| Exhibit R-2, RDT&E Budget Item Justification | | | | | | February 2005 | | |
|---|---|---|---|---|---|---|---|---|
| Appropriation/Budget Activity<br>RDT&E.DW/BA3 | | R-1 Item Nomenclature:<br>SO/LIC Advanced Development - PE 0603121D8Z | | | | | | |
| Cost ($ in millions) | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 |
| Total PE Cost | 32.861 | 35.586 | 34.529 | 35.021 | 35.982 | 36.856 | 37.495 | 38.366 |
| Explosive Ordnance Disposal/Low-Intensity Conflict/P206 | 11.087 | 9.411 | 9.343 | 9.487 | 9.440 | 9.909 | 10.109 | 10.333 |
| Special Reconnaissance Capabilities /P207 | 19.804 | 23.179 | 21.214 | 21.501 | 22.529 | 22.734 | 23.087 | 23.640 |
| Information Dissemination Concepts /P208 | 1.970 | 2.996 | 3.972 | 4.033 | 4.013 | 4.213 | 4.299 | 4.393 |

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

P206, Explosive Ordnance Disposal/Low-Intensity Conflict (EOD/LIC). The EOD/LIC program provides advanced technology and equipment solutions for military EOD operators and Special Operations Forces (SOF) to meet the challenges of Improvised Explosive Devices (IEDs), force protection and the war on terrorism. EOD/LIC efforts focus primarily on the access, detection, identification, and neutralization of all types of conventional explosive ordnance and improvised explosive devices. Requirements submitted by the Joint Service EOD and Service Special Operations communities are prioritized and approved by OASD (SO/LIC).

P207, Special Reconnaissance Capabilities (SRC). The SRC program exploits, leverages, and integrates DoD's service and agency efforts to improve surveillance and reconnaissance tools (unattended sensors, tagging devices, data infiltration/exfiltration, remote delivery, and mobility/delivery of sensors), while providing risk reduction for DoD and other agency technology and development programs. The SRC Program identifies, integrates, and operationalizes the technical tools for the collection of actionable information against a variety of targets and mission requirements, including Global War on Terrorism (GWOT) and maintains DoD's on-line catalog of tools in order to minimize crisis response time for special reconnaissance and surveillance.

P208, Information Dissemination Concepts (IDC). Information Dissemination Concepts (IDC) is a new program within the SO/LIC Advanced Development PE0603121D8Z. The IDC program addresses technology capabilities necessary to enable sustained information dissemination campaigns in denied areas. The IDC program, working as necessary with DoD and the interagency, develops, modifies, and demonstrates concepts, mechanisms, platforms and payloads to propagate themes and messages that convince target audiences to take action favorable to the United States and its allies.

**B. Program Change Summary:**

| | FY2004 | FY2005 | FY2006 | FY 2007 |
|---|---|---|---|---|
| Previous President's Budget | 31.300 | 32.723 | 33.752 | 34.100 |
| Current President's Budget | 32.861 | 35.586 | 34.529 | 35.021 |
| Total Adjustments | | | | |
| Congressional program reductions | | | | |
| Congressional rescissions | | | | |
| Congressional increases | 2.800 | 3.700 | | |
| Reprogrammings | 1.561 | 2.863 | .777 | .921 |
| SBIR/STTR Transfer | (.592) | | | |
| Other Program Adjustments | (.647) | (.041) | (.017) | |

**C. Other Program Funding Summary: NA**

**D. Acquisitions Strategy: NA**

**E. Performance Metrics:**

| | |
|---|---|
| SO/LIC Advanced Development - PE 0603121D8Z; Explosive Ordnance Disposal/Low-Intensity Conflict/P206; Special Reconnaissance Capabilities /P207; Information Dissemination Concepts /P208 | |
| | |
| Long Term Strategies: Obtain adequate funding to support critical shortfalls; prioritize proposals that are deemed acceptable and allocate funding accordingly; and establish outreach to leverage institutional knowledge and expertise. | |
| | |
| Performance Indicator and Rating: | |
| FY 2004 Target | • 70% of currently funded research projects completed on time and within budget<br>• 5% increase in the number of research projects accepted<br>• Complete 90% of scheduled R&D tasks |
| FY 2004 Rating | ON TARGET |
| FY 2005 Target | • 70% of currently funded research projects are completed on time and within budget<br>• 5% increase in the number of research projects accepted<br>• Transition scheduled projects to user communities |
| FY 2006 Target | • 70% of currently funded research projects are completed on time and within budget<br>• 5% increase in the number of research projects accepted |
| FY 2007 Target | • 70% of currently funded research projects are completed on time and within budget |

