Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Office of the Secretary Of Defense	Date: February 2020
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603161D8Z *I Nuclear and Conventional Physical Security/Countering Nuclear Threats*

COST ($ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	269.462	27.123	42.695	32.636	-	32.636	32.130	32.003	32.073	32.825	Continuing	Continuing
162: *Nuclear and Conventional Physical Security*	228.142	26.401	35.134	24.654	-	24.654	22.563	23.324	23.787	24.374	Continuing	Continuing
041: *CNT Prevention ADC&P*	1.927	0.537	5.836	6.257	-	6.257	6.842	6.954	7.059	7.199	Continuing	Continuing
040: *National Technical Nuclear Forensics Systems*	39.393	0.185	1.725	1.725	-	1.725	2.725	1.725	1.227	1.252	Continuing	Continuing

Note

Transferred $5.700 million each year through the FYDP from PE 0603161D8Z to 0605161D8Z to better align analytical work being done.

A. Mission Description and Budget Item Justification

This Program Element (PE) addresses the need to defend and deter against weapons of mass destruction 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 and rapid fielding throughout the DoD for an integrated and systemic approach for countering nuclear threats and the development of nuclear and conventional physical security material solutions. Public Law, Presidential and DoD-level guidance, and Combatant Command and Service requirements drive the priorities for these programs.

Under this PE, funding associated with nuclear and convention physical security material solution for the Department is broken down into 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 material solutions either (a) lead to a Programs of Record transitioning to Program Element 0604161D8Z for Systems Development and Demonstration; (b) become technology insertions into existing programs; or (c) advance to being a certified Commercial/Government off-the-shelf product. The Physical Security Enterprise and Analysis Group is responsible for avoiding duplication of effort, ensuring systems integration, and promoting interoperability and sustainability.

DoD's laboratory capability is limited by capacity and technical expertise. In fiscal year (FY) 2018, Departments and Agencies began to shift research and development from NTNF to other mission areas. This resulted in degradation of the DoD's (and by default, the U.S. Government's) ability to execute the nuclear forensics mission and deter adversaries. Reemphasizing the importance of this mission is crucial to the success of this program.

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

This appropriation will finance work, including staffing, performed by a government agency or by private individuals or organizations under a contractual or grant arrangement with the government who conduct research, development, and test and evaluation efforts.

Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Office of the Secretary Of Defense	Date: February 2020
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603161D8Z *I Nuclear and Conventional Physical Security/Countering Nuclear Threats*

B. Program Change Summary ($ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	28.076	42.695	44.047	-	44.047
Current President's Budget	27.123	42.695	32.636	-	32.636
Total Adjustments	-0.953	0.000	-11.411	-	-11.411
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.343	-			
• SBIR/STTR Transfer	-0.605	-			
• Fiscal Guidance	-	-	-2.240	-	-2.240
• Internal Realigning	-	-	-5.700	-	-5.700
• Cancelled Acct	-0.005	-	-	-	-
• Economic Assumption	-	-	-0.038	-	-0.038
• Defense Wide Review Adjustment	-	-	-3.433	-	-3.433

Change Summary Explanation

Shifted $5.7 million each year through the FYDP from PE 0603161D8Z to 0605161D8Z to better align analytical work being done. Additional reductions are to due to the Economic Assumption and the Defense Wide Review adjustment.

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	Project (Number/Name) 162 / *Nuclear and Conventional Physical Security*	

COST ($ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
162: *Nuclear and Conventional Physical Security*	228.142	26.401	35.134	24.654	-	24.654	22.563	23.324	23.787	24.374	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Physical Security Enterprise & Analysis Program (PSEAP) conducts Technology and Engineering and Manufacturing Development throughout the Department of Defense for an integrated and systemic approach for nuclear and conventional physical security technology and systems. Priorities are driven by Combatant Command and Service requirements. This program is also addressing the Unmanned Systems threat by developing technology solutions that address the entire Kill Chain (Detect, Track, Identify, and Defeat) that are interoperable.

Funding associated with nuclear and convention physical security material solution for the Department is broken down into 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 material solutions either (a) lead to a Programs of Record transitioning to Program Element 0604161D8Z for Systems Development and Demonstration; (b) become technology insertions into existing programs; or (c) advance to being a certified Commercial/Government off-the-shelf product. The Physical Security Enterprise and Analysis Group is responsible for avoiding duplication of effort, ensuring systems integration, and promoting interoperability and sustainability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
Title: Detection and Assessment	15.375	19.803	13.092
Description: The ability to detect an adversary and assess their intentions is a basic physical security tenent. 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. Accomplishment: The PSEAP and the National Nuclear Security Administration (NNSA) are jointly developing a Portable Intrusion Detection System (PIDS) that addresses similar needs to protect nuclear weapons and special nuclear material. PIDS will provide a stable sensor platform that maintains the integrity of an existing secure perimeter in the event of sensor maintenance or system downtime. These include, but are not limited to, scheduled maintenance and upgrade activities for extended periods of time, or during emergency situations requiring the establishment of a National Defense Area; and mission requirements that dictate deployment of nuclear certified assets to locations that do not meet nuclear security requirements. ***FY 2020 Plans:*** • Continue Trace Explosive Detection System Improvements			

