Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Office of the Secretary Of Defense	Date: May 2017
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	180.297	31.149	28.498	32.937	-	32.937	36.085	34.702	37.624	36.641	Continuing	Continuing
P162: *Nuclear and Conventional Physical Security*	144.751	27.858	27.535	30.871	-	30.871	33.445	33.772	34.723	35.416	Continuing	Continuing
P041: *CNT Prevention ADC&P*	1.927	0.000	0.000	0.691	-	0.691	1.000	0.005	1.699	0.000	Continuing	Continuing
P040: *National Technical Nuclear Forensics Systems*	33.619	3.291	0.963	1.375	-	1.375	1.640	0.925	1.202	1.225	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 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 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. This program will evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment. 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 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.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Office of the Secretary Of Defense					Date: May 2017
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*		
B. Program Change Summary ($ in Millions)	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**
Previous President's Budget	31.648	28.498	33.677	-	33.677
Current President's Budget	31.149	28.498	32.937	-	32.937
Total Adjustments	-0.499	0.000	-0.740	-	-0.740
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.499	-			
• Internal Directed Reduction	-	-	-0.030	-	-0.030
• Internal Realignment	-	-	-0.490	-	-0.490
• DTIC Offset	-	-	-0.220	-	-0.220

Exhibit R-2A, RDT&E Project Justification: FY 2018 Office of the Secretary Of Defense			Date: May 2017
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	Project (Number/Name) P162 / *Nuclear and Conventional Physical Security*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P162: *Nuclear and Conventional Physical Security*	144.751	27.858	27.535	30.871	-	30.871	33.445	33.772	34.723	35.416	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 2016	FY 2017	FY 2018
Title: Detection and Assessment	9.787	15.225	17.839

Exhibit R-2A, RDT&E Project Justification: FY 2018 Office of the Secretary Of Defense		Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P162 / *Nuclear and Conventional Physical Security*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
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 2016 Accomplishments:*** • Developed a Joint detection and assessment capability • Developed a multi-sensor detection and discrimination capability to reduce nuisance and false alarms • Compared dual energy X-Ray vehicle imaging systems • Developed a radar processing dynamic structure filter to reduce nuisance and false alarms • Finalized development of the Joint Radiological Detection System • SPAM Transition to Operational Initial Capability (STOIC) • Stand-Off Weapon Defeat IPT • Thermal Imaging Dual-use for Aerosol Monitoring Alarms and Security ***FY 2017 Plans:*** • Develop a Joint detection and assessment capability • Develop a multi-sensor detection and discrimination capability to reduce nuisance and false alarms • Compare dual energy X-Ray vehicle imaging systems • Develop a radar processing dynamic structure filter to reduce nuisance and false alarms ***FY 2018 Plans:*** • Develop a Joint detection and assessment capability • Develop a multi-sensor detection and discrimination capability to reduce nuisance and false alarms • Compare dual energy X-Ray vehicle imaging systems • Develop a radar processing dynamic structure filter to reduce nuisance and false alarms			
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 2017 Plans:***	-	2.855	5.554

Exhibit R-2A, RDT&E Project Justification: FY 2018 Office of the Secretary Of Defense		Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P162 / *Nuclear and Conventional Physical Security*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
• Continue to develop a continuous evaluation capability to be able to identify cleared individuals in near real-time who may no longer meet the criteria for retaining a clearance and have become a potential security risk ***FY 2018 Plans:*** • Continue to develop a continuous evaluation capability to be able to identify cleared individuals in near real-time who may no longer meet the criteria for retaining a clearance and have become a potential security risk			
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 2016 Accomplishments:*** • Determined the Operational suitability of an Automated Harbor Barrier Gate capability • Developed an enterprise Installation Decision Support Initiative application providing risk analysis and risk mitigation decision support in a secure, web-enabled architecture to be hosted on the DoD's SIPRNET ***FY 2017 Plans:*** • Determine the Operational suitability of an Automated Harbor Barrier Gate capability • Develop an enterprise Installation Decision Support Initiative application providing risk analysis and risk mitigation decision support in a secure, web-enabled architecture to be hosted on the DoD's SIPRNET ***FY 2018 Plans:*** • Determine the Operational suitability of an Automated Harbor Barrier Gate capability • Conduct a concept demonstration in an operational environment comprised of equipment, technologies and systems deployed and integrated across land, rail and waterside operating areas to address physical security detection gaps	8.820	7.509	0.397
Title: Storage and Safeguards ***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 2018 Plans:***	-	-	0.000

