| Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Office of Secretary Of Defense | DATE: February 2012 |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

| COST ($ in Millions) | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element | 31.263 | 29.924 | 33.234 | - | 33.234 | 32.629 | 33.479 | 34.133 | 34.876 | Continuing | Continuing |
| P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | 31.263 | 29.924 | 33.234 | - | 33.234 | 32.629 | 33.479 | 34.133 | 34.876 | Continuing | Continuing |

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

This Program Element (PE) addresses the need to defend and deter against weapons of mass destruction (WMD) threats and to safeguard personnel; prevent unauthorized access to equipment, installations, material, and documents; and to safeguard the foregoing against espionage, sabotage, damage, and theft. This program oversees advanced engineering development throughout DoD for an integrated and systemic RDT&E approach for countering nuclear threats and nuclear and conventional physical security equipment (PSE) technology and systems. The funding has been centralized in this Defense-wide PE since the early 1990s and represents a substantial portion of all DoD PSE RDT&E funding. Priorities for this PE RDT&E efforts are driven by inputs from Quadrennial Defense Review guidance, Combatant Command and Service requirements, analysis reports such as “Protecting the Force: Lessons from Fort Hood, January 2010, the Integrated Unit, Base, and Installation Protection Cost Benefits Analysis, Multi-national Work Plans established through the Nuclear Security Summit process, and DoD Directive 5210.41, Security Policy for Protecting Nuclear Weapons-directed requirements and associated security deviation reports.

Under this integrated approach, funds are used to provide PSE advanced component development and prototypes for the Department in seven capability areas: (1) Detection and Assessment; (2) Access Controls; (3) Installation and Transport Security; (4) Storage and Safeguards; (5) Prevention; (6) Decision Support Systems; and (7) Analytical Support. The projects under the Program Element either (a) lead to Programs of Record – which can transition to Program Element 0604161D8Z for systems development and demonstration (SDD); (b) become technology insertions into existing programs; or (c) advance to being a certified Commercial/Government off-the-shelf product. The PE initiatives are coordinated by the Security Policy Verification Committee and the Physical Security Equipment Action Group. These groups work together to avoid duplication of effort and when applicable ensure systems integration and promote interoperability and sustainability.

This PE can fund travel to support the requirements of this program.

This appropriation will finance work, including manpower, performed by a government agency or by private individuals or organizations under a contractual or grant arrangement with the government who conduct research (systematic study directed toward fuller scientific knowledge or understanding of the subject studied), development (systematic use of the knowledge and understanding gained from research, for the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes) and test and evaluation efforts.

| Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Office of Secretary Of Defense | DATE: February 2012 |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

| B. Program Change Summary ($ in Millions) | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 32.132 | 36.798 | 36.416 | - | 36.416 |
| Current President's Budget | 31.263 | 29.924 | 33.234 | - | 33.234 |
| Total Adjustments | -0.869 | -6.874 | -3.182 | - | -3.182 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | -6.000 | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | -0.668 | | | |
| • Economic adjustments | -0.869 | -0.206 | -3.182 | - | -3.182 |

**Change Summary Explanation**

Congress reduced the FY12 budget by $6M.

Economic adjustments – Report, Studies, Boards and Commissions. As part of the Department of Defense reform agenda, reflects a reduction in the number and cost of reports, studies, DoD Boards and DoD Commissions below the aggregate level reported in previous budget submission.

| Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense | | | DATE: February 2012 |
|---|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | |

| COST ($ in Millions) | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | 31.263 | 29.924 | 33.234 | - | 33.234 | 32.629 | 33.479 | 34.133 | 34.876 | Continuing | Continuing |
| Quantity of RDT&E Articles | | | | | | | | | | | |