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
• Continue evaluation of Colorimetric kits on bulk explosives and materials to evaluate the potential trace detection capabilities • Continue Linear Sensor System Development for Maritime Threats • Continue efforts on Joint Active Shooter Protection and Response • Conduct an independent cyber assessment of the Sonardyne Sentinel Sonar sub-system to determine system vulnerabilities in order to fortify the physical security of USINDOPACOM's distributed basing strategy. ***FY 2021 Plans:*** • Complete integration of the PIDS suitable for Nuclear and Non-nuclear security requirements for the US Air Force and NNSA. • Develop a system that produces high-quality underwater images enabling human assessment of underwater threats at ranges up to 70 feet. • Develop an algorithm to automatically classify alarms to quickly present valid alarms and reduce the occurrences of invalid alarms and test in an operationally relevant waterside security environment. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Projects and project costs vary from year to year.			
Title: Access Controls	4.812	6.321	4.954
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. Accomplishment: Defense Installation Access Control project enhances the Identity Matching Engine for Security & Analysis (IMESA) used at hundreds of DoD entry control points to compare Personal Identity Verification/Common Access Card holders against the National Crime Information Center and the Interstate Identification Index. Previous work developed a capability that compares DoD registered cardholders against the FBI's Wanted Persons File and against the Terrorist Screening Database. This capability prevents un-cleared people or potential terrorists from entering DoD installations. The upgraded system identified an individual with warrants for murder and aggravated assault with a deadly weapon trying to get installation access. ***FY 2020 Plans:*** • Continue system improvement on the IMESA capability to enhance the matching engine to compare cardholders against the Terrorist Screening Database. ***FY 2021 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
• Evaluate application of radio-frequency identification technology to rapidly detect Biological Select Agents and Toxins (BSAT) in packages exiting Army BSAT laboratories' entry control points and shipping areas without opening the containers. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Projects and project costs vary from year to year.			
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. Accomplishment: Joint Active Shooter Protection and Response project will integrate sensors to automatically detect indoor gunshots; provides potential victims, responders and authorized personnel with information to enhance situational awareness; and enable automatic or manual control of the building - inhibiting the shooter - shortening the duration of an active shooter. US Military Academy agreed to be used as a test bed for this effort and the results have wide ranging potential to be incorporated into soft or high value facilities. ***FY 2020 Plans:*** • Continue to develop the Virtual Reality Synthetic Boat and Warning Shot Simulator to create a virtual version of the warning shot simulator training; that is lightweight, supplements the existing training, and provides remote anytime-anywhere refresher training . • Continue design improvements and demonstrate a field-able stabilized crew-served heavy machine gun for naval applications. ***FY 2021 Plans:*** • Evaluate Automated Unmanned Ground Vehicle for Patrol & Security to enhance and augment manned security resources by providing pre-positioned and roving outdoor surveillance, security, safety, and routine/repeatable. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Projects and project costs vary from year to year.	0.251	0.451	0.354
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.	0.000	0.500	0.500

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
Accomplishment: Develop a security container for aircraft use meeting customer-established metrics for system mass, dimension configuration, and environmental suitability. Integrate into a designated space on aircraft. Incorporate design features to meet customer-derived Concept of Operations and mission assurance metrics. Integrate design into existing aircraft configuration management and systems engineering concepts. ***FY 2020 Plans:*** • Continue to develop a security container for critical documents on aircraft. ***FY 2021 Plans:*** • Complete development of a security container for critical documents on aircraft through a concept demonstration. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Efforts can vary each year.			
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. Accomplishment: Increase Counter-Unmanned Aircraft System (C-UAS) capabilities and operator effectiveness at strategic locations within the DoD by integrating radar, electronic warfare, and camera sensor turret systems into common C2; installing physical passive defense barriers at critical locations; and expanding radar capabilities. ***FY 2020 Plans:*** • Integrate lighter-weight turret on the Joint Light Tactical Vehicle (JLTV) to reduce weight for a remote weapons station requirement the JLTV was not designed for to C-UAS. • Integrate crew-served mount with Smart Shooter trigger interrupt and ballistic solution to the M240B to manually engage a small UAS by providing a kinetic solution to the kill chain. ***FY 2021 Plans:*** • Continue to integrate a lighter-weight turret on the Joint Light Tactical Vehicle (JLTV) to reduce weight for a remote weapons station requirement the JLTV was not designed for to Counter Unmanned Aircraft Systems	2.166	2.916	2.385

