter to realize the improved or enhanced capability.
- Providing objective evidence identifying requirement changes, supporting 80% solution decisions, or identifying shortfalls and impacts between Capability Modules (CM) and other solutions.
- Acting as the joint capability advocate interface to provide joint management of the mission capability risk areas.

Interoperability assessments of Command and Control (C2) pilots including Net Enabled Command Capability (NECC) and Coalition Information Sharing, and execution of Joint Systems Baseline Assessment 2008 (JSBA08). Continue assessment and evaluation support to the four pilot capability portfolios (Battlespace Awareness, Joint Network Operations, Command and Control, and Joint Logistics) as they mature and requirements are refined.

Joint Systems Integration Command's support to the C2 Capability Portfolio Management (C2 CPM) process and Focus Integration Team (FIT) Cell requirements will focus on maturing the C2 Scorecard, periodic reviews of C2 policy documents, continued C2 Criteria Development, System and Function Mapping, populating the C2 Registry, developing C2 data sharing capability with the services, and measuring and assessing systems/applications within the C2 portfolio in terms of joint compliance, interoperability, and warfighter utility. JSIC will continue support to C2 Focus Integration Teams working C2 CPM support for the Program Objective Memorandum (POM) 10 focused on synchronizing FY 09-13 investments and capability delivery to meet C2 and Joint Requirements Oversight Council (JROC) prioritized and validated capability gaps.

FY 2009 Plan: JSIC will continue the efforts planned for FY2008. JSIC will provide criteria in which to measure and assess systems/applications within the C2 portfolio in terms of joint compliance, interoperability, and warfighter utility where necessary to support customer needs. Interoperability demonstrations will be conducted to solve warfighting problems including coalition challe

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Capability Integration (CI) / Advanced Systems Prototyping (ASP)	2.900	2.800	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 tactical requirements. Capability Integration uses organic laboratory resources, equipment, and technical personnel to integrate emerging technologies. Doctrine, Organizational, Training, Materiel, Leadership, Personnel, Facilities (DOTMLPF) recommendations on fielding strategies for USJFCOM and Joint Staff endorsement are also provided.

The primary outputs and efficiencies realized are: 1) Reduced costs and delivery time to the warfighter through application of commercial technology to solve near-term Combatant Commander (COCOM) Command and Control (C2) capability gaps; 2) Increased Cost avoidance through transition of successful commercial technology integration in solving COCOM 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; and 5) Improved accountability of life-cycle support for capabilities deployed to forces.

FY 2007 Accomplishments - Continued development and testing of Wireless for the Warfighter (W4W) solution incorporating wireless technologies for Joint Task Force-Civil Support (JTF-CS) and investigation of wireless technology advances to improve the capability. W4W is a deployable capability that provides Joint Task Force Headquarters (JTF HQ) the ability 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_. It incorporates an extended wideband wireless local area network with a wireless line and non-line of sight trunking capability to support deployable communications between a headquarters and subordinate units. This capability supports rapid connectivity between disjointed elements of a headquarters staff and provides the communications path to support user applications required for the mission. One W4W system was delivered to USNORTHCOM's JTF-CS which provided JTF-CS the capability to immediately deploy and establish objective area communications. Completed required documents (e.g., Technical-Integrated Support Plans (T-ISPs), Test Plan, and Architecture Documents) and executed an interoperability assessment with Joint Interoperability Test Command (JITC). Completed documentation (e.g., Concept of Operations (CONOPS), Quick Reference Guide, and System Security Authorization Agreement (SSAA) for JTF-CS. Completed transition of the Command and Control on the Move (C2OTM) capability to Joint Special Operations Command (JSOC) and provided technical support for the Executive Command and Control (EC2) capability to the U.S. Army Information Systems Engineering Command (USAISEC).

Joint Incident Site Communications Capability (JISCC) - Conducted desktop interoperability assessment to determine if information generated at the National Guard Bureau (NGB) Joint Task Force (JTF) can be communicated through the Joint Systems Integration Command (JISC) and the Joint Communications Support Element (JCSE) Small Command and Control Internet Protocol (SC2IP) suite to a Title 10 JTF HQ operating in a Defense Support to Civil Authorities (DSCA) role, using their respective communications paths. JSIC's report of findings was submitted to USJFCOM J89 to incorporate in their response to the Joint Requirements Oversight Council Memorandum (JROCM) 173-06, which requested USJFCOM lead a collaborative effort with U.S. Northern Command (USNORTHCOM), U.S. Pacific Command (USPACOM), and the NGB to develop a communications architecture.

FY 2008 Planned Output -

- Joint Systems Integration Command (JSIC) will provide recommendations to the Defense Acquisition Working Group (DAWG), via the Command and Control Capability Portfolio Manager (C2 CPM) and the Command and Control Capability Integration Board (C2CIB), on prioritization and reduction/consolidation of joint compliance
- Documentation in order to provide an unambiguous understanding of the required interoperability.

- JSIC will provide criteria in which to measure and assess systems/applications within the C2 portfolio in terms of joint compliance, interoperability, and warfighter utility.

- Capability Integration will support the following C2 CPM or Joint Network Operations (JNO) CPM focus areas as requested.

" Joint Task Force (JTF) Headquarters as a Weapons System
" Data Strategy
" Deployable Command and Control
" Decision Support Tools
" Language Translation
" Joint Close Air Support
" Combat Identification/Blue Force Tracking
" Collaborative Information Environment
" Net Enabled Command and Capability (NECC) C2 Migration
" Airborne Networking/Gateways (JNO)
" Cross Domain Solutions (JNO)
" Spectrum Management (JNO)
" Terrestrial Network (JNO)

Capability Integration will support NECC by:

- Conducting integration efforts in accordance with Secretary of Defense (SECDEF) and Chairman assigned missions and JSIC assessment processes.

