Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
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, Nuclear Forensics, Resilience, Survivability*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	369.987	27.802	40.706	76.764	-	76.764	67.160	59.104	51.431	50.629	Continuing	Continuing
162: *Nuclear and Conventional Physical Security*	313.537	20.412	31.338	28.686	-	28.686	28.202	27.473	25.866	26.410	Continuing	Continuing
040: *National Technical Nuclear Forensics Systems*	56.450	7.390	9.368	39.154	-	39.154	30.832	25.419	21.270	19.821	Continuing	Continuing
058: *Innovative Technologies*	-	-	-	6.034	-	6.034	5.035	3.025	1.009	1.010	Continuing	Continuing
064: *Nuclear Survivability*	-	-	-	2.890	-	2.890	3.091	3.187	3.286	3.388	Continuing	Continuing

Note

New Start (Y/N): No

A. Mission Description and Budget Item Justification

This program supports the Department's initiatives to Deter Aggression, Defend the Homeland, Provide Nuclear Deterrence, and Build Sustainable and Long-Term Advantage.

Nuclear and Conventional Physical Security/Nuclear Forensics, Resilience, and Survivability 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 to develop material solutions. Public Law, Presidential, and DoD guidance, and Combatant Command and Service requirements drive the priorities for these programs.

The Physical Security Enterprise and Analysis Group (PSEAG) is responsible for avoiding duplication of effort, ensuring systems integration, and promoting interoperability and sustainability. The material solutions either (a) lead to a Program of Record, (b) become technology insertions into existing programs; or (c) advance to being a certified Commercial/Government off-the-shelf product.

Per National Security Presidential Memorandum 35, the DoD provides the U.S. Government (USG) post-detonation National Technical Nuclear Forensics (NTNF) capability. Per DoD Directive S-2060.04, the Office of the Undersecretary of Defense for Acquisition & Sustainment (OUSD(A&S)) is the office responsible for developing and leading the DoD’s NTNF capabilities. The DoD mission to collect and analyze post-detonation nuclear debris is critical to ensuring the USG can identify the source of nuclear material and hold those responsible for an attack is critical to our national defense and security. Internal and independent assessments indicate new capabilities are needed to sustain an effective deterrent against an unattributed nuclear attack and meet the challenges of future threats. This PE is the only DoD research, development, and test and evaluation (RDT&E) program focused on Advanced Component Development and Prototypes for post-detonation NTNF capabilities and without fully supporting these requirements, the DoD’s ability to meet this critical deterrence need will be significantly degraded.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
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, Nuclear Forensics, Resilience, Survivability*

Innovative Technologies is a classified project that is transferring responsibility from the Office of the Deputy Assistant Secretary of Defense for Threat Reduction and Arms Control to the Office of the Deputy Assistant Secretary of Defense for Nuclear Matters. Funding for this project is being transferred in FY 2024 from Program Element 0305310D8Z to 0603161D8Z.

Nuclear Survivability will invest in innovative radiation hardening techniques to modernize microelectronics for strategic and space systems and increase the reliability of mission critical systems. This program will result in achieving key metrics, including improved understanding of radiation effects on advanced CMOS technologies; Radiation Hardened/Strategic Radiation Hardened parts qualified and available for space and strategic modernization; Improved mission critical systems reporting; and a Military Handbook for neutron single event effects testing.

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 RDT&E efforts.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	28.525	41.507	37.552	-	37.552
Current President's Budget	27.802	40.706	76.764	-	76.764
Total Adjustments	-0.723	-0.801	39.212	-	39.212
• Congressional General Reductions	-	-0.801			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-0.723	-	39.212	-	39.212

Change Summary Explanation

The FY 2023 to FY 2024 increase is to restore the baseline NTNF budget to near 2015-2017 levels, it stops atrophy and builds capability. The funding allows DoD to make continuing progress against the threshold requirements outlined in the Nuclear Forensics and Attribution Strategic Plan for FYs 2022 – 2026, an interagency strategic plan drafted by the Nuclear Forensics Steering Committee, endorsed by the Nuclear Forensics Executive Council, and cleared at the National Security Council Interagency Policy Committee level.