Exhibit R-2A, RDT&E Project Justification: FY 2018 Office of the Secretary Of Defense		Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P162 / *Nuclear and Conventional Physical Security*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
No efforts currently planned.			
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 2018 Plans:*** • Utilize Electronic Warfare / Directed Energy system capabilities for feasibility testing against Personal Water Craft threats	-	-	2.562
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 2016 Accomplishments:*** • Developed a shared and automated content across the security domains and functional areas, enabling more efficient and accurate personnel vetting, access controls, insider threat prevention and enhanced security operating environments • Developed a risk analysis tool to help commanders' in the field make sound security decisions ***FY 2017 Plans:*** • Finalize the development of a shared and automated content across the security domains and functional areas, enabling more efficient and accurate personnel vetting, access controls, insider threat prevention and enhanced security operating environments • Finalize the risk analysis tool to help commanders' in the field make sound security decisions ***FY 2018 Plans:*** • Use modeling and simulation to characterize a High Value Unit escort with existing small boat support • Provide a secure communication system for responding forces that will represent a "leap ahead" from currently deployed systems • Provide a rapid replay or reconstruct system and operator activity to provide data forensics and training/exercise tools	4.836	1.946	3.120
Title: Analytical Support	4.415	-	1.399

Exhibit R-2A, RDT&E Project Justification: FY 2018 Office of the Secretary Of Defense		Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P162 / *Nuclear and Conventional Physical Security*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
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. ***FY 2016 Accomplishments:*** • Conducted a waterside security stakeholder Table Top Exercise to confirm set of alternatives and select the preferred alternative • Continued to support global nuclear security and support the US Government for the Nuclear Security Summit ***FY 2018 Plans:*** • Provide the support necessary to coordinate PSEAG efforts with the Military Services and Agencies, as they relate to the Test & Evaluation of Physical Security Equipment technology for applications within the DOD • Provide support to the Services to address physical security RDT&E needs			
Accomplishments/Planned Programs Subtotals	27.858	27.535	30.871

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 DoD Physical Security Enterprise and Analysis Group (PSEAG). The cost, schedule and technical progress is reviewed at quarterly PSEAG meetings. Performance variances are addressed and corrective action(s) is(are) implemented as necessary.