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
• Continue to integrate Crew-served mount with Smart Shooter trigger interrupt and ballistic solution to the M240B to manually engage a small UAS by providing a kinetic solution to the kill chain. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Projects and project costs vary from year to year.			
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. Accomplishment: Platform for Integrated Command, Control, and Communication and Responsive Defense project is developing the next generation security system using an open fusion annunciator, a secure cloud infrastructure and integration with a mobile Common Operating Picture, to create a cost-effective sensor platform. This capability will eventually replace antiquated security systems that are based on high cost sensor technology with low-cost sensors used in fields like the automotive industry. ***FY 2020 Plans:*** • Continue development of a full Cross Domain Solution that allows unclassified sensors to inter-operate with classified force protection command and control systems ***FY 2021 Plans:*** • Develop a capability to allow a user to see color images in night time by leveraging an electro-optical camera that is more cost effective than the commonly used infrared cameras. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Projects and project costs vary from year to year.	2.660	3.551	2.721
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/Countering Nuclear Threats RDT&E Program. Accomplishment: The Maritime Expeditionary & Transit Security project demonstrated and evaluated how advanced non-lethal weapons technology employed for extended range will enhance and improve response capabilities for the transit protection	1.137	1.592	0.648

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
mission. This project also determined how a flexible and scalable precision fire weapons system capability enhances/augments the current use of crew served weapons to counter fast approaching surface threats during High Value Unit transits. ***FY 2020 Plans:*** • Complete Force Protection Workload Reduction Video Analytics project that will automatically analyze video through the use of software to detect and determine events, while providing information related to the events taking place in real time. ***FY 2021 Plans:*** • Next Generation Electronic Security System project will identify new sensor technology for use in future security systems. Leverage industry (e.g. automotive and autonomous operations) to identify low cost solutions. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Projects and project costs vary from year to year.			
Accomplishments/Planned Programs Subtotals	26.401	35.134	24.654

