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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Office of Secretary Of Defense **Date:** March 2014

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 5: System Development & Demonstration (SDD)</i>					R-1 Program Element (Number/Name) PE 0604161D8Z I <i>Nuclear and Conventional Physical Security/Countering Nuclear Threats</i>							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	20.652	6.152	8.109	7.936	-	7.936	6.204	6.286	6.658	7.059	Continuing	Continuing
P163: <i>Nuclear and Conventional Physical Security</i>	20.652	6.152	7.061	3.952	-	3.952	6.204	6.286	6.658	7.059	Continuing	Continuing
P042: <i>CNT Rad/Nuc Passive Defense SDD</i>	0.000	-	1.048	3.984	-	3.984	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

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 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 physical security 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 system development and demonstration 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 program will develop systems that are producible, supportable, and affordable and to demonstrate system integration, interoperability, and utility prior to full-rate production. The projects under the PE become technology insertions into existing programs or advance to being a certified Commercial/Government off-the-shelf product. The PE initiatives are coordinated by the Physical Security Enterprise and Analysis Group. This group is responsible for avoiding 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.

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B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	6.817	8.155	13.596	-	13.596
Current President's Budget	6.152	8.109	7.936	-	7.936
Total Adjustments	-0.665	-0.046	-5.660	-	-5.660
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.105	-			
• Strategic Efficiency Savings	-	-	-5.660	-	-5.660
• FY13 Adjustment	-0.560	-	-	-	-
• FY14 Adjustment	-	-0.046	-	-	-

Change Summary Explanation

The reduction is a strategic efficiency approach to reduce funding and staffing. As a result, we provide a better alignment of funding and provide support to a smaller military force.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Office of Secretary Of Defense										Date: March 2014		
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604161D8Z / Nuclear and Conventional Physical Security/Countering Nuclear Threats				Project (Number/Name) P163 / Nuclear and Conventional Physical Security			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
P163: Nuclear and Conventional Physical Security	20.652	6.152	7.061	3.952	-	3.952	6.204	6.286	6.658	7.059	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 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 physical security 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 system development and demonstration 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 program will develop systems that are producible, supportable, and affordable and to demonstrate system integration, interoperability, and utility prior to full-rate production. The projects under the PE become technology insertions into existing programs or advance to being a certified Commercial/Government off-the-shelf product. The PE initiatives are coordinated by the Physical Security Enterprise and Analysis Group. This group is responsible for avoiding 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 2013	FY 2014	FY 2015	
Title: Detection and Assessment									2.301	2.641	1.395	

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014	FY 2015
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. FY 2013 Accomplishments: • Transitioned Long-range imaging sensor to operate with a sonar system to identify divers at significant ranges in the underwater environment to low-rate production. • Transitioned optimal active sonar functionality in ultra-shallow water environments to low-rate production. FY 2014 Plans: • Develop Portable Detection System for Select Environments • Develop US Navy Spike Weapon System, Improved Electro-optical Seeker • Develop Ground-Based Operational Surveillance System - Expeditionary FY 2015 Plans: • Continue to develop Portable Detection System for Select Environments • Continue to develop US Navy Spike Weapon System, Improved Electro-optical Seeker • Continue to develop Ground-Based Operational Surveillance System - Expeditionary				
Title: Access Controls 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. FY 2013 Accomplishments: • Conducted Joint Capability Technology Demonstration for Defense Installation Access Control project to prove operational capability FY 2014 Plans: • Demonstrate the ability of existing marine mammals to intercept human targets and attach specially developed hardware to delay and deny access to critical resources.		1.926	2.210	0.751

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014	FY 2015
• Provide a continuous evaluation solution for DoD personnel security able to support the automated, continuous evaluation of cleared personnel against the Administrative Guidelines and other security risk management criteria, and alert appropriate to supplement and eventually replace periodic re-evaluations FY 2015 Plans: • Provide a continuous evaluation solution for DoD personnel security able to support the automated, continuous evaluation of cleared personnel against the Administrative Guidelines and other security risk management criteria, and alert appropriate to supplement and eventually replace periodic re-evaluations				
Title: Installation and Transport Security 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. FY 2013 Accomplishments: • Developed 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. • Developed 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. FY 2014 Plans: • Develop improved and common situational awareness to link shipboard security teams and shore-based security and response boats. • Conduct demonstration 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. FY 2015 Plans: • Integrate 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.		0.166	0.191	0.889
Title: Storage and Safeguards		0.148	0.169	-