| | |
|---|---|
| | • 5% increase in the number of research projects accepted |
| Basis of FY 2004 to Date Performance Rating | Currently the number of funded research projects are on track to be completed per the target |
| Verification | The SO/LIC Advanced Development Program projects each track the status of their efforts. Reviews are conducted to assess project status. Oversight of the entire effort is undertaken by ASD SO/LIC. |
| Validation | Completed research products increase the capabilities of the DoD to effectively detect, deter and defend against terrorist attacks; defeat improvised explosive devices and unexploded ordinance; and enable sustained information operations in denied areas - thus the Department's personnel and interests at home and abroad are safer. |

| Exhibit R-2a, RDT&E Project Justification | | | | | February 2005 | | | |
|---|---|---|---|---|---|---|---|---|
| Appropriation/Budget Activity<br>RDT&E.DW/BA3 | | Project Name and Number<br>SO/LIC Advanced Development 0603121D8Z | | | | | | |
| Cost ($ in millions) | FY2004 | FY2005 | FY2006 | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 |
| Explosive Ordnance Disposal/Low-Intensity Conflict/P206 | 11.087 | 9.411 | 9.343 | 9.487 | 9.444 | 9.909 | 10.109 | 10.333 |

**A. Mission Description and Budget Item Justification:** P206, Explosive Ordnance Disposal/Low-Intensity Conflict (EOD/LIC). The EOD/LIC program provides advanced technology and equipment solutions for military EOD operators and SOF to meet the challenges of improvised explosive devices (IEDs), force protection and the war on terrorism. EOD/LIC efforts focus primarily on the access, detection, identification, and neutralization of all types of conventional explosive ordnance and improvised explosive devices. Requirements submitted by the Joint Service EOD and Service Special Operations communities are prioritized and approved by OASD (SO/LIC).

**B. Accomplishments/Planned Program**

| | FY 2004 | FY 2005 | FY 2006 | FY2007 |
|---|---|---|---|---|
| Accomplishment/Effort/Subtotal Cost | 11.087 | 9.411 | 9.343 | 9.487 |

FY2004 Accomplishments: Developed a limpet mine neutralization tool for use by EOD divers to destroy explosive threats to warships. Developed and evaluated the EOD underwater search remotely operated vehicle (ROV) for identification of bottom and moored seamines. Developed the EOD dispersion suppressive system for containment of blast from improvised explosive devices (IED). Developed a real-time radiography system for rapid x-ray imaging of large improvised explosive devices. Developed and demonstrated the Tele-present Remote Aiming Platform (TRAP) on the Autonomous Remote Transport System (ARTS) robot for remote neutralization of scattered submunitions. Developed a miniature diver display system (MDDS) to display sonar imagery to military divers. Developed a remote automated munitions clearance system for remote aiming of a variety of military weapons. Developed an EOD improved incendiary tool for nonexplosive burnout of explosive fill material in conventional ordnance. Designed and evaluated a launching ramp for new Naval Special Clearance Team – One surface craft. Evaluated and demonstrated the military utility of the Segway Human Transporter for improved mobility of explosive ordnance disposal technicians. Multiple Segways were deployed in CENTCOM. Deployed the MK 6 Benign Case Entry System to an operational EOD team.

FY2005 Plans:
Complete development of an improved underwater demolition charge to facilitate the destruction of sea mines. Demonstrate new ballistic protection for the Special Operations Craft – Riverine (SOC-R). Complete development of a laser aiming and ranging system for robotic platforms. Finish development of a new recoilless explosive disruption system to neutralize IEDs. Demonstrate tactical decision aids for Special Operations Forces. Field a joint digital reporting system for EOD incidents. Evaluate commercial active thermal protection systems for cooling EOD technicians while wearing personal protective ensembles. Demonstrate an advanced lift balloon for EOD divers.