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years - Closed Out Efforts	Various	Various : Various	176.505	-		-		-		-		-	-	-	-
Tactical Security System	MIPR	Multiple Performers : Multiple Locations	2.350	1.995		1.150		-		-		-	-	-	-
Linear Sensor System for Multi-Threat Detection	MIPR	Engineer Research and Development Center : Vicksburgs, MS	2.450	1.320		-		-		-		-	-	-	-
Portable Intrusion Detection System	MIPR	AFLCMC : Hanscom AFB, MA	2.962	1.000		1.000		-		-		-	-	-	-
Force Protection Pre-shot Sniper Detection Capability	TBD	Multiple Performers : Multiple Locations	1.464	0.500		-		-		-		-	-	-	-
WISP 2.0	TBD	TBD : TBD	1.616	1.000		-		-		-		-	-	-	-
Defense Installation Access Control	TBD	TBD : TBD	2.198	1.422		-		-		-		-	-	-	-
Physical Security Enterprise Program	Various	Multiple Performers : Multiple Locations	9.650	0.542		-		0.267		-		0.267	-	-	-
Force Protection Cross Domain	MIPR	Multiple Performers : Multiple Locations	1.408	1.400		-		-		-		-	-	-	-
Force Protection Workload Reduction via Video Analytics	MIPR	Multiple Performers : Multiple Locations	1.047	1.496		-		-		-		-	-	-	-
Joint Active Shooter Protection and Response	MIPR	ARDEC : Picatinny Arsenal, NJ	0.723	1.583		-		-		-		-	-	-	-
Enhancing Biosecurity Surveillance using RFI Technology	MIPR	US Army Medical Research Institute of Infectious Diseases : Fort Detrick, MD	0.287	0.559		-		-		-		-	-	-	-
Enhanced Access Control for Husbanding Agencies using Biometrics	MIPR	Naval Surface Warfare Center, Dahlgren Division : Dahlgren, VA	0.952	0.375		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
M2HB/M2A1	MIPR	Naval Surface Warfare Center, Crane Division : Crane, IN	0.400	0.750		-		-		-		-	-	-	-
GunnAR for Waterside Security	MIPR	SPAWARSYSCEN Pacific : San Diego, CA	0.700	0.300		-		-		-		-	-	-	-
Virtual Reality Synthetic Boat and Warning Shot Simulator	MIPR	Multiple Performers : Multiple Locations	0.416	0.423		0.131		-		-		-	-	-	-
Automated Alarm Assessment	MIPR	Multiple Performers : Multiple Locations	-	0.978		-		-		-		-	-	-	-
Secure Tactical Communications Module	MIPR	Multiple Performers : Multiple Locations	-	0.826		0.798		-		-		-	-	-	-
Flexible Fire Control System	MIPR	Multiple Performers : Multiple Locations	-	0.934		1.400		-		-		-	-	-	-
Alert Attack Resistant Container	MIPR	Naval Facilities Engineering and Expeditionary Warfare Center : Port Hueneme, CA	0.119	1.000		0.500		-		-		-	-	-	-
Stabilized Crew-Served Heavy Machine Gun Mount	MIPR	NSWC : Crane, IN	-	-		0.614		-		-		-	-	-	-
Joint Expeditious Surface-Threat Sonar Capability	MIPR	TBD : TBD	-	-		1.499		2.406		-		2.406	Continuing	Continuing	-
Counter UAS Capability for DoD	MIPR	Various Performers : Various Locations	-	-		5.500		5.500		-		5.500	-	-	-
Wide Area Surveillance & Detection System with Light Detection and Ranging	MIPR	TBD : TBD	-	-		2.000		1.000		-		1.000	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mobile Underwater Threat Imaging System	MIPR	TBD : TBD	-	-		0.860		0.610		-		0.610	Continuing	Continuing	-
Real-Time Video Enhancement Software	MIPR	TBD : TBD	-	-		1.200		1.300		-		1.300	Continuing	Continuing	-
Affordable Counter Small UAS Situational Awareness	MIPR	TBD : TBD	-	-		1.600		1.400		-		1.400	Continuing	Continuing	-
Handheld Force Protection Command and Control	MIPR	TBD : TBD	-	-		0.900		1.200		-		1.200	Continuing	Continuing	-
Light Detection and Ranging Change and Shape Detection	MIPR	TBD : TBD	-	-		1.500		1.300		-		1.300	Continuing	Continuing	-
Automated Unmanned Ground Vehicle for Patrol & Security	MIPR	TBD : TBD	-	-		0.600		0.600		-		0.600	Continuing	Continuing	-
Effective/Affordable Night Time Color Camera	MIPR	TBD : TBD	-	-		1.500		1.300		-		1.300	Continuing	Continuing	-
Marine Mammal Program/ Cooperative Vigilance	MIPR	TBD : TBD	-	-		0.747		0.695		-		0.695	Continuing	Continuing	-
Integrated Multi-Sensor Perimeter Awareness with Intelligent Light Detection and Ranging System of Systems	MIPR	TBD : TBD	-	-		0.850		0.750		-		0.750	Continuing	Continuing	-
Near-Shore Unified Tactical Response (NUTR) Battlefield Objective Navigation Display (BOND)	MIPR	TBD : TBD	-	-		0.300		0.300		-		0.300	Continuing	Continuing	-
Security Controlled Unmanned Aerial Airfield System	MIPR	TBD : TBD	-	-		0.840		0.814		-		0.814	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	205.247	18.403		25.489		19.442		-		19.442	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Completed Efforts	Various	Various Performers : Various Locations	3.236	-		-		-		-		-	-	-	-
Nuclear Security Subject Matter Experts	MIPR	Applied Research Laboratories, The University of Texas : Austin, Texas	1.145	0.225		0.225		0.225		-		0.225	Continuing	Continuing	-
PSEAG Support	MIPR	Army Research Lab : Adelphi, MD	0.536	0.600		-		-		-		-	Continuing	Continuing	-
PSEAG Website and PSEAG SharePoint	MIPR	Army Research Lab : Adelphi, MD	0.530	0.395		-		-		-		-	Continuing	Continuing	-
Nuclear Matters Analytical Cell for Nuclear Deterrence	IA	DOE/Sandia National Laboratory : Albuquerque, NM	1.500	1.500		4.200		-		-		-	Continuing	Continuing	-
Nuclear Matters SIRC/ NDERG Support	Option/ T&M	SAIC : McLean, VA	0.700	1.500		0.166		-		-		-	Continuing	Continuing	-
Nuclear Matters Support	C/FFP	E3 Federal Solutions : Washington, DC	0.053	0.086		-		-		-		-	Continuing	Continuing	-
Nuclear Matters Technical Support	IA	Department of Health and Human Services : Bethesda, MD	0.107	1.526		1.500		-		-		-	Continuing	Continuing	-
PSEAG Support	MIPR	Air Force Civil Engineer Center : Tyndall AFB, FL	-	-		0.575		0.575		-		0.575	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense		Date: February 2020
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Nuclear Matters/PSEAG Support	MIPR	TBD : TBD	-	-		-		1.762		-		1.762	Continuing	Continuing	-
DoD Electronic Security System Analysis	MIPR	Office of Naval Reserach : TBD	-	-		0.450		-		-		-	Continuing	Continuing	-
		Subtotal	7.807	5.832		7.116		2.562		-		2.562	Continuing	Continuing	N/A