FY 2023 to FY 2024 funding increase also reflects adding Nuclear Survivability and Advanced Innovative Technologies to the portfolio.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
162: *Nuclear and Conventional Physical Security*	313.537	20.412	31.338	28.686	-	28.686	28.202	27.473	25.866	26.410	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Physical Security Enterprise and Analysis Group (PSEAG) pursues the development of nuclear and conventional physical security materiel solutions in response to the stated needs and requirements of the Combatant Commands and Military Services. This program leverages commonalities in physical security requirements in order to closely balance and integrate the needs of users. The PSEAG is responsible for avoiding duplication of effort, ensuring systems integration, and promoting interoperability and sustainability. The materiel solutions either (a) lead to a Program of Record, (b) become technology insertions into existing programs; or (c) advance to being a certified Commercial/Government off-the-shelf product.

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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Physical Security System Development & Demonstration Advanced Component Development & Prototypes	20.412	31.338	28.686
Description: Develop physical security components and systems to support valid requirements while eliminating duplication of effort, pursuing the use of government and commercial off-the-shelf products, ensuring systems integration, and promoting interoperability and sustainability. ***FY 2023 Plans:*** - Detect an adversary and assess their intentions by identifying and warning of unauthorized access to a specified area or installation, as well as equipment related to the notification and identification of explosive threats or hazards. - Control access to safeguard personnel and their families and to prevent unauthorized access to critical infrastructure and materials to validate and verify individuals entering or already within, a facility. - Invest in robust installation and transport security to prevent a weapon of mass destruction attack or the unauthorized access to key assets such as nuclear weapons and special nuclear material. - Improve the physical security profile of fixed sites and facilities, as well as critical items while in-transit.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Deter an adversary from accessing weapons of mass destruction or gaining unauthorized access to critical assets are at the heart of prevention. - Implement control measures that ensure access is limited to authorized persons is the foundation of physical security to delay or stop unauthorized entry/access to a specified/localized area. - Incorporate decision support systems to help management, operations, and planners make decisions, which may be rapidly changing and not easily specified in advance with a focus on command and control equipment, creation and enhancement of common operating pictures, and the establishment of common architectures / interface standards. ***FY 2024 Plans:*** - Detect an adversary and assess their intentions by identifying and warning of unauthorized access to a specified area or installation, as well as equipment related to the notification and identification of explosive threats or hazards. - Control access to safeguard personnel and their families and to prevent unauthorized access to critical infrastructure and materials to validate and verify individuals entering or already within, a facility. - Invest in robust installation and transport security to prevent a weapon of mass destruction attack or the unauthorized access to key assets such as nuclear weapons and special nuclear material. - Improve the physical security profile of fixed sites and facilities, as well as critical items while in-transit. - Deter an adversary from accessing weapons of mass destruction or gaining unauthorized access to critical assets are at the heart of prevention. - Implement control measures that ensure access is limited to authorized persons is the foundation of physical security to delay or stop unauthorized entry/access to a specified/localized area. - Incorporate decision support systems to help management, operations, and planners make decisions, which may be rapidly changing and not easily specified in advance with a focus on command and control equipment, creation and enhancement of common operating pictures, and the establishment of common architectures / interface standards. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY 2024 decrease is the result of planned internal program adjustments based on Combatant Command and Military Services needs.			
Accomplishments/Planned Programs Subtotals	20.412	31.338	28.686