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

This Program Element (PE) addresses the need to defend and deter against weapons of mass destruction (WMD) threats and to safeguard personnel; prevent unauthorized access to equipment, installations, material, and documents; and to safeguard the foregoing against espionage, sabotage, damage, and theft. This program oversees advanced engineering development throughout DoD for an integrated and systemic RDT&E approach for countering nuclear threats and nuclear and conventional physical security equipment (PSE) technology and systems. The funding has been centralized in this Defense-wide PE since the early 1990s and represents a substantial portion of all DoD PSE RDT&E funding. Priorities for this PE RDT&E efforts are driven by inputs from Quadrennial Defense Review guidance, Combatant Command and Service requirements, analysis reports such as “Protecting the Force: Lessons from Fort Hood, January 2010, the Integrated Unit, Base, and Installation Protection Cost Benefits Analysis, Multi-national Work Plans established through the Nuclear Security Summit process, and DoD Directive 5210.41, Security Policy for Protecting Nuclear Weapons-directed requirements and associated security deviation reports.

Under this integrated approach, funds are used to provide PSE advanced component development and prototypes for the Department in seven capability areas: (1) Detection and Assessment; (2) Access Controls; (3) Installation and Transport Security; (4) Storage and Safeguards; (5) Prevention; (6) Decision Support Systems; and (7) Analytical Support. The projects under the Program Element either (a) lead to Programs of Record – which can transition to Program Element 0604161D8Z for systems development and demonstration (SDD); (b) become technology insertions into existing programs; or (c) advance to being a certified Commercial/Government off-the-shelf product. The PE initiatives are coordinated by the Security Policy Verification Committee and the Physical Security Equipment Action Group. These groups work together to avoid duplication of effort and when applicable ensure systems integration and promote interoperability and sustainability.

This PE can fund travel to support the requirements of this program.

This appropriation will finance work, including manpower, performed by a government agency or by private individuals or organizations under a contractual or grant arrangement with the government who conduct research (systematic study directed toward fuller scientific knowledge or understanding of the subject studied), development (systematic use of the knowledge and understanding gained from research, for the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes) and test and evaluation efforts.

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2011 | FY 2012 | FY 2013 |
|---|---|---|---|
| ***Title:*** Detection and Assessment | 5.363 | 5.898 | 5.756 |

| Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense | | DATE: February 2012 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2011 | FY 2012 | FY 2013 |
|---|---|---|---|
| ***Description:*** The ability to detect an adversary and assess their intentions is a basic physical security tenant. This capability area will design equipment to identify and warn of unauthorized access to a specified area or installation as well as equipment related to the notification and identification of explosive threats or hazards.<br><br>***FY 2011 Accomplishments:***<br>• Installed full suite of Diebold Predator Elite with Correlation of Radars for Identify Friend or Foe project.<br>• Tested seismic sensors configured in arrays for detecting, identifying, and tracking targets of interest on land, sea and air.<br>• Used comparative infrared and Raman tests to determine which explosive detection systems performed the best.<br>• Investigated signals generated by target and confusant materials in order to develop protocols to reduce false alarms in explosive detection equipment.<br>• Completed Shoreline Monitoring System Demonstration at Redstone Arsenal.<br><br>***FY 2012 Plans:***<br>• Successfully display and identify friend or foe information.<br>• Advance seismic sensors configured in arrays for detecting, identifying, and tracking targets of interest on land, sea and air.<br>• Detect human activity in heavy foliage using polarimetric imaging technology.<br>• Improve the performance of sonar technology by lowering its false alert rate on nuisance targets, increasing its probability of detection for manlike intruders and increasing its detection and classification capability against unmanned underwater vehicles.<br>• Reduce nuisance and false alarm rates and improve automatic human swimmer / diver discrimination.<br>• Long-range imaging sensor to operate with a sonar system to identify divers at significant ranges in the underwater environment.<br>• Design optimal active sonar functionality in ultra-shallow water environments.<br>• Develop stand-alone marine mammal pen system and associated concept of operations.<br>• Image, classify and warn underwater diver contacts with minimal human intervention.<br>• Provide a shoreline, perimeter, enclave detection barrier.<br>• Develop early warning and persistent surveillance/assessment utilizing video motion sensing, audio tracking and seismic detection capabilities.<br>• Increase surveillance and assessment of activity at all hours and in locations that can be on the edge or outside of the facility perimeter.<br>• Interrupt adversaries by analyzing activity in advance of a breach of a defined restricted area boundary.<br>• Provide All-weather surveillance sensor and the ability to classify and identify targets.<br><br>***FY 2013 Plans:***<br>• Identify friend or foe information proof of concept.<br>• Advance seismic sensors configured in arrays for detecting, identifying, and tracking targets of interest on land, sea and air. | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense | | DATE: February 2012 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2011 | FY 2012 | FY 2013 |
|---|---|---|---|
| • Detect human activity in heavy foliage using polarimetric imaging technology.<br>• Improve the performance of sonar technology by lowering its false alert rate on nuisance targets, increasing its probability of detection for manlike intruders and increasing its detection and classification capability against unmanned underwater vehicles.<br>• Reduce nuisance and false alarm rates and improve automatic human swimmer / diver discrimination.<br>• Long-range imaging sensor to operate with a sonar system to identify divers at significant ranges in the underwater environment.<br>• Design optimal active sonar functionality in ultra-shallow water environments.<br>• Develop stand-alone marine mammal pen system and associated concept of operations.<br>• Image, classify and warn underwater diver contacts with minimal human intervention.<br>• Provide a shoreline, perimeter, enclave detection barrier.<br>• Develop early warning and persistent surveillance/assessment utilizing video motion sensing, audio tracking and seismic detection capabilities.<br>• Increase surveillance and assessment of activity at all hours and in locations that can be on the edge or outside of the facility perimeter.<br>• Interrupt adversaries by analyzing activity in advance of a breach of a defined restricted area boundary.<br>• Provide All-weather surveillance sensor and the ability to classify and identify targets. | | | |
| ***Title:*** Access Controls | 5.620 | 4.218 | 3.015 |
| ***Description:*** Controlling access to safeguard personnel and their families and to prevent unauthorized access to critical infrastructure and materials is paramount. This capability area will focus on programs and processes related to the validity and verification of individuals entering or already within a facility.<br><br>***FY 2011 Accomplishments:***<br>• Completed Defense Installation Access Control Demonstration II.<br>• Conducted independent review of Continuous Vetting for Defense Installation Access Control project.<br>• Completed Biometrics Feasibility Study.<br>• Developed plan for Enterprises Services Architecture for Defense Installation Access Control project.<br>• Completed the Behavioral Analysis Study that addressed the DoD's Independent Review 's report, Protecting the Force: Lessons Learned from Ft Hood<br>***FY 2012 Plans:***<br>• Use passive and active insider threat scenarios to determine how technology and procedures can be integrated to minimize an insider threat to intentionally exceed or misuse an authorized level of access to nuclear materials or weapons.<br>• Develop interruption methods to provide immediate, semi-lethal effect on the interior of structures containing nuclear resources without any additional specialized equipment.<br>• Conduct Behavioral Analysis table top exercise. | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense | | DATE: February 2012 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2011 | FY 2012 | FY 2013 |
|---|---|---|---|
| • Continue Defense Installation Access Control spiral demonstrations in operational environments.<br>***FY 2013 Plans:***<br>• Advance technology and procedures to minimize an insider threat to intentionally exceed or misuse an authorized level of access to nuclear materials or weapons.<br>• Develop interruption methods to provide immediate, semi-lethal effect on the interior of structures containing nuclear resources without any additional specialized equipment.<br>• Transition Defense Installation Access Control to system development and demonstration activities. | | | |
| ***Title:*** Installation and Transport Security<br>***Description:*** Robust installation and transport security are vital to preventing a weapon of mass destruction attack or the unauthorized access to key assets such as nuclear weapons and special nuclear material. This capability area will focus on programs and equipment intended to improve the physical security profile of fixed sites and facilities, as well as critical items while in-transit.<br>***FY 2011 Accomplishments:***<br>• Identified detection options and a range of flexible response capabilities, to include the full spectrum of non-lethal to lethal tactical weapon systems, to protect personnel and assets against the terrorist threat in a waterside security environment.<br>• Evaluated persistent surveillance, intrusion detection, explosive detection, entry denial, acoustic hailing, autonomous unmanned systems, chemical, biological, radiological, nuclear, and high-explosive and associated functions.<br>***FY 2012 Plans:***<br>• Evaluate detection options and response capabilities, to include the full spectrum of non-lethal to lethal tactical weapon systems, to protect personnel and assets against the terrorist threat in a waterside security environment.<br>• Develop persistent surveillance, intrusion detection, explosive detection, entry denial, acoustic hailing, autonomous unmanned systems, chemical, biological, radiological, nuclear, and high-explosive and associated functions.<br>***FY 2013 Plans:***<br>• Determine if the radar technology can be successfully modified for operation in a cluttered environment while providing extended area protection against direct trajectory stand-off threats.<br>• Assess the ability of electronic warfare sensor to perform off-axis defeats against standoff direct-fired threats.<br>• Establish a semi-permanent installation or relocatable short-term and rapidly installed perimeter security system.<br>• Proof of concept for detection options and response capabilities previously identified, to include the full spectrum of non-lethal to lethal tactical weapon systems, to protect personnel and assets against the terrorist threat in a waterside security environment.<br>• Proof of concept for persistent surveillance, intrusion detection, explosive detection, entry denial, acoustic hailing, autonomous unmanned systems, chemical, biological, radiological, nuclear, and high-explosive and associated functions. | 5.938 | 5.898 | 5.995 |

| Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense | | DATE: February 2012 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2011 | FY 2012 | FY 2013 |
|---|---|---|---|
| • Design a software baseline that brings all of the Tactical Automated Security System software versions back under Government configuration management and control.<br>• Develop a low frequency, single crystal-based, non-lethal to lethal scalable transducer capable of emitting acoustic energy signal. | | | |
| ***Title:*** Storage and Safeguards<br><br>***Description:*** Properly securing critical assets to prevent access by unauthorized persons and implementing control measures that ensure access is limited to authorized persons is the foundation of physical security. This capability area will focus on equipment (e.g., locks, doors, etc.) designed to delay or stop unauthorized entry / access to a specified / localized area.<br><br>***FY 2011 Accomplishments:***<br>• Standardized an economical magazine construction that comprehensively satisfies physical security criteria, explosive safety, operational and seismic safety standards.<br>• Developed a Government Services Administration-approved shipboard security solution.<br><br>***FY 2012 Plans:***<br>• Identify material accounting, inventory, and tracking methods using modern technologies to strengthen nuclear material safeguards and controls.<br>• Develop options for intercontinental ballistic missile launcher closure door/lock mechanism upgrades to improve delay features.<br>• Evaluate the intercontinental ballistic missile security system to include access delay features, intrusion detection systems, and response forces.<br>• Explore interior denial options for the intercontinental ballistic missile launch facility and develop recommendations based on weapon system impact, cost and overall security performance.<br><br>***FY 2013 Plans:***<br>• Advance material accounting, inventory, and tracking methods using modern technologies to strengthen nuclear material safeguards and controls.<br>• Evaluate options for intercontinental ballistic missile launcher closure door/lock mechanism upgrades to improve delay features.<br>• Identify solutions for gaps in intercontinental ballistic missile security system to include access delay features, intrusion detection systems, and response forces.<br>• Test interior denial options for the intercontinental ballistic missile launch facility and develop recommendations based on weapon system impact, cost and overall security performance. | 2.170 | 1.788 | 2.314 |
| ***Title:*** Prevention | 3.760 | 5.769 | 8.094 |

| Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense | | DATE: February 2012 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2011 | FY 2012 | FY 2013 |
|---|---|---|---|

***Description:*** The security procedures taken to discourage an adversary from accessing weapons of mass destruction or gaining unauthorized access to critical assets are at the heart of prevention. This capability area will focus on broad spectrum, generic efforts which have the ability to influence multiple areas.

***FY 2011 Accomplishments:***
• Successfully executed the Force Protection Equipment Demonstration VIII.
• Forecasted technology trends which may strengthen and enhance the countering nuclear threat mission area.
• Identified gaps in the US government-wide countering nuclear threats R&D programs.