Remarks

NA

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Completed Efforts	Various	Multiple Performers : Multiple Locations	2.799	-		-		-		-		-	Continuing	Continuing	-
Aerial Physical Security Assessment	MIPR	SPAWARSYSCEN Atlantic : Charlston, SC	0.595	0.433		-		-		-		-	Continuing	Continuing	-
Joint Assessment of Nefarious Swimmer System	MIPR	Multiple Performers : Multiple Locations	0.975	1.267		-		-		-		-	Continuing	Continuing	-
Greyscan T&E	MIPR	NSWC IHEODTD : Indian Head, MD	-	0.371		-		-		-		-	-	-	-
C-UAS in the Homeland	MIPR	Mulitple Performers : Various Locations	4.247	-		-		-		-		-	Continuing	Continuing	-
Test & Evaluation Oversight	MIPR	SPAWARSYSCEN Atlantic : Charleston, SC	-	-		0.125		0.125		-		0.125	Continuing	Continuing	-
Counter Intrusion / Counter Unmanned Aircraft System	MIPR	Defense Technical Information Center - Various Performers : Various Locations	-	-		0.500		0.500		-		0.500	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development, Test and Evaluation of an Electronic Security Systems Information Management System	MIPR	TBD : TBD	-	-		0.690		0.750		-		0.750	Continuing	Continuing	-
Electronic Harbor Security System-Sensor Track Fusion	MIPR	Applied Research Laboratory/Univerity of Texas (Through NAVSEA) : Austin, TX	-	-		0.750		0.300		-		0.300	Continuing	Continuing	-
Next Generation Electronic Security System	MIPR	NIWC-LANT : Charleston, SC	-	-		-		0.700		-		0.700	Continuing	Continuing	-
		Subtotal	8.616	2.071		2.065		2.375		-		2.375	Continuing	Continuing	N/A

Remarks

NA

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years - Completed Efforts	Various	Multiple Performers : Multiple Locations	5.071	-		-		-		-		-	Continuing	Continuing	-
Detection & Assessment IPT	MIPR	AF Security Forces Center : Lackland AFB, TX	1.401	0.095		-		-		-		-	-	-	-
Management Services	TBD	Multiple Performers : Multiple Locations	-	-		0.464		0.275		-		0.275	Continuing	Continuing	-
		Subtotal	6.472	0.095		0.464		0.275		-		0.275	Continuing	Continuing	N/A

Remarks

NA

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*	

	Prior Years	FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	228.142	26.401		35.134		24.654		-		24.654	Continuing	Continuing	N/A

Remarks

NA

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Detection & Assessment				
Detection & Assessment	1	2012	4	2025
Decision Support				
Decision Support	1	2012	4	2025
Storage & Safeguards				
Storage & Safeguards	1	2012	4	2025
Installation & Transport Security				
Installation & Transport Security	1	2012	4	2025
Prevention				
Prevention	1	2012	4	2025
Access Control				
Access Control	1	2012	4	2025
Analytical Support				
Analytical Support	1	2012	4	2025

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	Project (Number/Name) 041 / *CNT Prevention ADC&P*	

COST ($ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
041: *CNT Prevention ADC&P*	1.927	0.537	5.836	6.257	-	6.257	6.842	6.954	7.059	7.199	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Countering Nuclear Threats (CNT) Program is the integrated and layered program across the full range of the Department of Defense (DoD) to prevent, detect, respond to, and recover from radiological or nuclear (RN) incidents delivered through unconventional means, regardless of origin. It is also the only DoD Budget Activity 4 RDT&E Program Element focused on improving CNT capabilities which addresses capability gaps identified by the Services, Combatant Commands, and the Joint Staff. These capabilities are necessary for the DoD to plan and execute effective operations against rogue regimes that pursue nuclear weapons.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
Title: Countering Nuclear Threats	0.537	5.836	6.257

Description: CNT supported advanced development of Joint RN passive and active defense systems. Specifically, the joint Radioisotope Identification Devices (RIIDs) program will provide DoD forces with a modernized capability to identify radioisotopes in the field. This capability is necessary for missions to prevent use of radiological & nuclear weapons, safeguard the force, and manage the consequences of an inadvertent or intentional release of RN materials. RIIDs will replace obsolescent systems with modern systems that have enhanced capabilities with improved interoperability.

FY 2020 Plans:

- Complete investment in RIIDs, which supports Service procurement starting in FY21 to replace obsolescent equipment with improved capabilities.