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**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 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Physical Security - Closed Out Efforts	Various	Various : Various	269.549	-		-		-		-		-	-	-	-
Physical Security Enterprise & Analysis Program	Various	Multiple Performers : Multiple Locations	-	2.651		31.338		28.686		-		28.686	Continuing	Continuing	-
Automated Installation Entry Multiple Authentication Fast Lanes	MIPR	Various : Various	-	2.027		-		-		-		-	-	-	-
Deep Learning Real Time Adaptive Learning Monitoring of Sound Velocity Profile	MIPR	Various : Various	-	1.530		-		-		-		-	-	-	-
Development, Test and Evaluation of an Electronic Security Systems Information Management System	MIPR	Various : Various	-	1.444		-		-		-		-	-	-	-
Electronic Harbor Security System–Sensor Track Fusion	MIPR	NIWC, Pacific : NIWC, Pacific	-	0.854		-		-		-		-	-	-	-
Enterprise Ready Tactical Assault Kit	MIPR	Various : Various	-	2.307		-		-		-		-	-	-	-
Improved UUV Detection and Tracking Using the AN/WQX-2 Sonar	MIPR	Various : Various	-	1.950		-		-		-		-	-	-	-
Next Generation Electronic Security System	MIPR	Various : Various	-	1.200		-		-		-		-	-	-	-
Self Homing and Event Triggered / Assessment DroneAerial PS Assessment	MIPR	Various : Various	-	1.275		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**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 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Wide Area Surveillance & Detection System with Radar	MIPR	Various : Various	-	1.386		-		-		-		-	-	-	-
Sonar Navigated Autonomous Grabber	MIPR	Various : Various	-	1.446		-		-		-		-	-	-	-
Automated Neural Classification of Seismic and Acoustic Sensors	MIPR	Various : Various	-	1.237		-		-		-		-	-	-	-
		Subtotal	269.549	19.307		31.338		28.686		-		28.686	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Completed Efforts	Various	Various Performers : Various Locations	21.555	-		-		-		-		-	-	-	-
PSEAG Interoperability	MIPR	TBD : TBD	-	0.455		-		-		-		-	-	-	-
		Subtotal	21.555	0.455		-		-		-		-	-	-	N/A

Remarks

NA

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Completed Efforts	Various	Multiple Performers : Multiple Locations	15.127	-		-		-		-		-	-	-	-
Test & Evaluation of Maritime Application Environment Radar	MIPR	NIWC, Atlantic : NIWC, Atlantic	-	0.650		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**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 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	15.127	0.650		-		-		-		-	-	-	N/A

Remarks

NA

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years - Completed Efforts	Various	Multiple Performers : Multiple Locations	7.306	-		-		-		-		-	-	-	-
		Subtotal	7.306	-		-		-		-		-	-	-	N/A

Remarks

NA

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	313.537	20.412		31.338		28.686		-		28.686	Continuing	Continuing	N/A