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Office of the Secretary Of Defense			Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P162 / *Nuclear and Conventional Physical Security*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years - Closed Out Efforts	Various	Various : Various	122.076	-		-		-		-		-	Continuing	Continuing	-
Defense Security Enterprise Architecture	Various	Multiple performers : Multiple locations	3.024	1.450		0.999		-		-		-	-	-	-
Keystone EUCOM Project	Various	Multiple Performers : Multiple Locations	2.804	1.845		1.977		-		-		-	-	-	-
Joint Risk Decision Support Tool	MIPR	AF Civil Engineering Center : Tyndall AFB, FL	2.071	1.800		1.524		-		-		-	-	-	-
Foliage Penetrating Technology Evaluation	MIPR	Naval Surface Warfare Crane : Crane, Indiana	0.504	-		-		2.700		-		2.700	-	-	-
Radar Assisted Area Protection	MIPR	US Army ARDEC : Picatinny Arsenal, NJ	3.979	2.500		-		-		-		-	-	-	-
Automated Harbor Barrier Gate - Operational Suitability	MIPR	CTTSO - Navy Systems Mgmt : JBAB, DC	1.000	1.250		-		-		-		-	-	-	-
Detection & Assessment Follow-on	Various	Multiple Vendors : Multiple Locations	1.500	2.054		2.000		-		-		-	-	-	-
Maritime Expeditionary & Transit Security	MIPR	ARO : Research Triangle Park, NC	0.760	1.255		1.455		-		-		-	-	-	-
US Navy Spike Weapon System, Common Launch Tube	MIPR	NAVAIRWARCENWPNDIV : China Lake, CA	1.000	1.555		0.984		-		-		-	-	-	-
Thermal Imaging Dual-use for Aerosol Monitoring Alarms and Security	MIPR	ECBC : Aberdeen Proving Ground	0.700	1.678		1.788		-		-		-	-	-	-
Multi-sensor Detection and Discrimination	MIPR	Naval Research Laboratory : Washington, DC	0.590	0.650		0.873		0.400		-		0.400	-	-	-
Tactical Security System	MIPR	Multiple Performers : Multiple Locations	-	-		2.850		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Office of the Secretary Of Defense			Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P162 / *Nuclear and Conventional Physical Security*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mobile Integrated Expeditionary Vehicle Inspection Station	MIPR	US Army ARDEC : Picatinny Arsenal, NJ	-	-		2.100		1.150		-		1.150	-	-	-
Linear Sensor System for Multi-Threat Detection	MIPR	Engineer Research and Development Center : Vicksburgs, MS	-	-		1.750		1.097		-		1.097	-	-	-
PL1N/PL1 Portable Intrusion Detection System	MIPR	AFLCMC : Hanscom AFB, MA	-	-		1.100		1.500		-		1.500	-	-	-
JIGSAW Enhanced Capability Suite Technology Development	MIPR	SPAWAR Atl : Charleston, SC	-	-		0.800		-		-		-	-	-	-
GreyNet - Secure Communications with Persistent Identification/ Blue Force Tracking	MIPR	SPAWAR Atlantic : Charleston, SC	-	-		1.450		1.732		-		1.732	-	-	-
Wide Area Detection Systems	MIPR	AFLCMC : Hanscom AFB, MA	-	-		0.800		-		-		-	-	-	-
Radar Detection of UAVs	MIPR	SPAWAR Atlantic : Charleston, SC	-	-		0.700		-		-		-	-	-	-
HVU Self Escort M&S	MIPR	Navy - Strategic System Programs : Washington Navy Yard, DC	-	-		-		0.275		-		0.275	-	-	-
Force Protection Pre-shot Sniper Detection Capability	TBD	TBD : TBD	-	-		-		1.918		-		1.918	Continuing	Continuing	-
Harbor and Restricted Waterway Counter-UUV/ AUV System	MIPR	NUWC NWPT : Newport, RI	-	-		-		0.975		-		0.975	Continuing	Continuing	-
WISP 2.0	TBD	TBD : TBD	-	-		-		1.949		-		1.949	Continuing	Continuing	-
Joint UAS Defeat Project	TBD	TBD : TBD	-	-		-		0.846		-		0.846	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Office of the Secretary Of Defense		Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P162 / *Nuclear and Conventional Physical Security*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Installation Access Control	TBD	TBD : TBD	0.345	-		-		3.000		-		3.000	Continuing	Continuing	-