- Advanced development of improved DoD capabilities that will enable DoD to maintain a competitive edge over proliferating nations through the early identification of illicit activities to enable operations to be planned against nations proliferating to deny the acquisition of nuclear materials and weapons. Specifically:
-- Project that develops a capability to identify previously undetectable uranium production facilities through the operationalization of new techniques that lower existing detection thresholds, enable Combatant Commands (CCMDs) detection of adversary activities in their area of responsibility, and support CNT planning.
-- Project that develops a new capability that utilizes innovative means that will enable CCMD's to maintain awareness of State-level nuclear activities. This project is focused on National Defense Strategy priorities but has potential global applications.

FY 2021 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 041 / *CNT Prevention ADC&P*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
- Continue the advanced development of improved DoD capabilities that will enable a competitive edge over proliferating nations through the early identification of illicit activities and deny the acquisition of nuclear materials and weapons. Specifically: -- Continue development of a project that develops a capability to identify previously undetectable uranium production facilities through the operationalization of new techniques that lower existing detection thresholds, enable CCMD detection of adversary activities in their area of responsibility, and support CNT planning. -- Continue development of a project that develops a new capability that utilizes innovative means that will enable CCMD's to maintain awareness of State-level nuclear activities. This project is focused on National Defense Strategy priorities but has potential global applications. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Projects and project costs vary from year to year			
Accomplishments/Planned Programs Subtotals	0.537	5.836	6.257

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 041 / *CNT Prevention ADC&P*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Radioisotope Identification Device	MIPR	JPEO CBD : Aberdeen, MD.	-	0.537		-		-		-		-	-	-	-
Radiological Detection System	Sub Allot	JPEO CBD : Aberdeen, MD.	1.927	-		-		-		-		-	-	-	-
Active Prevention System	MIPR	Air Force Technical Applications Center : Patrick AFB, Florida	-	-		2.736		2.715		-		2.715	Continuing	Continuing	-
Active Prevention System	Various	TBD : TBD	-	-		2.500		2.942		-		2.942	Continuing	Continuing	-
		Subtotal	1.927	0.537		5.236		5.657		-		5.657	Continuing	Continuing	N/A

Remarks

NA

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
INTERPOL	IA	DoE National Nuclear Security Administration : Las Vegas, Nevada	-	-		0.600		0.600		-		0.600	Continuing	Continuing	-
		Subtotal	-	-		0.600		0.600		-		0.600	Continuing	Continuing	N/A

	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.927	0.537		5.836		6.257		-		6.257	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 041 / *CNT Prevention ADC&P*