Remarks

NA

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

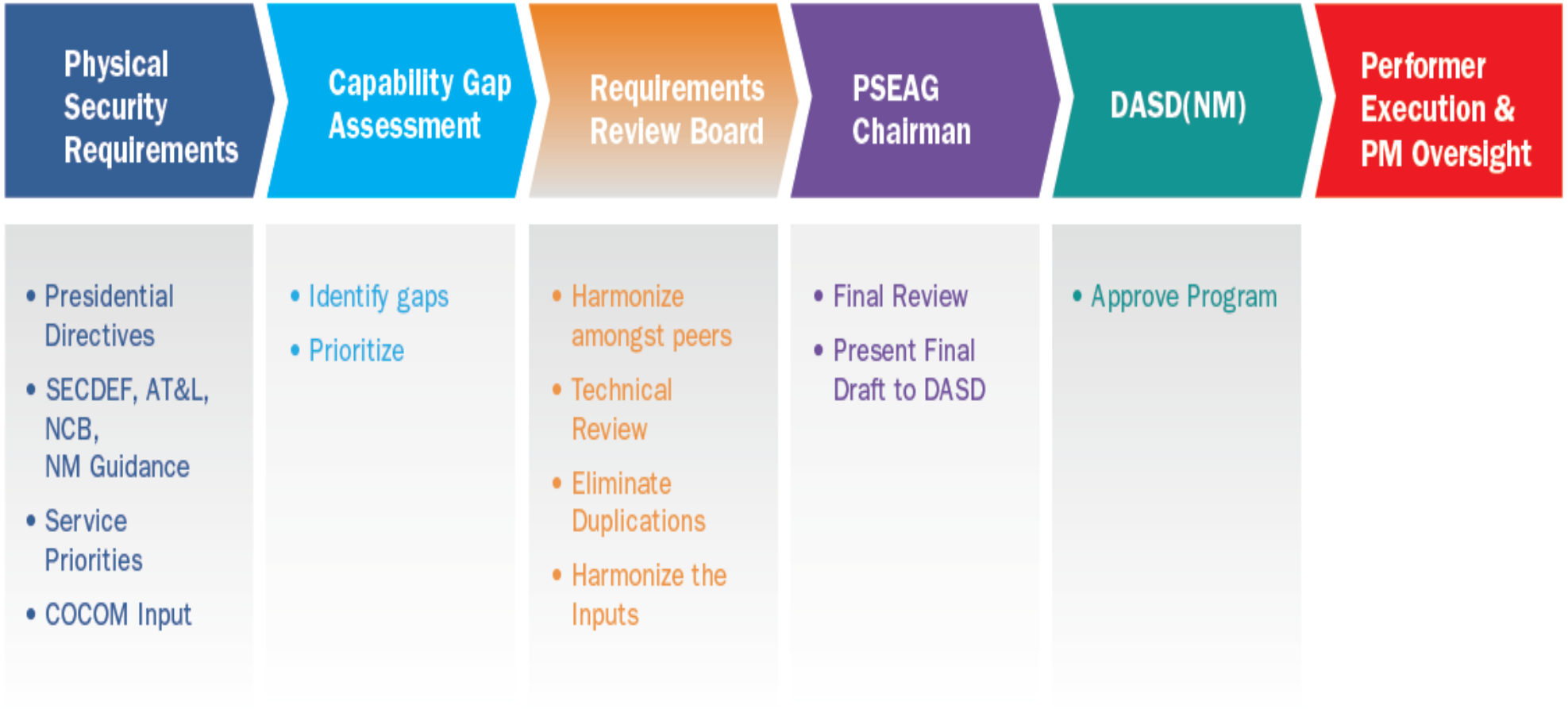

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 162 / *Nuclear and Conventional Physical Security*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Nuclear and conventional physical security R&D				
Nuclear and Conventional Physical Security	1	2023	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	Project (Number/Name) 040 / *National Technical Nuclear Forensics Systems*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
040: *National Technical Nuclear Forensics Systems*	56.450	7.390	9.368	39.154	-	39.154	30.832	25.419	21.270	19.821	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding transferred from Counter Nuclear Threats (CNT) to National Technical Nuclear Forensics (NTNF), P040. In FY 2018, Departments and Agencies began to shift research and development from NTNF to other mission areas. This resulted in degradation of the DoD (and by default, the U.S. Government's (USG) ability to execute the nuclear forensics mission and deter adversaries. As the lead for providing the USG post-detonation nuclear forensics capability, the DoD is emphasizing the importance of this mission to ensure success and to be compliant with National Security Presidential Memorandum (NSPM)-35 requirements.

A. Mission Description and Budget Item Justification

Per NSPM 35, the DoD provides the USG post-detonation NTNF capability. Per DoDD S-2060.04, OUSD(A&S) is the DoD office responsible for DoD's NTNF capabilities. This program is the only DoD RDT&E program focused on Advanced Component Development & Prototypes for NTNF capabilities.

Collecting and analyzing post-detonation debris is critical to ensure the USG can identify the source of nuclear material and hold those involved or supporting an attack accountable 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, and timely, national response to a nuclear event and to prevent future attacks. An effective NTNF capability ensures potential adversaries, or those who support them, know that they will be held accountable if they use proxies or other non-traditional delivery of nuclear weapons against the U.S., U.S. interests, or allies. Both internal and independent studies indicate that continued improvement to the USG's NTNF capabilities is needed to sustain a credible deterrent against an attempted or actual nuclear attack.