***FY 2012 Plans:***
• Understand air assault threats and use modeling & simulation to conduct effectiveness analyses to identify the weapon system combinations that offer the most cost-effective approach to counter those threats.
• Identify military, commercial and homemade explosives by integrating two identification technologies into one handheld rugged system.
• Provide federal physical security decision-makers the opportunity to observe and become familiar with commercial-off-the-shelf force protection equipment available for procurement.
• Qualify for procurement an array of commercial off-the-shelf intrusion detection and assessment equipment that addresses capability gaps.
• Create a non-ionizing personnel scanner that can detect threats on the body in a high throughput environment.
• Integrate security system components via wireless communications with high security over long ranges, without repeaters.
• Plan for the Force Protection Equipment Demonstration IX at Stafford Regional Airport.

***FY 2013 Plans:***
• Support bi-lateral engagements for the successful DoD participation in Exercise Opal Tiger.
• Establish a Global Initiative to Combat Nuclear Terrorism Strategic Engagement Plan to ensure an effective and efficient DoD participation in radiation detection and forensics activities.
• Develop Inventory Management curriculum in conjunction with National Nuclear Security Administration
• Improve test and standard reference materials for National Technical Nuclear Forensics simulation and exercise support.
• Support Physical Security Modeling and simulation support for curriculum development and support in conjunction with Global Nuclear Lockdown efforts at Internationals Centers of Excellence.
• Understand air assault threats and use modeling & simulation to conduct effectiveness analyses to identify the weapon system combinations that offer the most cost-effective approach to counter those threats.
• Identify military, commercial and homemade explosives by integrating two identification technologies into one handheld rugged system.

| Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense | | DATE: February 2012 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2011 | FY 2012 | FY 2013 |
|---|---|---|---|
| • Provide federal physical security decision-makers the opportunity to observe and become familiar with commercial-off-the-shelf force protection equipment available for procurement.<br>• Qualify for procurement an array of commercial off-the-shelf intrusion detection and assessment equipment that addresses capability gaps.<br>• Create a non-ionizing personnel scanner that can detect threats on the body in a high throughput environment.<br>• Integrate security system components via wireless communications with high security over long ranges, without repeaters.<br>• Execute Force Protection Equipment Demonstration IX at Stafford Regional Airport. | | | |
| ***Title:*** Decision Support Systems | 5.997 | 4.895 | 5.414 |
| ***Description:*** Decision support systems serve the management, operations, and planning levels of the DoD physical security enterprise to help to make decisions, which may be rapidly changing and not easily specified in advance. This capability area will focus on command and control equipment and projects related to the creation and enhancement of common operating pictures, and the establishment of common architectures / interface standards.<br><br>***FY 2011 Accomplishments:***<br>• Provided DoD and industry the means to achieve Physical Security Equipment interoperability through standards and interface specifications.<br>• Designed the framework for the collection and consolidation of data from disparate small to large security systems.<br>***FY 2012 Plans:***<br>• Integrate sensors, sensor systems and unmanned systems with automated fusion capabilities to populate available Common Operating Pictures (COP) with in-depth security, surveillance, and response data for fixed and semi-fixed/expeditionary elements.<br>• Provide DoD and industry the means to achieve Physical Security Equipment interoperability through standards and interface specifications.<br>• Design the framework for the collection and consolidation of data from disparate small to large security systems.<br>• Integrate marine mammal vigilant localization enhancement into existing systems.<br>***FY 2013 Plans:***<br>• Advance Integration of sensors, sensor systems and unmanned systems with automated fusion capabilities to populate available Common Operating Pictures (COP) with in-depth security, surveillance, and response data for fixed and semi-fixed/expeditionary elements.<br>• Provide DoD and industry the means to achieve Physical Security Equipment interoperability through standards and interface specifications.<br>• Design the framework for the collection and consolidation of data from disparate small to large security systems. | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense | | DATE: February 2012 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2011 | FY 2012 | FY 2013 |
|---|---|---|---|
| • Train and demonstrate the ability for marine mammal to perform a 24/7 autonomous swimmer/diver detection and localization mission. | | | |
| ***Title:*** Analytical Support<br><br>***Description:*** This capability area will focus on studies related to physical security topics and operational and management efforts related to day-to-day activities of the DoD Physical Security Equipment/Countering Nuclear Threats RDT&E Program.<br><br>***FY 2011 Accomplishments:***<br>• Stood up physical security equipment test and evaluation capability with the Marine Corps set to lead this effort<br>• Conducted live-fire and modeling tests of selected weapons, perform analysis, and develop policy requirements based on findings.<br>• Qualified, for procurement, an array of COTS intrusion detection and assessment equipment that meets identified Integrated Base Defense Security Systems capability and sustainment gaps.<br><br>***FY 2012 Plans:***<br>• Conduct test and evaluation efforts for physical security equipment<br>• Conduct live-fire and modeling tests of selected weapons, perform analysis, and develop policy requirements based on findings.<br>• Qualify, for procurement, an array of COTS intrusion detection and assessment equipment that meets identified Integrated Base Defense Security Systems capability and sustainment gaps.<br><br>***FY 2013 Plans:***<br>• Conduct test and evaluation efforts for physical security equipment<br>• Conduct live-fire and modeling tests of selected weapons, perform analysis, and develop policy requirements based on findings.<br>• Qualify, for procurement, an array of COTS intrusion detection and assessment equipment that meets identified Integrated Base Defense Security Systems capability and sustainment gaps. | 2.415 | 1.458 | 2.646 |
| **Accomplishments/Planned Programs Subtotals** | 31.263 | 29.924 | 33.234 |