Trace Explosive Detection System Improvement	MIPR	NSWC IHEODTD : Indian Head, MD	-	-		-		0.531		-		0.531	Continuing	Continuing	-
Gatekeeper on the Move - Biometrics	TBD	TBD : TBD	-	-		-		1.497		-		1.497	Continuing	Continuing	-
Counter Personal Water Craft - Naval Experiment	MIPR	NSWC Dahlgren : Dahlgren, VA	-	-		-		0.561		-		0.561	Continuing	Continuing	-
Physical Security Enterprise Program	Various	Multiple Performers : Multiple Locations	-	8.441		2.450		3.033		-		3.033	-	-	-
Defense Security CBRN Information Sharing	Various	ARDEC : Picatinny Arsenal, NJ	-	-		-		2.245		-		2.245	Continuing	Continuing	-
		Subtotal	140.353	24.478		25.600		25.409		-		25.409	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
World Institute for Nuclear Security	MIPR	Defense Threat Reduction Agency : Ft Belvoir, VA	0.650	0.350		0.350		-		-		-	-	-	-
International Atomic Energy Agency Support	IA	Department of State : Washington, DC	0.500	0.300		-		-		-		-	-	-	-
Physical Security Subject Matter Experts	MIPR	Naval Sea Systems Command : Washington Navy Yard, DC	0.320	0.250		0.250		0.135		-		0.135	-	-	-
Nuclear Security Subject Matter Experts	Various	*** PERFORMING ACTIVITY *** : *** LOCATION ***	-	-		-		0.150		-		0.150	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Office of the Secretary Of Defense		Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P162 / *Nuclear and Conventional Physical Security*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Autonomous Defense Accelerator	MIPR	Army Research Lab : Adelphi, MD	-	-		-		0.200		-		0.200	Continuing	Continuing	-
PSEAG Support	MIPR	Army Research Lab : Adelphi, MD	-	-		-		0.536		-		0.536	Continuing	Continuing	-
Texas Engineering Experiment Station	Option/ T&M	Texas A&M University : Texas	-	-		-		0.249		-		0.249	Continuing	Continuing	-
Contingency Response Tool	SS/FFP	Cubic Global Defense : San Diego, CA	-	-		-		0.886		-		0.886	Continuing	Continuing	-
PSEAG Website and PSEAG SharePoint	MIPR	Army Research Lab : Adelphi, MD	0.266	-		-		0.206		-		0.206	Continuing	Continuing	-
		Subtotal	1.736	0.900		0.600		2.362		-		2.362	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Citadel Protect	Various	Various : Various	-	-		-		0.140		-		0.140	Continuing	Continuing	-
COTS Indoor Detection System	MIPR	SPAWAR : Charlston, SC	-	-		-		0.473		-		0.473	Continuing	Continuing	-
Development, Test and Evaluation of System Operations Audit and Recording	MIPR	SPAWAR : Charlston, SC	-	-		-		0.591		-		0.591	Continuing	Continuing	-
Comparative Evaluation of Man-Portable Mass Spectrometry Explosive Detection Systems T&E	MIPR	NAVEODTECH : Indian Head, MD	-	-		-		0.918		-		0.918	Continuing	Continuing	-
Comparative Colorimetric T&E	MIPR	NAVEODTECH : Indian Head, MD	-	-		-		0.978		-		0.978	Continuing	Continuing	-
		Subtotal	-	-		-		3.100		-		3.100	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Office of the Secretary Of Defense		Date: May 2017
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years - Completed Efforts	Various	*** PERFORMING ACTIVITY *** : *** LOCATION ***	0.507	-		-		-		-		-	Continuing	Continuing	-
Detection & Assessment IPT	MIPR	AF Security Forces Center : Lackland AFB, TX	0.450	0.350		0.350		-		-		-	-	-	-
DoD Nuclear Weapons Complex Critical Infrastructure Analysis	MIPR	Naval Sea Systems Command : Washington Navy Yard, DC	0.255	0.455		-		-		-		-	-	-	-
Explosive Detection Equipment Guide	MIPR	NAVEODTECH : Indian Head, MD	0.700	0.850		0.985		-		-		-	-	-	-
JASON Study	MIPR	Defense Threat Reduction Agency : Ft Belvoir, VA	0.500	0.525		-		-		-		-	-	-	-
Monterey Institute of International Studies	MIPR	Defense Threat Reduction Agency : Ft Belvoir, VA	0.250	0.300		-		-		-		-	-	-	-
		Subtotal	2.662	2.480		1.335		-		-		-	-	-	-