Radioisotope Identification Device

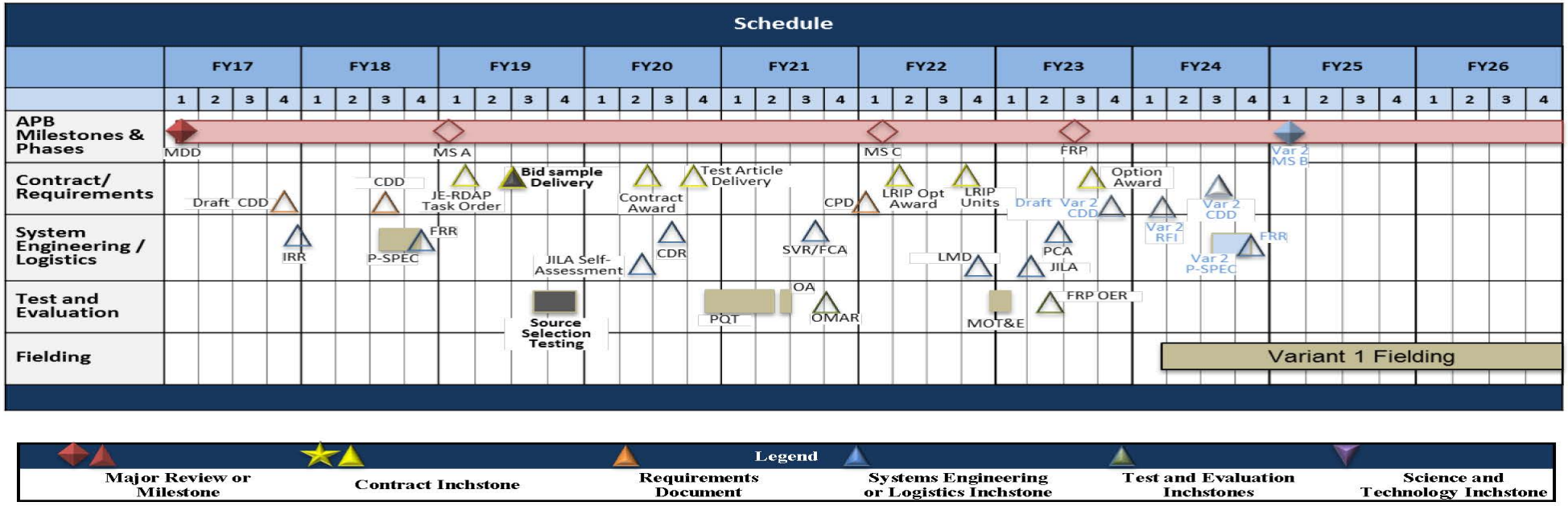

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 041 / *CNT Prevention ADC&P*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Radioisotope Identification Device				
Radioisotope Identification Device	1	2018	4	2019
Active Prevention System				
Active Prevention System	1	2020	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	Project (Number/Name) 040 / *National Technical Nuclear Forensics Systems*	

COST ($ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
040: *National Technical Nuclear Forensics Systems*	39.393	0.185	1.725	1.725	-	1.725	2.725	1.725	1.227	1.252	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

National Technical Nuclear Forensics (NTNF) is the only Department of Defense (DoD) program focused on advanced development of new capabilities that support the U.S. Government's ability to deter adversaries through our ability to attribute the use or attempted use of nuclear weapons or the source of any nuclear or radiological attack.

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 supporting the President and Secretary of Defense in developing an appropriate national response to a nuclear event and to prevent future attacks in a timely manner.

An effective attribution capability provides the United States (U.S.) Government deterrent against nations who may use proxies or other non-traditional delivery of nuclear weapons against the U.S., U.S. interests, or allies. Additionally, this program sustains perishable U.S. technical expertise at the operational DoD laboratories required to respond to a post-detonation NTNF event.

DoD's laboratory capability is limited by capacity and technical expertise. In fiscal year (FY) 2018, Departments and Agencies began to shift research and development from NTNF to other mission areas. This resulted in degradation of the DoD's (and by default, the U.S. Government's) ability to execute the nuclear forensics mission and deter adversaries. Reemphasizing the importance of this mission is crucial to the success of this program.

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
Title: NTNF Capability Development	0.185	1.725	1.725
Description: The development of the Harvester Particulate Collection System is a modular pod that attaches to manned and unmanned aircraft to collect particulate airborne samples. The Modular Whole Air Collection System provides a complimentary, modular capability to collect air samples. Both of these projects are being leveraged by the Air Force Fleet Modernization initiative started in FY 2019.			

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 040 / *National Technical Nuclear Forensics Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
The United States Prompt Diagnostics System is a ground-based sensor solution that significantly enhances detection of prompt nuclear detonation signals in urban environments. The system transferred to the Air Force in FY 2019 and is currently undergoing an operational and readiness review. ***FY 2020 Plans:*** - Advanced development of passive capability to address prompt detection gaps identified by the Joint Staff and independent analysis by the National Academy of Sciences. A passive detection system will enable persistent monitoring of a considerably expanded geographic footprint at a significantly reduced cost when compared to current systems. - Advanced development of new DoD NTNF laboratory capabilities, through implementing new analytical techniques and leveraging emerging technologies and methods, which will decrease the time to develop high confidence results by a multiple of weeks. These projects also sustain perishable technical expertise necessary for DoD to accomplish the post-detonation NTNF mission. Laboratory improvement projects include: - Integration of R&D methods to improve existing radiochemistry flowsheets to reduce timelines and recover additional isotopes. - Developing tools to integrate data from multiple, disparate sources and streamline analyses to decrease the time required to report conclusions to decision makers to support attribution. ***FY 2021 Plans:*** - Continue to advance the development of passive capability to address prompt detection gaps. - Continue to advance development of new DoD NTNF laboratory capabilities and improved DoD collection capabilities to shorten timelines and improve confidence levels in reporting to national level decision makers. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** N/A			
Accomplishments/Planned Programs Subtotals	0.185	1.725	1.725

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 040 / *National Technical Nuclear Forensics Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
National Nuclear Technical Forensics Product Development - Prior Years	Various	Multiple Performers : Multiple Locations	38.651	-		-		-		-		-	Continuing	Continuing	-
AFTAC AFIDS	MIPR	Air Force Technical Applications Center : Patrick AFB, Florida	-	-		1.500		1.500		-		1.500	Continuing	Continuing	-
		Subtotal	38.651	-		1.500		1.500		-		1.500	Continuing	Continuing	N/A