- Conducting capability module risk assessments and early risk reduction events to address dynamic user needs minimize integration risk, identify interoperability issues.
- Assessing emerging technology impacts.
- Conducting technology assessments to address specific Combatant Commander critical issues.
- Ensuring objectives of all solutions necessary for the joint warfighter to realize the improved or enhanced capability.
- Providing objective evidence identifying requirement changes, supporting 80% solution decisions, or identifying shortfalls and impacts between Capabilities Modules (CM) and other solutions.

-Capability Integration will continue to leverage lessons learned during Wireless for the Warfighter development. Investigate potential impacts of new technology supporting Ad Hoc Wireless Mesh Networking and multifunctional hand held devices. Match emerging critical warfighter requirements with current technologies to identify rapid near-term technology solutions to those requirements in support of the Combatant Commanders. Support Command and Control Capability Portfolio Management (C2 CPM) through development/integration of technical solutions to address capability gaps identified. Provide technical assistance as required to support other initiatives, including the Senior Leadership Command, Control and Communications (SLC3S) program.

FY 2009 Planned Output _ Joint Systems Integration Command (JSIC) will continue the efforts planned for FY2008. JSIC will support continued development of criteria to measure and assess systems/applications within the Command and Control (C2) portfolio in terms of joint compliance, interoperability, and warfighter utility. Capability Integration efforts will be focused on solving warfighting problems including coalition challenges. Materiel and non-materiel recommendations that address joint warfighting shortfalls will be provided as appropriate as a transformation change package to the Combatant Commander.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Capability Assessments and Combatant Commander's Requirements Analysis	2.900	2.722	2.900

Primary Outcome (objective) for this effort is to provide objective based assessment of Doctrine, Organizational, Training, Materiel, Leadership, Personnel, Facilities (DOTMLPF) solution sets in support of the Joint Task Force Commander. Joint Systems Integration Command (JSIC) will analyze Combatant Commander (COCOM) 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. 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 COCOM Joint Task Force Headquarters (JTF HQ); 2) Increased number of verifiable capability solutions recommended for fielding to the COCOM 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 operation 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; and 6) Increased number of solutions deployed with recognized DOTMLPF impacts.

System of Record Program Management offices benefit because the JSIC program provides a venue for the Warfighter Utility Assessments (MUAs) 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, 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 Accomplishments

CENTCOM Best of Breed (BoB) - Assisted USCENTCOM and USJFCOM in reducing a list of 4,000 systems and applications being used in the USCENTCOM theater to a few hundred core and

key Command and Control (C2) systems. Best of Breed was the first attempt by USJFCOM and CENTCOM to manage the C2 portfolio by identifying C2 overlaps, gaps, and redundancies.

Theater Effects Based Operations (TEBO) _ Assessed technologies and operational concepts necessary to provide Joint Force Commanders with the tools, decision aids, and processes needed to support the development, planning, execution, and assessment of effects-based approach to operations. JSIC recommendations used in support of TEBO Advance Concept Technology Demonstration (ACTD) funding decisions, product improvements and transition strategy.

TEBO/Global Synchronization Tool (GST) - Assessed efforts to develop Effects-Based Planning (EBP) tools within USJFCOM and if those tools might be merged or down-selected to streamline further development of Combatant Command (COCOM) Effects-Based Approach to Operations (EBAO) planning/coordination efforts. Joint System Integration Command (JSIC) recommendations used to merge the Operational Net Assessment (ONA) functionality into TEBO.

Command Post of the Future (CPoF) Desktop Assessment _ Conducted a desktop assessment of CPoF. JSIC assessment results were provided to the CPoF Program Manager (PM) as a baseline of functions that CPoF requires to provide functionality in a Joint Task Force (JTF) environment.

FY 2008 Planned Output

Interoperability of Command and Control (C2) systems is a necessary requirement to reduce redundant and excessive systems being deployed, maintained, and supported by the Warfighter. Unifying DoD/joint level instructions and alignment of standards with a coordinated revision cycle is a strategy with the goal of reducing the number of duplicative directives and policies that address interoperability. To achieve policy alignment:

- Joint Systems Integration Command (JSIC) will conduct a review of DoD, Joint Chiefs of Staff (JCS), and Agency directives, instructions and documents related to joint C2 interoperability standards and policies identified by the Dr. Garber study.

- JSIC will provide recommendations to the Defense Acquisition Working Group (DAWG), via the C2 Capability Portfolio Manager and the Command and Control Interoperability Board (C2CIB), on prioritization and reduction/consolidation of joint compliance documentation in order to provide an unambiguous understanding of the required interoperability.

- JSIC will provide criteria in which to measure and assess systems/applications within the C2 portfolio in terms of joint compliance, interoperability, and warfighter utility.

- Capability Assessment will support the following C2 Capability Portfolio Manager (C2 CPM) or Joint Network Operations (JNO) CPM focus areas as requested.

" Joint Task Force (JTF) Headquarters as a Weapons System
" Data Strategy
" Deployable Command and Control
" Decision Support Tools" Joint Close Air Support
" Combat Identification/Blue Force Tracking
" Collaborative Information Environment
" Net Enabled Command and Capability (NECC) C2 Migration
" Airborne Networking/Gateways (JNO)
" Cross Domain Solutions (JNO)
" Spectrum Management (JNO)
" Terrestrial Network (JNO)

Capability Assessments will support NECC by:
- Conducting capability assessments in accordance with Secretary of Defense (SECDEF) and Chairman assigned missions and JSIC assessment processes.
- Conducting capability module risk assessments and early risk reduction events to address dynamic user needs minimize integration risk, identify interoperability issues.
- Assessing emerging capability solutions impacts to current level of interoperability with coalition or non-DoD capabilities.
- Conducting capability assessments to address specific Combatant Commander critical issues.
- Ensuring assessment objectives of all solutions necessary for the joint warfighter to _realize_ the improved or enhanced capability.
- Providing objective evidence identifying requirement changes, supporting 80% solution decisions, or identifying shortfalls and impacts between Capability Modules (CM) and other solutions.
- Acting as the joint capability advocate interface to provide joint management of the mission capability risk areas.