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	144.751	27.858		27.535		30.871		-		30.871	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 Office of the Secretary Of Defense		Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P162 / *Nuclear and Conventional Physical Security*

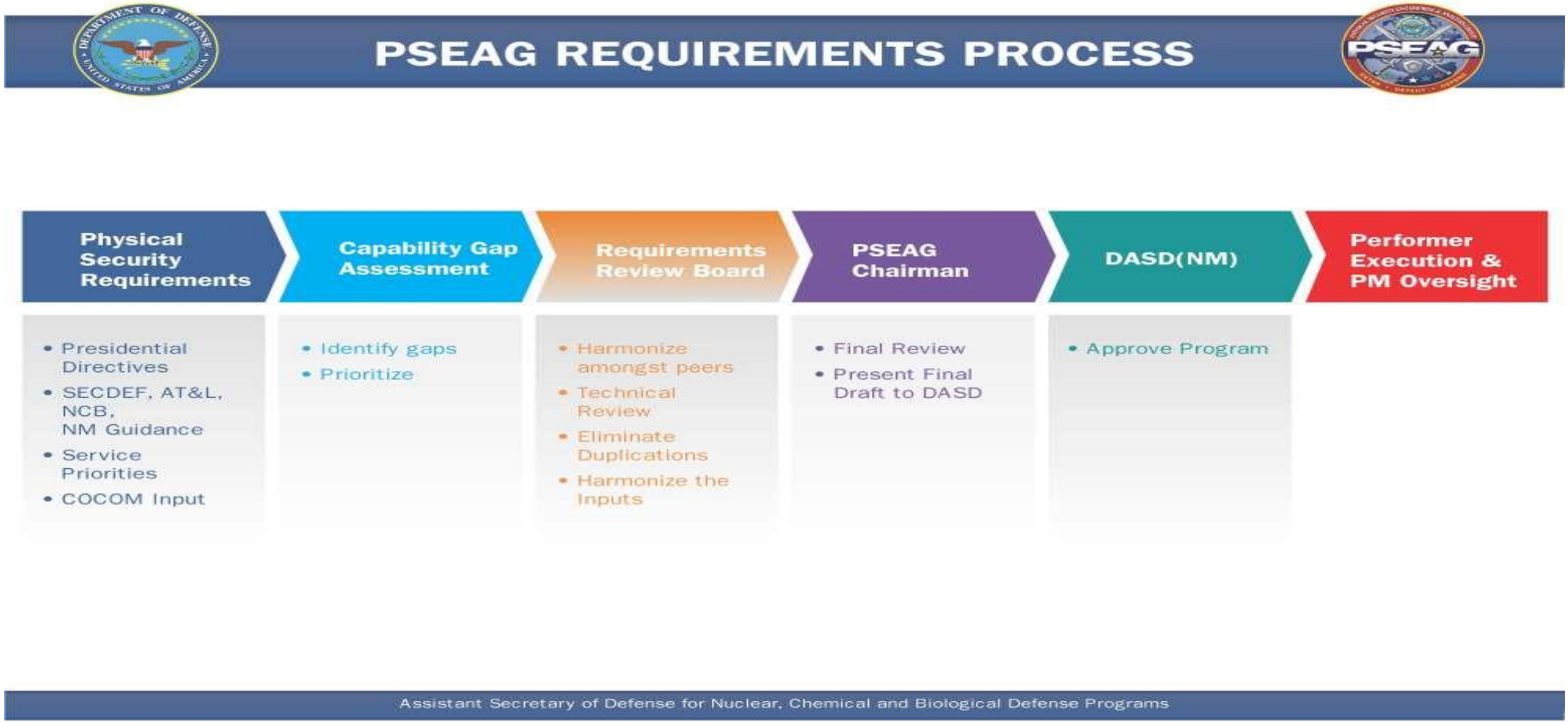

Exhibit R-4A, RDT&E Schedule Details: FY 2018 Office of the Secretary Of Defense		Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P162 / *Nuclear and Conventional Physical Security*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Detection & Assessment				
Detection & Assessment	1	2012	4	2022
Decision Support				
Decision Support	1	2012	4	2022
Storage & Safeguards				
Storage & Safeguards	1	2012	4	2022
Installation & Transport Security				
Installation & Transport Security	1	2012	4	2022
Prevention				
Prevention	1	2012	4	2022
Access Control				
Access Control	1	2012	4	2022
Analytical Support				
Analytical Support	1	2012	4	2022