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014	FY 2015
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. FY 2013 Accomplishments: • Transitioned economical magazine construction that comprehensively satisfies physical security criteria, explosive safety, operational and seismic safety standards to low-rate production. • Transitioned a Government Services Administration-approved shipboard security solution to low-rate production. FY 2014 Plans: • Establish fragment and blast load environment, identify potential materials to mitigate hazards, and document physical security and explosives safety requirements for Weapon Storage Containers.				
Title: Prevention 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 2013 Accomplishments: • Expanded engagement opportunities with international partners in Nuclear Security. Produces best practice guide and workshops. • Conducted requirements gap analysis between Global Threat Reduction Initiative and Cooperative Threat Reduction efforts for Global Nuclear Lockdown. FY 2014 Plans: • Develop and host Nuclear Testing, Diagnostics, Forensics and Stockpile Stewardship (NTDFSS) Course		0.295	0.339	-
Title: Decision Support Systems 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. FY 2013 Accomplishments:		0.800	0.918	0.581

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014
- Advanced 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. - Provided DoD and industry the means to achieve Physical Security Equipment interoperability through standards and interface specifications. FY 2014 Plans: - Develop capability to ensure threat alert and response systems are interoperable with equipment used by the DoD and mutual aid partners in the local communities FY 2015 Plans: - Develop a Defense Security Enterprise Architecture that would link/harmonize disparate and sub-optimal capabilities utilizing existing and emerging Component capabilities to better close known physical security gaps			
Title: Analytical Support 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 Enterprise RDT&E Program. FY 2013 Accomplishments: - Conducted physical security test and evaluation efforts FY 2014 Plans: - Conduct physical security test and evaluation efforts - Provide DOD and industry the means to achieve PSE interoperability FY 2015 Plans: - Conduct physical security test and evaluation efforts - Provide DOD and industry the means to achieve PSE interoperability		0.516	0.593
Accomplishments/Planned Programs Subtotals		6.152	7.061
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			

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<u>D. Acquisition Strategy</u> N/A		
<u>E. Performance Metrics</u> The program performance metrics are established/approved through the DoD Physical Security Enterprise and Analysis Group (PSEAG). The cost, schedule and technical progress of each project is reviewed at quarterly PSEAG. Performance variances are addressed and corrective action is implemented as necessary.		

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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
P042: CNT Rad/Nuc Passive Defense SDD	-	-	1.048	3.984	-	3.984	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification This project establishes a Defense-wide Countering Nuclear Threats (CNT) Materiel development Program. The CNT acquisition strategy directly applies to a Joint requirement for CNT materiel development and addresses the materiel and sustainment gaps for general purpose Joint Forces, including the US Army 20th Support Command and Navy Visit, Board, Search, and Seizure, as well as the Technical Support Groups; NIMBLE ELDER and the US Special Operations Command where required.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015	
Title: CNT Rad/Nuc Passive Defense									-	1.048	3.984	
Description: Advanced Development of Joint Radiological and Nuclear passive defense systems (i.e. Radiological Detection System and the Joint Personal Dosimeter).												
The Radiological Detection System will provide a ruggedized Radiation Detection, Indication, and Computation for real time gamma radiation monitoring and low energy x-ray, beta, alpha, and neutron detection.												
The Joint Personal Dosimeter will provide a joint solution to increase capability and reduce life-cycle costs.												
Both systems will address Operation TOMODACHI lessons learned for common, interoperable equipment with adequate sensitivity and common units of measure.												
FY 2014 Plans: Development of Joint Radiological and Nuclear passive defense systems (i.e. Radiological Detection System and the Joint Personal Dosimeter)												
FY 2015 Plans:												

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2013	FY 2014	FY 2015
Continue with the development of Joint Radiological and Nuclear passive defense systems (i.e. Radiological Detection System and the Joint Personal Dosimeter)			
Accomplishments/Planned Programs Subtotals	-	1.048	3.984

C. Other Program Funding Summary (\$ in Millions)
 N/A

Remarks

D. Acquisition Strategy
 N/A

E. Performance Metrics
 The program performance metrics are established/approved through the Countering Nuclear Threats Program Manager. The cost, schedule and technical progress is reviewed on a quarterly basis. Performance variances are addressed and corrective action(s) is(are) implemented as necessary.