Remarks

NA

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Nuclear Forensics Travel Support	MIPR	Air Force Technical Applications Center : Patrick AFB, Florida	-	0.030		0.030		0.030		-		0.030	Continuing	Continuing	-
		Subtotal	-	0.030		0.030		0.030		-		0.030	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
National Nuclear Technical Forensics Management Services- Prior Years	Various	Multiple Performers : Multiple Locations	0.093	-		-		-		-		-	Continuing	Continuing	-
Nuclear Testing, Diagnostics, Forensics and Stockpile Stewardship Course	IA	DOE : Livermore, CA	0.649	0.155		0.195		0.195		-		0.195	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	Project (Number/Name) 040 / *National Technical Nuclear Forensics Systems*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.742	0.155		0.195		0.195		-		0.195	Continuing	Continuing	N/A

Remarks

NA

	Prior Years	FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	39.393	0.185		1.725		1.725		-		1.725	Continuing	Continuing	N/A

Remarks

NA

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 040 / *National Technical Nuclear Forensics Systems*

Harvester Particulate Airborne Collection System & Modular Whole-air Collection System

Particulate Airborne Collection System and Modular Whole-air Collection System Timeline

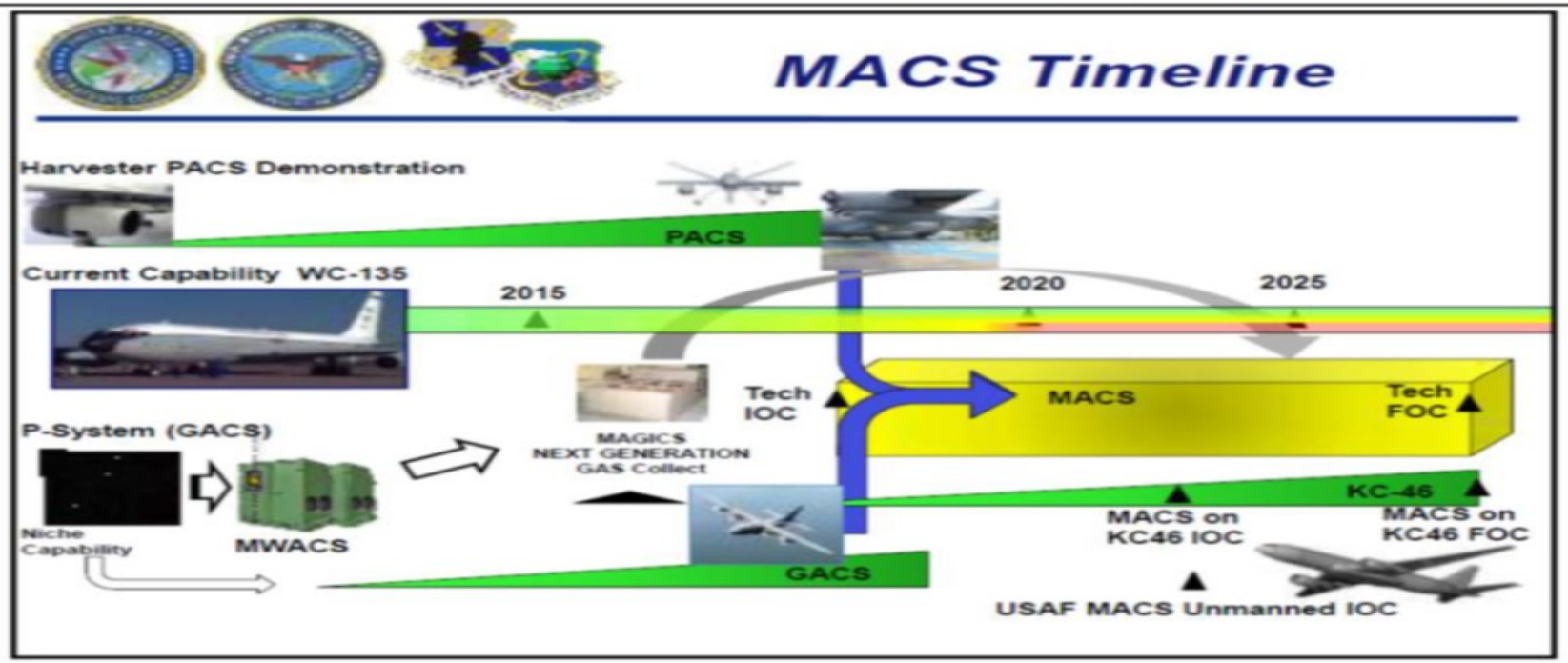

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security/Countering Nuclear Threats*	**Project (Number/Name)** 040 / *National Technical Nuclear Forensics Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Nuclear Testing, Diagnostics, Forensics and Stockpile Stewardship Course				
Nuclear Testing, Diagnostics, Forensics and Stockpile Stewardship Course	1	2018	4	2025
AFTAC AFIDS				
AFTAC AFIDS	4	2020	3	2025