Advance the development of an auxiliary module for the standard Remote Activation Munitions System (RAMS) to initiate shock tube remotely. Commercialize the Combat Diver Display Mask (IDDM) for Marine Corps divers. Transition a low-cost, expendable ground robotic vehicle for IED disruption into an acquisition program. Demonstrate an unmanned riverine reconnaissance vehicle for use by Navy Special Warfare. Demonstrate a prototype wall breaching system for inclusion in the fielded SOF Demo Kit. Continue the development of low-cost, field supportable robotic ground vehicles. Design a radar IED detection system for use on tactical vehicles. Demonstrate a prototype database of navy ships for use in underwater hull searches.

Develop a low-cost tactical training round for the MK 40 long range disrupter. Initiate development of a radiography system with a capability for port mortuary operations while deployed. Integrate the current EOD digital radiography system with commercial photographic capabilities and a fiber optics control link. Design a limpet mine removal tool for use by EOD divers. Initiate development of a command and control link for unmanned ground vehicles using magnetic inductive technology. Prototype a explosive threat simulation system for student evaluation at EOD School.

FY2006 Plans:
Finalize development of integrated dive mask for military divers to improve safety. Complete development of a low-cost unmanned ground vehicle for IED neutralization. Demonstrate an enhanced prototype unmanned riverine reconnaissance vehicle for Navy Special Warfare. Provide fieldable prototype Navy ship hull database. Provide a tactical wall-breaching capability for Special Operation Forces. Demonstrate a combination camera/digital x-ray for use in aiming EOD explosive disruption tools, and a fiber-optic command and control option when radio use is denied.

Continue the development of a low-cost tactical training round for the MK 40 Explosive Disrupter. Demonstrate a radiography capability for deployed EOD port mortuary operations. Fabricate a radar for the detection of roadside IEDs. Demonstrate a diver operated tool for the removal of limpet mines from ship hulls. Demonstrate magnetic inductive technology in a command and control link for unmanned ground vehicles. Demonstrate an improved simulator at EOD School for training and evaluating students.

Initiate the development of an expert system for selecting appropriate EOD tools in the field. Begin design of frangible 7.62mm and .50 caliber ammunition to improve safety during small munitions disruption. Develop a sidearm with a low magnetic signature. Develop a decelerator to safely catch slugs from EOD standoff disruption tools. Initiate the development of a catalogue of types of ballistic protection materials.

FY2007 Plans:

Finalize development of a low-cost tactical training round for the MK 40 Explosive Disrupter. Complete demonstration of a radiography capability for deployed EOD port mortuary operations. Demonstrate a decelerator to safely catch slugs from EOD standoff disruption tools. Transition a diver operated tool for the removal of limpet mines from ship hulls. Complete development of magnetic inductive technology in a command and control link for unmanned ground vehicles.

Continue the development of an expert system for selecting appropriate EOD Tools in the field. Develop prototype frangible 7.62mm and .50 caliber ammunition to improve safety during small munitions disruption. Demonstrate a sidearm with a low magnetic signature. Populate a catalogue of types of ballistic protection materials.

Initiate the development of back blast protection for operator launched missiles. Improve fuel tank safety on board small boats. Develop of a low cost disposable remote firing set receiver for use on expendable vehicles.

| Exhibit R-2a, RDT&E Project Justification | | | | | February 2005 | | | |
|---|---|---|---|---|---|---|---|---|
| Appropriation/Budget Activity<br>RDT&E.DW/BA3 | | Project Name and Number<br>SO/LIC Advanced Development 0603121D8Z | | | | | | |
| Cost ($ in millions) | FY2004 | FY2005 | FY2006 | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 |
| Special Reconnaissance Capabilities /P207 | 19.804 | 23.179 | 21.214 | 21.205 | 22.529 | 22.734 | 23.087 | 23.640 |

**A. Mission Description and Budget Item Justification:** P207, Special Reconnaissance Capabilities (SRC). The SRC program exploits, leverages, and integrates DoD's service and agency efforts to improve surveillance and reconnaissance tools (unattended sensors, tagging devices, data infiltration/exfiltration, remote delivery, and mobility/delivery of sensors), while providing risk reduction for DoD and other agency technology and development programs. The SRC Program identifies, integrates, and operationalizes the technical tools for the collection of actionable information against a variety of targets and mission requirements, including Global War on Terrorism (GWOT) and maintains DoD's on-line catalog of tools in order to minimize crisis response time for special reconnaissance and surveillance.