FY 2009 Planned Output- Joint Systems Integration Command (JSIC) will provide criteria in which to measure and assess systems/applications within the C2 portfolio in terms of joint compliance, interoperability, and warfighter utility where necessary to support customer needs. Interoperability assessments will be conducted to address warfighting problems including coalition challenges. Materiel and non-materiel recommendations that address joint warfighting shortfalls will be provided as appropriate as a transformation change package to the COCOMs.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Federated Joint C2 Laboratories (FJC2L) / Concept Development and Experimentation (CD&E)	1.827	2.000	2.000

Primary Outcome (objective) for this effort is to strengthen and align activities across the Federated Joint Command and Control Laboratories (FJC2L). The FJC2L is a voluntary consortium sponsored by the Joint Systems Integration Command (JSIC) that leverages the capabilities of the Service Battle Labs, Systems Engineering Commands, Research, Development Test and Evaluation (RDT&E) labs and other aligned agencies to promote near-term Joint C2 solutions for the joint warfighter based on operational needs/requirements. JSIC provides support by aggressively engaging the Services in a collaborative effort to bring joint solutions through capability integration, interoperability demonstrations and capability assessments. JSIC, through its Persistent Joint C2 Environment works in collaboration and formal coordination with the Joint Staff, Combatant Commanders (COCOMs), Services, defense agencies, departments and agencies outside of DoD, as well as allies and other coalition partners to align efforts, create a culture of innovation, and foster the development 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 reconfigurable Joint Task Force (JTF) C2 and Coalition testbed that supports the rapid evaluation of required interoperability and utility to the warfighter and insertion of technology.

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; and 8) Increased number of solutions deployed with recognized Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities (DOTMLPF) impacts.

FY 2007 Accomplishments
- Enterprise Information Management (EIM) - Three commercial EIM software suites, Xythos 5.0, Microsoft SharePoint 2007, and IBM EIM Suite, were evaluated for workflow, documentation, records, and content management. JSIC facilities were requested to conduct this evaluation within the timeframe required to meet Joint Expeditionary Force Experiment 2008 timelines.

- War Plan for the Warfighter Forwarder Limited Objective Experiment (WWF LOE 1-3) - WWF enables machine-to-machine forwarding of C2 information from the Joint/Combined Air

Operations Center (JAOC/CAOC) to warfighters via tactical data link networks. The WWF effort evaluated, integrated, and employed existing applications, such as Cursor on Target (CoT) and the Joint Translator Forwarder (JxF), to allow machine to machine delivery of combat operations messages to airborne platforms, such as strike aircraft and net-enabled weapons. WWF completed the transmit/feedback loop that originates with the Data Link Automated Reporting System (DLARS), providing the warfighter greater flexibility to employ and redirect data linked aircraft and weapons. JSIC provided engineering support and a persistent C2 environment to support development and evaluation of the WWF capability.

- NATO International Security Assistance Force (ISAF) Interoperability Assessment.

FY 2008 Planned Output -

- The Persistent Command and Control (C2) Environment supports the C2 Capability Portfolio Management (C2 CPM) vision and provides the:

" Bridge between legacy environment and net-centric developmental activity
" Ability for continuous assessment using always available infrastructure

- The Persistent C2 Environment was established to provide regular, fact-based status of both legacy capabilities and those under development to the C2 CPM and Joint Combat Developer (JCD) in support of the oversight process. The Persistent C2 Environment provides the C2 CPM with focused insight into the portfolio allowing multiple activities using a system of systems on a distributed network. Another benefit is that the Persistent C2 Environment can also be used to provide material providers with an early, non-attribution gauge to guide further development.

- The Persistent C2 Environment supports the following:

" Across the portfolio analysis of a specified C2 focus area
" Evaluation of developing capability such as Net Enabled Command Capability (NECC)
" Identification of interoperability problems and verification of fixes for the Joint Task Force (JTF), including 2-/3- Star HQ

- Examples of the use of the Persistent C2 Environment in support of across the portfolio analysis and solution course of action development include:

" Demonstrations of existing Program of Record (PoR) capabilities that can be altered to meet a specified C2 need
" Demonstrations of level of integration of a prototype capability into a POR
" Assessments of portfolio elements to achieve a desired effect such as Time Sensitive Targeting (TST)

- Examples of the use of the Persistent C2 Environment in support of the evaluation of developing capability include:

" Developmental Testing/Operational Testing (DT/OT)
" Interoperability certification
" Military utility assessment
" Interoperability assessment

FY 2009 Planned Output _ Joint Systems Integration Command (JSIC) will provide a persistent Command and Control (C2) environment to promote joint interoperability. This environment will provide distributed connectivity and support efforts to measure and assess systems/applications within the C2 portfolio in terms of joint compliance, interoperability, and warfighter utility where necessary to support customer needs. Interoperability demonstrations and assessments will be conducted using this environment to solve warfighting problems including coalition challenges. Materiel and non-materiel recommendations that address joint warfighting shortfalls will be provided as appropriate as a transformation change package to the Combatant Commander (COCOM).

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 (Global Positioning System (GPS), camera, phone), nanotechnology (high capacity handheld devices & power cells), and better electronic media convergence (data, voice, video).