Exhibit R-2A, RDT&E Project Justification: FY 2018 Office of the Secretary Of Defense			Date: May 2017
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	Project (Number/Name) P041 / *CNT Prevention ADC&P*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P041: *CNT Prevention ADC&P*	1.927	0.000	0.000	0.691	-	0.691	1.000	0.005	1.699	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Establish a Defense-wide Countering Nuclear Threats (CNT) Materiel Development Program focused on prevention. Addresses capability gaps identified by Services, Combatant Commands, and Joint Staff. The CNT acquisition strategy directly applies to Joint requirements for CNT materiel development and addresses the materiel and sustainment gaps for general purpose Joint Forces including the US Army 20th Support Command / Navy Visit, Board, Search, and Seizure / Technical Support Groups (NIMBLE ELDER and the US Special Operations Command).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Title: Countering Nuclear Threats	-	-	0.691
Description: Establish a Defense-wide Countering Nuclear Threats (CNT) Materiel Development Program in FY14 based on capability gaps identified by Services, Combatant Commands, and Joint Staff. The CNT acquisition strategy directly applies to Joint requirements for CNT materiel development and addresses the materiel and sustainment gaps for general purpose Joint Forces including the US Army 20th Support Command / Navy Visit, Board, Search, and Seizure / Technical Support Groups (NIMBLE ELDER and the US Special Operations Command). ***FY 2018 Plans:*** • Develop an active prevention capability to counter nuclear threats			
Accomplishments/Planned Programs Subtotals	-	-	0.691

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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Office of the Secretary Of Defense			Date: May 2017
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	Project (Number/Name) P040 / *National Technical Nuclear Forensics Systems*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P040: *National Technical Nuclear Forensics Systems*	33.619	3.291	0.963	1.375	-	1.375	1.640	0.925	1.202	1.225	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Nuclear forensics is the thorough collection, analysis and evaluation of radiological and nuclear material in a pre-detonation state and post-detonation radiological or nuclear materials, devices and debris, as well as the immediate effects created by a nuclear detonation. The ability to identify the source of nuclear material from radioactive debris is critical to our national defense and security. Swift and accurate forensic and attribution (identification) capabilities are vital to developing an appropriate national response to a nuclear event and preventing future attacks in a timely manner.

Nuclear terrorism is one of the most significant and pressing threats identified by national leadership. A credible nuclear forensics program is essential to preventing nuclear terrorism by deterring nations from sponsoring nuclear terrorism. During the Deputy Management Advisory Group process shortfalls and resources to close these gaps were identified and supported by the Deputy Secretary of Defense. The purpose of this program is to develop systems such as ground based prompt diagnostic systems and airborne sample collection systems to provide timely and accurate information to national leadership in the area of nuclear forensics.

Per DoDD 2060.04 OSD AT&L NCB provides guidance and direction for the implementation of the Department of Defense National Technical Nuclear Forensics program. NCB represents DoD interests in all areas of nuclear forensics but emphasizes post-detonation applications due to Presidential guidance assigning the department the lead role in develop, providing, and maintaining post-detonation nuclear forensics capability.

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Title: National Technical Nuclear Forensics Systems	3.291	0.963	1.375
Description: Advanced development of ground based prompt diagnostic and airborne collection systems. This technology will provide new information that increases accuracy and provides an improved timeline in support of senior leadership decision making.			
FY 2016 Accomplishments: • Completed installation of prototype prompt diagnostics systems in Metropolitan Areas B & C. Develop and tested prototype prompt diagnostics systems for testbed use. Continue testing and operational support and integration of prototype ground-based prompt diagnostic systems and install in one additional city.			

Exhibit R-2A, RDT&E Project Justification: FY 2018 Office of the Secretary Of Defense		Date: May 2017
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** P040 / *National Technical Nuclear Forensics Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
• Procured platform-specific mounting systems to enable operation of Harvester PACS on DCR-designated platform. Continued research for modular air sample collection systems to support National Technical Nuclear Forensics and augment treaty verification capabilities. ***FY 2017 Plans:*** • Transition operational support and integration of ground-based prompt diagnostic systems to the Air Force for strategic implementation in key metropolitan areas. • Continue Harvester PACS operational support of a modular particulate air sampling capability that augments the Department of Defense mobile nuclear air sampling capability to support collection requirements for treaty verification and National Technical Nuclear Forensics. ***FY 2018 Plans:*** • Continue Harvester PACS operational support of a modular particulate air sampling capability that augments the Department of Defense mobile nuclear air sampling capability to support collection requirements for treaty verification and National Technical Nuclear Forensics.			
Accomplishments/Planned Programs Subtotals	3.291	0.963	1.375

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. This is new program focusing on advanced development to meet critical needs.