**C. Other Program Funding Summary ($ in Millions)**

N/A

**D. Acquisition Strategy**

N/A

| Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense | | DATE: February 2012 |
|---|---|---|
| **APPROPRIATION/BUDGET ACTIVITY**<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | **R-1 ITEM NOMENCLATURE**<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | **PROJECT**<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

**E. Performance Metrics**

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 is reviewed at quarterly PSEAG and SPVC meetings. Performance variances are addressed and corrective action(s) is(are) implemented as necessary.

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Office of Secretary Of Defense | | | DATE: February 2012 |
|---|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | |

**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | FY 2012 Cost | FY 2012 Award Date | FY 2013 Base Cost | FY 2013 Base Award Date | FY 2013 OCO Cost | FY 2013 OCO Award Date | FY 2013 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Integrated Base Defense | Sub Allot | PM-FPS:Ft Belvoir, VA | 2.130 | 3.720 | Mar 2012 | 4.800 | | - | | 4.800 | 0.000 | 10.650 | 10.650 |
| Defense Installation Access Control | Various | Various performers:Various locations | 5.150 | 2.000 | Mar 2012 | 1.500 | | - | | 1.500 | 0.000 | 8.650 | 8.650 |
| Countering Nuclear & Biological Threats | Various | Various performers:Various locations | 0.500 | 0.900 | Mar 2012 | 1.910 | | - | | 1.910 | 0.000 | 3.310 | 3.310 |
| Force Protection Equipment Demonstration | Sub Allot | PM-FPS:Fort Belvoir, VA | 1.237 | 0.600 | Mar 2012 | 0.500 | | - | | 0.500 | 0.000 | 2.337 | 2.337 |
| Integrated Waterside Security | MIPR | Various performers:Various locations | - | 0.700 | Mar 2012 | 0.500 | | - | | 0.500 | 0.000 | 1.200 | 1.200 |
| Shipboard Security Containers | MIPR | SPAWAR Atlantic:Charleston, SC | - | 0.480 | Mar 2012 | 0.190 | | - | | 0.190 | 0.000 | 0.670 | 0.670 |
| Ordnance Storage and Handling Facilities | MIPR | NAVFAC ESC:Pt. Hueneme | - | 0.400 | Mar 2012 | 0.900 | | - | | 0.900 | 0.000 | 1.300 | 1.300 |
| Shoreline Monitoring System | MIPR | NAVFAC ESC:Pt. Hueneme | 1.706 | 0.750 | Mar 2012 | 0.500 | | - | | 0.500 | 0.000 | 2.956 | 2.956 |
| Project JIGSAW | MIPR | SPAWAR Atlantic:Charleston, SC | 1.250 | 0.250 | Mar 2012 | 1.000 | | - | | 1.000 | 0.000 | 2.500 | 2.500 |
| Video Management System | Sub Allot | Force Protection Branch ESC/ HSS:Hanscom AFB, MA | - | 0.649 | Mar 2012 | 0.750 | | - | | 0.750 | 0.000 | 1.399 | 1.399 |
| Interior Video Motion Detection | Sub Allot | Force Protection Branch ESC/ HSS:Hansocm AFB, MA | - | 0.455 | Mar 2012 | 0.550 | | - | | 0.550 | 0.000 | 1.005 | 1.005 |
| Wide Area Detection | Sub Allot | Force Protection Branch ESC/ HSS:Hanscom AFB,MA | - | 0.850 | Mar 2012 | 1.000 | | - | | 1.000 | 0.000 | 1.850 | 1.850 |