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

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes (ACDP)

PE NUMBER AND TITLE
0604787D8Z - Joint Systems Integration Command

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		3374	1-4Q	3768	1-4Q	3868	1-4Q		11010	
Systems Engineering	C-CPFF	Old Dominion University		300		332	1-4Q	432	1-4Q		1064	
General/Contractor Engineering Support	C-CPFF	General Dynamics		11683	1-4Q	11022	1-4Q	11122	1-4Q		33827	
Systems Engineering	C-CPFF	South Carolina Research		1648	1-4Q	890	1-4Q	890	1-4Q		3428	
Gov't Engineering Support	Various DoD	Various		3289	1-4Q	3193	1-4Q	3193	1-4Q		9675	
Travel	Various DoD			341	1-4Q	2	1-4Q	138	1-4Q		481	
Subtotal:				20635		19207		19643			59485	

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:												

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:												

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)

February 2008

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes (ACDP)

PE NUMBER AND TITLE
0604787D8Z - Joint Systems Integration Command

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:												
Project Total Cost:				**20635**		**19207**		**19643**			**59485**	

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0604828D8Z - Joint Fires Integration & Interoperability**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P857 Joint Fires Integration & Interoperability	16.684	16.452	16.906	17.277	17.449	17.682	17.930

A. Mission Description and Budget Item Justification: The Joint Fires Integration & Interoperability Team (JFIIT) funded in this program is a relatively small cell of recognized experts adding value to much larger Service investments in force elements designed to apply kinetic effects. Services and joint Combatant Commander staffs actively seek JFIIT assessments and advice to improve performance of combat fires applied in complex coalition and joint environments.

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).

Joint Requirements Oversight Council Memo (JROCM) 183-4, dated 8 Oct 04, directed U.S. Joint Forces Command (USJFCOM) to _produce a Joint Fires Support Organization_. JROCM 241-05, dated 3 Nov 05, validated the JFIIT mission. USJFCOM Directive Number 5170.2 dated 30 Nov 07, _Charter for the Joint Fires Integration and Interoperability Team (JFIIT)_ assigns JFIIT responsibility to _improve the conduct of Joint Fires_.

The JFIIT mission is to improve the integration, interoperability, and operational effectiveness of Joint fires, primarily through field assessments focused at the tactical and operational levels with strategic implications. 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. This results in not only near-term tactical identification of issues and solutions, but JFIIT also informs and provides a foundation for short and long-term operational and tactical capabilities.

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	16.686	16.596	16.934
Current BES/President's Budget (FY 2009)	16.684	16.452	16.906
Total Adjustments	-0.002	-0.144	-0.028
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-0.467		
Other	0.465	-0.144	-0.028

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

D. Acquisition Strategy Not applicable for this item.

E. Performance Metrics:

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

Comment: JFIIT delivers Joint solutions for serviced-developed forces deployed to Combatant Commands. The deliverables may include discrete improvements to training processes, doctrine, Tactics, Techniques & Procedures (TTPs), and/or technical system performance specifications and standards, validated Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) Joint fires recommendations, timely delivery of quality feedback to exercise participants, or improvements to Joint context of a training venue. The Office of Secretary of Defense (OSD) and United States Joint Forces Command (USJFCOM) work in concert to approve the annual agenda of work and validate results.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0604828D8Z - Joint Fires Integration & Interoperability**	**P857**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P857	Joint Fires Integration & Interoperability	16.684	16.452	16.906	17.277	17.449	17.682	17.930

A. Mission Description and Budget Item Justification: The Joint Fires Integration & Interoperability Team (JFIIT) funded in this program is a relatively small cell of recognized experts adding value to much larger Service investments in force elements designed to apply kinetic effects. Services and joint Combatant Commander staffs actively seek JFIIT assessments and advice to improve performance of combat fires applied in complex coalition and joint environments.

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).

Joint Requirements Oversight Council Memo (JROCM) 183-4, dated 8 Oct 04, directed U.S. Joint Forces Command (USJFCOM) to produce a Joint Fires Support Organization. JROCM 241-05, dated 3 Nov 05, validated the JFIIT mission. USJFCOM Directive Number 5170.2 dated 30 Nov 07, Charter for the Joint Fires Integration and Interoperability Team (JFIIT) assigns JFIIT responsibility to improve the conduct of Joint Fires .

The JFIIT mission is to improve the integration, interoperability, and operational effectiveness of Joint fires, primarily through field assessments focused at the tactical and operational levels with strategic implications. 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. This results in not only near-term tactical identification of issues and solutions, but JFIIT also informs and provides a foundation for short and long-term operational and tactical capabilities.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Joint Fires Integration & Interoperability (JFIIT) Assessments	5.682	5.589	5.522

JFIIT conducts assessments in conjunction with Service and COCOM exercises, experiments, and test & evaluation events. JFIIT verifies that an accurate Joint environment is depicted during training that exercises one or more Joint tasks. JFIIT assesses Joint context and Joint task execution while addressing the effectiveness of a training program to replicate a Joint operational environment. The emphasis of this JFIIT effort is assessment of Joint fires and combat identification to ensure that Services and Agencies field independent and interoperable systems and training. The primary mission areas are Joint intelligence, surveillance, and reconnaissance (JISR) support to maneuver and Joint air-to-ground fires integration with maneuver. JFIIT identifies the need for continued support of Joint fires tactics, techniques and procedures (TTP) and doctrine. JFIIT will assess Joint context and Joint task execution while addressing the effectiveness of a training program to replicate a Joint operational environment.