**B. Accomplishments/Planned Program**

| | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|---|---|---|---|---|
| Accomplishment/Effort/Subtotal Cost | 19.804 | 23.179 | 21.214 | 21.205 |

FY 2004 Accomplishments: Program provided technology support to GWOT to include variants of unattended ground sensor prototypes for maritime and ground persistent surveillance missions with associated technology training. Assessed, evaluated, and initiated the integration of various tag capabilities for end-to-end operations in concert with user CONOPS. Demonstrated radio frequency (RF) tagging capability using national and theater sensor platforms. Enhanced and evaluated military utility of next generation optical tags. Developed and performed end-to-end assessment of next generation small beacon TTL device. Assessed and began integration of an improved day and night optics capabilities into remoted capabilities. Integrated and demonstrated improved reliable unattended electro-optics, acoustic, magnetic, seismic, and other unattended ground sensors into the remoted capabilities. Initiated the integration of GPS and remote wake up into remoted capabilities. Developed and demonstrated the capability to automatically detect, acquire and exfiltrate a target moving past a remoted camera. Improved power management, endurance and reliability of remoted capabilities. Enhanced functionality and expanded access of on-line information to supporting commands, DoD activities and OGAs. Assessed more than 10 reconnaissance capabilities and conducted four technology evaluations to assess operational capabilities. Leveraged advanced sensing, tracking, communications and power technologies with DoD and OGA to accelerate the transition of advanced SR technology to operational community.

FY 2005 Plans: Integrate new micro sensors into prototype remoted capabilities. Conduct end-to-end testing of extremely small, power efficient, beacon device. Continue the following tasks: to provide technology support to the Global War on Terrorism to include, technology training and variants of unattended ground sensor prototypes for maritime and ground persistence surveillance; to

identify, evaluate and operationalize sensor and tagging, tracking, and locating technologies to enhance the technical performance of reconnaissance and surveillance missions; to insert operational capable prototypes into operator training exercises to vet tactics, techniques and procedures for employment; to refine family of tags for both end-to end operations, mission specific, emplacement for installation and removal capabilities in concert with user CONOPS; to enhance and evaluate Radar TTL capability; to enhance and evaluate the capabilities of optical tags; to research, evaluate and integrate remote and TTL emplacement; to improve data infiltration and exfiltration capabilities through the integration of advanced technology and new communications links; to improve SR optic capabilities through the integration of advanced optic technology and processing; to improve SR power capabilities through the integration of advanced power technologies and device redesign; to exploit remote control capabilities by reducing form factors, improving power management, and integrating air droppable and maritime capabilities; to perform field evaluations of selected SR technologies and document results in on-line SRC knowledgebase; to support cooperative projects and evaluate technology maturity for new capabilities with the DoD and OGA that accelerates the transition of advanced SR and TTL technology to operational the community.

FY 2006 Plans: Provide technology support to DoD with emerging SR precise location prototype technologies. Develop micro sensor controller for hand emplacement, and air and maritime employment. Continue the following projects: to provide technology support to the Global War on Terrorism to include, technology training and variants of TTL and unattended ground sensor prototypes for maritime and ground persistence surveillance; to engage the research and development community for technical solutions and candidate technologies to improve DoD SR mission capabilities; to evaluate and operationalize sensor and tagging, tracking, and locating capabilities through insertion of maturing mini and micro technologies to enhance the technical performance of SR missions; to insert operationally capable prototypes into operator training exercises to vet technologies and to develop tactics, techniques and procedures for employment; to research, evaluate and integrate enhanced tagging and sensing capabilities to enable remote and standoff emplacement; research, evaluate and integrate emerging netted sensor technologies into remoted capabilities; to integrate improved SR data infiltration and exfiltration capabilities though the development and integration of advanced technology and new communications links; to perform field evaluations of selected SR technologies and document results in on-line SRC knowledgebase; and to support cooperative projects with DoD and OGA to accelerate the transition of advanced SR technologies to operational community.