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Office of Secretary Of Defense | | DATE: February 2012 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* |

**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | FY 2012 Cost | FY 2012 Award Date | FY 2013 Base Cost | FY 2013 Base Award Date | FY 2013 OCO Cost | FY 2013 OCO Award Date | FY 2013 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Insider Threat | IA | Applied Research Labs: University of Texas:Austin, TX | 0.701 | 0.100 | Mar 2012 | - | | - | | - | 0.000 | 0.801 | 0.801 |
| Project holder | Various | Various performers:Various locations | 15.000 | 13.840 | Mar 2012 | 15.544 | | - | | 15.544 | 0.000 | 44.384 | 44.384 |
| | | **Subtotal** | 27.674 | 25.694 | | 29.644 | | - | | 29.644 | 0.000 | 83.012 | 83.012 |

**Support ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | FY 2012 Cost | FY 2012 Award Date | FY 2013 Base Cost | FY 2013 Base Award Date | FY 2013 OCO Cost | FY 2013 OCO Award Date | FY 2013 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Security Equipment Integration Working Group | MIPR | SPAWAR Atlantic:Charleston, SC | 1.602 | 1.000 | Mar 2012 | 1.000 | | - | | 1.000 | 0.000 | 3.602 | 3.602 |
| NM Support Contract | PO | Washington Headquarters Services:Washington DC | 1.020 | 1.060 | Mar 2012 | 1.090 | | - | | 1.090 | 0.000 | 3.170 | 3.170 |
| | | **Subtotal** | 2.622 | 2.060 | | 2.090 | | - | | 2.090 | 0.000 | 6.772 | 6.772 |

**Test and Evaluation ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | FY 2012 Cost | FY 2012 Award Date | FY 2013 Base Cost | FY 2013 Base Award Date | FY 2013 OCO Cost | FY 2013 OCO Award Date | FY 2013 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSE Test and Evaluation | MIPR | Various performers:Various locations | - | 0.270 | Mar 2012 | 1.000 | | - | | 1.000 | 0.000 | 1.270 | 1.270 |
| Sensor Fusion: IR and Raman | MIPR | NAVEOD Tech Div:Indian Head, MD | 0.800 | 0.800 | Mar 2012 | 0.500 | | - | | 0.500 | 0.000 | 2.100 | 2.100 |
| Enhance IMS Systems | MIPR | NAVEOD Tech Div:Indian Head, MD | 0.600 | 1.100 | Mar 2012 | - | | - | | - | 0.000 | 1.700 | 1.700 |
| | | **Subtotal** | 1.400 | 2.170 | | 1.500 | | - | | 1.500 | 0.000 | 5.070 | 5.070 |

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Office of Secretary Of Defense | | | DATE: February 2012 |
|---|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>0400: *Research, Development, Test & Evaluation, Defense-Wide*<br>BA 4: *Advanced Component Development & Prototypes (ACD&P)* | R-1 ITEM NOMENCLATURE<br>PE 0603161D8Z: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | PROJECT<br>P162: *Nuclear and Conventional Physical Security/Countering Nuclear Threats* | |

| | Total Prior Years Cost | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 31.696 | 29.924 | | 33.234 | | - | | 33.234 | 0.000 | 94.854 | 94.854 |

**Remarks**