JFIIT emphasizes assessment of efficiencies of Joint fires and combat identification to ensure that Services and Agencies field independent and interoperable capabilities. The primary mission areas

are Joint Intelligence, surveillance, and reconnaissance (JISR) support to maneuver and Joint air-to-ground fires integration with maneuver. JFIIT also supports development of Joint fires tactics, techniques and procedures (TTP) and doctrine. JFIIT assessments provide input to acquisition processes and enhance Joint development as programs are funded and developed.

Critical JFIIT deliverables include:
-- reduction in fratricide and improvement of force application in performing Joint fires.
- Brigade Combat Team Air-Ground Integration (BCT A-GI) assessments and training improvement recommendations
-- Documented joint fires related tasks with supporting operational architectures
-- Findings, conclusions, & recommendations packaged and integrated within the Joint Capabilities Development System (JCIDS) and Joint C2 Capability Portfolio Manager (JC2 CPM) processes
-- Early identification of force vulnerabilities resulting from ineffective Joint fires execution
-- Training feedback to the warfighter to improve operational preparedness
-- Ability to specify key performance parameters (KPPs) and key system attributes (KSAs) for new systems that meet Joint warfighter operational needs
-- Joint training requirements to match current operational environments
-- TTP, equipment, and doctrine to properly and effectively employ Joint forces at the tactical level
-- Increased effectiveness and confidence in combat identification

FY 2007 Output: JFIIT conducted Joint fires and combat identification assessments in conjunction with Service and USJFCOM exercises, experiments, and test and evaluation events primarily in the areas of Joint air-to-ground fires integration with maneuver and Joint ISR support to maneuver. JFIIT is also chartered to develop techniques for emerging combat identification technology enhancements and Joint fires initiatives.
- JFIIT, in support of USA and Doctrine Command (TRADOC) and USAF Combat Command (ACC), began an in-depth assessment of Joint fires training for units deploying to the Central Command (CENTCOM) Area of Responsibility (AOR). This was accomplished using the Brigade Combat Team Air-Ground Integration (BCT A-GI) initiative in response to Commanding General TRADOC memo to Commander, USJFCOM requesting support to address 24 Joint Interagency Intergovernmental Multinational (JIIM) Gaps. JFIIT developed and presented BCT A-GI Plans and presentations and developed a draft assessment process and plan.
- JFIIT, in support of the Air Force Special Operations Command (AFSOC) request, provided planning assistance, tactical digital data integration, and analysis for exercise Emerald Warrior 2007. JFIIT also provided real-time mission monitoring and feedback to participants and Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) recommendations for consideration.
- JFIIT, as the Non-Cooperative Target Identification (NCTI) analytical lead for the Coalition Combat Identification Advanced Concept Technology Demonstration (CCID ACTD) Exercise Bold Quest, produced an analytical report for the CCID ACTD Military Utility Assessment (MUA) intended to influence the FY10-15 Program Objectives Memorandum (POM).
- JFIIT conducted field assessments on equipment, capabilities, and concepts in support of the Joint Close Air Support (JCAS) Executive Steering Committee's, JCAS Action Plan. JFIIT analyzed and reported on numerous equipment and TTP shortfalls prior to fielding and
supported testing and training in the close air support field.
- In response to USAF request to support the Air Support Operations Center (ASOC) Modernization, JFIIT provided joint subject matter expertise in the areas of ASOC, Direct Air Support Center (DASC), and Corps Fires Cell operations.
- JFIIT provided support to the Combat Identification/Joint Blue Force Situational Awareness Executive Steering Committee (CID/JBFSA ESC) Combat Identification Action Plan with Joint fires subject matter expertise and assessment capabilities.
- JFIIT assisted the identification of solutions for irregular warfare issues identified during joint task execution and joint capabilities assessments.

FY 2008/2009/2010 Planned Output:
- Using the Brigade Combat Team Air-Ground Integration (BCT A-GI) initiative, JFIIT will follow a designated US Army brigade from the beginning of their pre-deployment training activities, through their deployment and execution of their assigned missions in the Operation Iraqi Freedom Area of Operations. JFIIT will develop Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) recommendations and proposals for changes to unit Standard Operating Procedure and improvements to Brigade Combat Team pre-deployment training based on

observations and analysis throughout this process. JFIIT is programmed to develop and assess the pre-deployment mission rehearsal exercise support package as requested by the Services and COCOMs to vet joint fires issues identified through the USJFCOM Joint Center for Operational Analysis (JCOA) Lessons Learned program.
- JFIIT, as the Non-Cooperative Combat Identification (NCTI) analytical lead for the Coalition Combat Identification Advanced Combat Identification Demonstration (CCID ACTD) Bold Quest Plus produces analytical reports for the CCID ACTD Military Utility Assessment (MUA).
- JFIIT will continue to identify solutions in support of irregular warfare Joint fires issues.
- JFIIT will continue to refine and enhance support to pre-deployment mission rehearsal exercises as requested by the Services and COCOMs. Evolving joint fires issues identified during the rotational units pre-deployment exercises form the basis to develop tactical level recommendations to address the operational gaps and seams.
- JFIIT will continue support for irregular warfare in the capability and training assessment of special operations exercises and events in preparation for Deployment and will assist in the identification of solutions in support of irregular warfare issues identified during these joint task execution and joint capabilities assessments.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Joint Fires Integration & Interoperability (JFIIT) Capabilities Development	7.119	7.022	7.320

The emphasis of the JFIIT Capabilities Development effort is continued development of Joint Fires and combat identifications capabilities. JFIIT focuses on current and emergent Joint Fires capabilities such as tactics, techniques, and procedures (TTP), Systems, and System of Systems. JFIIT is working with the Combat Training Centers to enhance Joint training for evolving joint fires issues identified during the rotational units pre-deployment exercises form the basis to develop tactical level recommendations to address the operational gaps and seams. To support Service and COCOM capability development efforts, JFIIT develops Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) Change Recommendations, improvements in coordination of fires, command and control, and interoperability of firing systems resulting in increased effectiveness and efficiency, and technical expertise in providing Joint solutions to capability gaps.