FY 2007 Plans: Insert operationally capable prototypes into operator training exercises to vet technologies and new develop tactics, techniques and procedures for employment. Continue to: provide technology support to the Global War on Terrorism to include, technology training and variants of TTL and unattended ground sensor prototypes for persistence surveillance; engage the research and development community for technical solutions and candidate technologies to improve DoD SR mission capabilities; evaluate and operationalize sensor and tagging, tracking, and locating capabilities through insertion of mini and micro maturing technologies; research, evaluate and integrate enhanced tagging and sensing capabilities to extend mission life and standoff emplacement; integrate extended life mission sensors, micro optics, fingerprinting, emerging precise location technologies, and improved netted SR data infiltration and exfiltration capabilities; research, evaluate and integrate emerging netted sensor technologies into remoted capabilities; perform field evaluations of selected SR technologies and document results in on-line SRC knowledgebase; and support cooperative

projects with the DoD and OGA Intelligence Agencies to accelerate the transition of advanced R&S technology to operational community.

| Exhibit R-2a, RDT&E Project Justification | | | | | February 2005 | | | |
|---|---|---|---|---|---|---|---|---|
| Appropriation/Budget Activity<br>RDT&E.DW/BA3 | | Project Name and Number<br>SO/LIC Advanced Development 0603121D8Z | | | | | | |
| Cost ($ in millions) | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 |
| Information Dissemination Concepts/P208 | 1.970 | 2.996 | 3.972 | 4.033 | 4.013 | 4.213 | 4.299 | 4.393 |

**A. Mission Description and Budget Item Justification:** The Information Dissemination Concepts (IDC) program addresses technology shortfalls necessary to enable sustained information dissemination campaigns in denied areas. The IDC program, working as necessary with DoD and the interagency, develops, modifies, and demonstrates concepts, mechanisms, platforms and payloads to propagate themes and messages that convince target audiences to take action favorable to the United States and its allies. IDC also includes other aspects of information operations to include advanced analysis and planning techniques.

**B. Accomplishments/Planned Program**

| | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|---|---|---|---|---|
| Accomplishment/Effort/Subtotal Cost | 1.970 | 2.996 | 3.972 | 4.033 |

FY 2004 Accomplishments: This is the first year of this program. The Multimedia Alert Processing Systems (MAPS) is in prototype development and being evaluated by USSOCOM and USCENTCOM. All other efforts are either new starts or accelerating other efforts. Continue efforts on the psychological operations (PSYOP) analysis support environment (PSYASE) in order to conduct impact analysis of PSYOP campaigns. Began effort to install a Ku-band satellite antenna and a video/audio receive capability on the EC-130J Commando Solo aircraft. This capability will enable the EC-130J to receive PSYOP products while on station increasing the responsiveness of providing distribution of products into denied areas. Started project to test and evaluate commercial compression software in an effort to reduce the amount of transponder bandwidth and downlink power required for PSYOP support as well as reducing the operational costs.

FY 2005 Plans: Continue RD&TE efforts on PSYASE, as well as facilitating the testing of prototype PSYASE technology to the USSOCOM Global Reach ACTD. Multimedia Alert Processing System (MAPS) development will continue in order to deploy additional prototypes into the USSOCOM and USCENTCOM area of responsibility. A new focus area for FY 2005 is Scatterable Media Technologies, which identifies the capability to project information into denied areas of operations in support of psychological operations. This project will examine technologies, which will specifically address information dissemination techniques into physically denied areas that possess mature information infrastructures.

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FY 2006 Plans: Support counter-terrorism and combating terrorism operations by continuing the development of information operations tools and technologies, and expanding translation capabilities and monitoring of local radio and Internet dissemination of foreign news services. Develop information dissemination requirements in support of instability and counter- narcotic operations. Start new projects defined through collaboration efforts to address technology shortfalls.

FY 2007 Plans: Continue to expand IDC in support of all SO/LIC missions. Work closely with the Information Operations community in order to leverage information technology development across DoD agencies with the focus of supporting military operations.