The primary outputs and efficiencies include:
-- recommendations for Counter-Rocket, Mortar, and Artillery (C-RAM) response functions
-- validated Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) Joint fires recommendations
-- appraisals of service venues joint context and ability to support joint training
-- resolution of Combat ID and Joint Close Air Support Action Plan issues
-- publication of Tactical Leader's Joint Intelligence, Surveillance & Reconnaissance (ISR) Handbook
-- development of a Joint training capability on the Western Ranges
-- accreditation/certification for Joint fires context and training capability of service venues
-- recommendations for tactical Joint fires improvement solutions
-- Global Area Reference System (GARS) employment and implementation as a common reference system and battle management tool (2009)
-- recommendations for system integration and interoperability
-- optimum utilization of currently fielded systems
-- ability to include Joint context during new system acquisition or development
-- new system capability that meets current Joint operational requirements
-- proposed tactics, techniques and procedures (TTP) and doctrine
-- increased effectiveness and confidence in combat identification
-- reduced collateral damage and decreased number of fratricide incidents across the force
-- Jointly trained forces

FY 2007 Output: JFIIT conducted Joint fires and combat identification capabilities development in conjunction with Service's and USJFCOM exercises, experiments, and test and evaluation events primarily in the areas of Joint air-to-ground fires integration with maneuver and Joint Intelligence, Surveillance & Reconnaissance (ISR) support to maneuver. JFIIT is also chartered to develop techniques for emerging combat identification technology enhancements and Joint fires initiatives.
- JFIIT, in support of Commanding General of the National Training Center (NTC) and USAF Joint Air-Ground Operations (JAGO) Group, developed a Joint Intelligence, Surveillance, and Reconnaissance (JISR) Integration at the Combat Training Centers (CTC) activity that provided recommendations and plans to the National Training Center (NTC), Green Flag, Joint Unmanned Aerial Systems Center of Excellence, and USJFCOM for integrated training on the NTC range complex. JFIIT has provided Joint fires, Joint ISR, and network subject matter expertise to: assist synchronization of Joint tasks; facilitate Joint mission thread execution; and provided training and mentoring to Combat Training Center staff and observer controllers. These activities promoted the synergistic application of Joint capabilities to effectively perform joint fires.

FY 2008 Planned Output:
- JFIIT will continue capability development of the Joint Intelligence, Surveillance, and Reconnaissance (JISR) Integration at the Combat Training Centers (CTC) integrated training initiative. JFIIT will provide Joint fires, Joint ISR, and network subject matter expertise to: assist synchronization of joint tasks; facilitate joint mission thread execution; and provide training development and mentoring to Combat Training Center staff and observer controllers. These activities will promote the synergistic application of joint capabilities to effectively perform joint fires.
- JFIIT will be the USJFCOM lead for the Counter-Rocket, Artillery, and Mortar (C-RAM) initiative to develop Tactics, Techniques, and Procedures for effective utilization of the current C-RAM technologies to enhance this Joint capability. JFIIT will be the USJFCOM lead for the next generation of C-RAM, the Integrated Unit, Base and Installation Protection (IUBIP) system.
- JFIIT will continue as USJFCOM lead for advocacy of the Global Area Reference System (GARS). This activity will promote standardized application and employment of a common coordinate format to provide timely and accurate exchange of target data to conduct joint fires.
- JFIIT will continue Joint Task Execution and Joint Capabilities assessments to ensure other Brigade Combat Teams benefit from the latest lessons learned prior to deployment. By integrating this vital information into the USA National Training Center's LTP, Brigade Commanders and their staffs can quickly integrate and maximize joint systems to support joint operations.
- JFIIT will continue supporting 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, prior to their deployment to the theater of operations, incorporating the most current lessons learned for implementation in combat.
- JFIIT will publish a semiannual Joint Fires Today bulletin to address issues of interest to the joint fires community.

FY 2009 Planned Output:
- JFIIT will continue to refine and enhance support to pre-deployment mission rehearsal exercises as requested by the Services and Combatant Commands. Evolving joint fires issues identified during the rotational units pre-deployment exercises form the basis to develop tactical level recommendations to address the operational gaps and seams.
- JFIIT will continue development of the Joint Intelligence, Surveillance, and Reconnaissance (JISR) Integration at the Combat Training Centers (CTC) integrated training initiatives. JFIIT will provide Joint fires, Joint ISR, and network subject matter expertise to: assist synchronization of joint tasks; facilitate joint mission thread execution; and training development and mentoring to Combat Training Center staff and observer controllers. These activities will promote the synergistic application of Joint capabilities to effectively perform joint fires.
- JFIIT will be the USJFCOM lead for the Integrated Unit, Base and Installation Protection (IUBIP) system which replaces the Counter-Rocket, Artillery, and Mortar (C-RAM). JFIIT will develop tactics, techniques, and procedures for effective utilization of the IUIBP technologies to enhance this Joint capability.
- JFIIT will continue as USJFCOM lead for advocacy of the Global Area Reference System (GARS). This will promote standardized application and employment of a common coordinate format to provide timely and accurate exchange of target data to conduct joint fires.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Joint Fires Integration & Interoperability (JFIIT) Evaluations	3.883	3.841	4.064

The emphasis of JFIIT Evaluations effort is the evaluation of Joint fires and combat identification to provide Services and Agencies findings and recommendation based on quantifiable data. JFIIT collects and analyzes data and provides observations, finding, conclusions, and recommendations to identify Joint training and operational solutions/products that promote capability improvement.

Accurate data is necessary to accurately develop solutions to identified problems and improve Joint fires. JFIIT provides a truth-based data collection capability to support a holistic approach to the overall improvement of Joint fires. Evaluations range from small, single-focus events to large, multi-event/venue exercises.

The primary mission areas are Joint intelligence, surveillance, and reconnaissance (JISR) support to maneuver and Joint air-to-ground fires integration with maneuver. JFIIT provides feedback and promotes or identifies needed improvements. JFIIT conducts evaluations using a holistic approach to the overall improvement of Joint fires, solutions to target acquisition, command and control, and firing systems. Without this holistic approach to the overall improvement of Joint fires, Services risk not meeting Joint requirements in today's combat environment.

The primary outputs and efficiencies include:
- Evaluation of Joint fires issues based on customer requests
- improvements in Joint Terminal Attack Controller (JTAC) and Joint Fires Observer
- reports to customers with findings based on analysis of data
- analytical based recommendations on systems interoperability and integration
- quantifiable data for making acquisition decisions for new Joint systems or capability development such as Military Utility Assessment (MUA) reports
- adequate Joint fires tactics, techniques and procedures (TTP)
- effective fires during Joint operations
- increased effectiveness and confidence in combat identification
- reduced collateral damage and decreased number of fratricide incidents across the force
- Jointly trained forces

FY 2007 Output: JFIIT conducted Joint fires and combat identification evaluations in conjunction with Service's and USJFCOM exercises, experiments, and test and evaluation events primarily in the areas of Joint air-to-ground fires integration with maneuver and Joint ISR support to maneuver. JFIIT is also chartered to develop techniques for emerging combat identification technology enhancements and Joint fires initiatives.
- JFIIT, in support of USCENTCOM, provided planning, execution and analysis support for the United States Central Command Air Forces (USCENTAF) Atlantic Strike IV and V exercises. This was the fourth and fifth iteration of an ongoing event to assess and train Joint Close Air Support (JCAS) aircrews, Joint Terminal Attack Controllers (JTACs), and Joint Fires Observers (JFOs). JFIIT provided daily training effectiveness feedback to CENTAF/18 Air Support Operations Group (ASOG) and exercise participants, data and recommendations for inclusion in CENTAF After Action Reports, and provided Remotely Operated Video Enhanced Receiver (ROVER) mentoring and training assistance for operators and trainers.
- JFIIT, in support of the OSD Acquisition Technology and Logistics and a request from the Joint Fires Coordination Measures Joint Test and Evaluation (JFCM JT&E) Director, provided Joint fires Subject Matter Expertise, data collection and analysis during JFCM JT&E mini-test in conjunction with exercise Talisman Saber 2007.
- JFIIT, in conjunction with the 46th Test Squadron and Air Force-Integrated Collaborative Environment (AF-ICE), supported the Joint Systems Integration Command (JSIC) in conducting end-to-end technical assessment of JCAS Theater Air-to-Ground Systems (TAGS) and Network Enabled Weapons. This assessment supported Joint Command and Control Capability Portfolio Manager (JC2 CPM) Joint Close Air Support (JCAS) objectives. JFIIT provided system support and Joint Terminal Attack Controller (JTAC) expertise to enhance Joint Test Threads (JTT). Separate threads included C2 and digital architecture for Net Enabled Weapons target pairing.
- Digital Air Support Requests

FY 2008 Planned Output:
- JFIIT leads the Joint Fires Support Interoperability Working Group (JFSIWG) in addressing issues of concern to the joint fires community. The JFSIWG addresses the Advanced Field Artillery Fire Control System (AFATDS) to Theater Battle Management Core Systems (TBMCS) interoperability issues raised in an Army Central Command (ARCENT) memo requesting assistance from USJFCOM.
- JFIIT will provide planning, execution, and analysis support for the USCENTAF Atlantic Strike VI and VII exercises. This is an ongoing event to evaluate and train Joint Close Air Support aircrews, Joint Terminal Attack Controllers, and Joint Fires Observers.

FY 2009 Planned Output:
- JFIIT will lead the JFSIWG to address issues of concern to the joint fires community.
- JFIIT will provide planning, execution, and analysis support for the USCENTAF Atlantic Strike VIII and IX exercises. This is an ongoing event to evaluate and train Joint Close Air Support aircrews, Joint Terminal Attack Controllers, and Joint Fires Observers.

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

D. Acquisition Strategy Not applicable for this item.

E. Major Performers

Category	Name	Location	Type of Work and Description	Award Date
Other				
	VARIOUS	VARIOUS	Funds are sub allocated to JFCOM for JFIT.	Mar 08

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes (ACDP)

PE NUMBER AND TITLE
0604828D8Z - Joint Fires Integration & Interoperability

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
analyses				499				-28			471	
Subtotal:				499				-28			471	

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		4162	1-4Q	4256	1-4Q	4500	1-4Q		12918	
Operations Costs/Research	MIPR	JFIIT/Various		1660	1-4Q	1700	1-4Q	1750	1-4Q		5110	
New R3 Line												
Subtotal:				5822		5956		6250			18028	

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		743	1-4Q	700	1-4Q	750			2193	
Operational Test and Evaluation	CPFF	SAIC, BAE, NG/Eglin AFB		9297	1-4Q	9396	1-4Q	9484			28177	
Operational Test and Evaluation	CPAF	TAMS/Eglin AFB		323	1-4Q	400	1-4Q	450			1173	
Subtotal:				10363		10496		10684			31543	

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)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604828D8Z - Joint Fires Integration & Interoperability**	**P857**

Travel/Conferences	MIPR	JFIIT/Various										
Subtotal:												
Project Total Cost:				**16684**		**16452**		**16906**			**50042**	

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604828D8Z - Joint Fires Integration & Interoperability**	**P857**

Event Name	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
Operational Test, Planning, Publications																												

Schedule Detail (R4a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0604828D8Z - Joint Fires Integration & Interoperability**	**P857**

Schedule Detail	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Operational Test	2Q - 4Q	1Q - 4Q	1Q - 4Q				
Planning	1Q - 4Q	1Q - 4Q	1Q - 4Q				
Publications	1Q - 4Q	1Q - 4Q	1Q - 4Q				
Operational Test							

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 04	**0605017D8Z - Reduction in Total Ownership Cost (RTOC)**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P017	Reduction in Total Ownership Cost Projects	25.141	25.006	24.765	25.089	25.631	26.299	26.978

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 2008 projects (based on discounted cash flow calculations) is approximately 51:1 with $1.298 billion in cost avoidances across the life cycle of the affected systems. These cost avoidances will be lost without the requested funding in FY 2009, which is needed to complete the projects begun with FY 2008 funding. The average Return on Investment (ROI) for these FY 2009 new start projects (based on discounted cash flow calculations) is approximately 92:1 with $2.190 billion in cost avoidances across the life cycle of the affected systems. The remaining FY 2010 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 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	25.144	25.225	24.805
Current BES/President's Budget (FY 2009)	25.141	25.006	24.765
Total Adjustments	-0.003	-0.219	-0.040

Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other	-0.003	-0.219	-0.040

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

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

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 Semi-annual Project Report 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 reports 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
07	See below					
08	See below					
09	See below					

Comment: 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. FY 2006 projects are still in development and implementation. Planned Performance Metric/Methods of Measurement: Return on Investment (ROI) measured over the Life Cycle (LC) of each system. Actual Performance Metric/Methods of Measurement: Return of Investment (ROI) measured 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 semi-annual project reports to provide tracking of this metric.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 04	**0605017D8Z - Reduction in Total Ownership Cost (RTOC)**	**P017**

COST ($ in Millions)		FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P017	Reduction in Total Ownership Cost Projects	25.141	25.006	24.765	25.089	25.631	26.299	26.978

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 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:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Army	8.007	8.185	8.118

The following programs were funded for RTOC efforts being managed by the Army:

Stryker Software Load Version VDT
New Barrel Coating
HH-60M ECS
AH-64 Servos

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Navy	8.218	8.185	8.167

The following programs were funded for RTOC efforts being managed by the Navy:

Ship's Material Condition Model
CVN Magnetic Coupling
H-1 Rear UGHW
V-22 WRA IU Fault Code Translation
IR Camera
Power Con. Mgt.
Fiber Optic Network

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Air Force	8.418	8.185	8.029

The following programs were funded for RTOC efforts being managed by the Air Force:
F101-GE-102
F110 X-Ray Fluorescence Portable Lube System Debris Analyzer
Advanced Composite Tower
Restoration of Dimensional Tolerances
Field Backstop Test data Collection and Analysis System
F119 Engine Ti Repair
F119 Engine Ni 100 Integrally Bladed Rotor Repair
FPS-117 Radome Fleet Replacement
F110-GE-129/129B RCM Calculator

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
IDA (FFRDC)	0.498	0.451	0.451

Total Ownership Cost Program Support

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

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 five objective and six subjective categories for evaluation.

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 semi-annual Project Report format has been defined, approved by the Services, and is required for each funded project. These reports 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. Major Performers Not applicable for this item.

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0605017D8Z - Reduction in Total Ownership Cost (RTOC)**	**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
Army				7508	1Q	8185	1Q	8018	1Q		23711	
Navy				8616	1-3Q	8185	1Q	8078	1Q		24879	
Air Force				8567	1Q	8185	1Q	8218	1Q		24970	
Subtotal:				24691		24555		24314			73560	

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
											450	
Subtotal:											450	

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:												

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)				450	1Q	451	1Q	451	1Q	Cont.	Cont.	
Subtotal:				450		451		451		Cont.	Cont.	

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0605017D8Z - Reduction in Total Ownership Cost (RTOC)**	**P017**

Project Total Cost:		**25141**		**25006**		**24765**		**Cont.**	**Cont.**	

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0605017D8Z - Reduction in Total Ownership Cost (RTOC)**	**P017**

Event Name	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

Schedule Detail (R4a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes (ACDP)	**0605017D8Z - Reduction in Total Ownership Cost (RTOC)**	**P017**

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

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E - DW/BA 04			R-1 Item Nomenclature: Joint Electromagnetic Technology (JET) Program, 0303191D8Z				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	7.826	9.175	3.524	3.974	4.034	4.098	4.162
Project Name							

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 2007 Accomplishments: ($7.826 million)

- Program planning and support.

FY 2008 Plans: ($9.175 million)

- Program planning and support.

FY 2009 Plans: ($3.524 million)

- Program planning and support.

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous Presidents Budget	7.827	3.482	3.530
Current Presidents Budget	7.826	9.175	3.524
Total Adjustments	-.001	5.693	-0.006
Congressional program reduction			
Congressional Increase		5.752	
Reprogrammings			
SIBR/STTR Transfer			
Program Adjustments	-0.001	-0.059	-0.006

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Authority RDT&E - DW/BA 04	R-1 Item Nomenclature Joint Electromagnetic Technology (JET) Program, 0303191D8Z

Change Summary Explanation:
FY 2007: Rounding adjustment at the Department level -.001 million.
FY 2008: Congressional Adds 5.752 million, Contractor Efficiencies -.015 million, Economic Assumptions -.044 million.
FY 2009: Economic Assumptions -.027 million, Inflation savings .021 million.

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.