Additionally, this program sustains perishable U.S. technical expertise at the operational DoD laboratories required to respond to a post-detonation NTNF event. The DoD's laboratory capability in this area is limited by capacity and technical expertise. In FY 2018, Departments and Agencies began to shift research and development from NTNF to other mission areas, which resulted in degradation of the DoD's (and by default, the USG's) ability to execute the nuclear forensics mission and deter adversaries through the attrition of technical experts vital to the response. Sustained support of the DoD's NTNF mission is crucial to prevent attrition of current capabilities and knowledge base, ensure that this critical and unique deterrence capability is not lost, putting the security of the nation and the ability to deter specific kinds of nuclear attack at risk, and meeting a higher standard of timeliness and confidence as directed.

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: NTNF Capability Development	7.390	9.368	39.154

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 040 / *National Technical Nuclear Forensics Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: The development of capability to collect and analyze nuclear debris is critical to our national defense and security. Swift and accurate forensic analysis and contribution to USG attribution (identification) processes 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. NTNF investments support development and retention of technical nuclear forensics expertise, improve CONUS and OCONUS collection, improve the fixed laboratory process, improving legacy NTNF capabilities, and supporting operationalization of new capabilities. ***FY 2023 Plans:*** - Further develop and transition technologies to address prompt detection gaps, including the United States Prompt Diagnostics System. - Continue to advance DoD NTNF laboratory and collection capabilities to shorten timelines and improve confidence levels in reporting to national level decision makers. - Educate Military and Federal workforce in areas critical to the Stockpile Stewardship Program and to increase understanding of the history of nuclear weapons development, testing, and design. ***FY 2024 Plans:*** - Increase R&D towards achieving unmanned air collect capabilities leveraging the Harvester Particulate Airborne Collection System (PACS). - Funding to prepare for a National-Level Exercise currently planned for FY 2025. - Hiring additional contractors to work at the DoD operational laboratories, as well as, procuring needed equipment specific to post-detonation sample analysis. - Further develop and transition technologies to address prompt detection gaps, including the United States Prompt Diagnostics System and developing unmanned aerial and ground collection. - Continue to advance DoD NTNF laboratory and collection capabilities to shorten timelines and improve confidence levels in reporting to national level decision makers. - Exercise component and collective collection and analysis to both assess readiness to inform improvements and demonstrate USG NTNF capability to contribute to strategic deterrence. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY 2024 increase is to restore the baseline NTNF budget to near 2015-2017 levels in order to stop atrophy and build capability. The funding allows the DoD to make continuing progress against the threshold requirements outlined in the Nuclear Forensics			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 040 / *National Technical Nuclear Forensics Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
and Attribution Strategic Plan for FYs 2022 – 2026, an interagency strategic plan drafted by the Nuclear Forensics Steering Committee, endorsed by the Nuclear Forensics Executive Council, and cleared at the National Security Council Interagency Policy Committee level.			
Accomplishments/Planned Programs Subtotals	7.390	9.368	39.154

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	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 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
National Nuclear Technical Forensics Product Development	Various	Multiple Performers : Multiple Locations	55.323	7.195		9.173		38.959		-		38.959	Continuing	Continuing	-
		Subtotal	55.323	7.195		9.173		38.959		-		38.959	Continuing	Continuing	N/A

Remarks

NA

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Nuclear Testing, Diagnostics, Forensics and Stockpile Stewardship Course	IA	DOE : Livermore, CA	1.127	0.195		0.195		0.195		-		0.195	Continuing	Continuing	-
		Subtotal	1.127	0.195		0.195		0.195		-		0.195	Continuing	Continuing	N/A

Remarks

NA

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	56.450	7.390		9.368		39.154		-		39.154	Continuing	Continuing	N/A

Remarks

NA

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 040 / *National Technical Nuclear Forensics Systems*

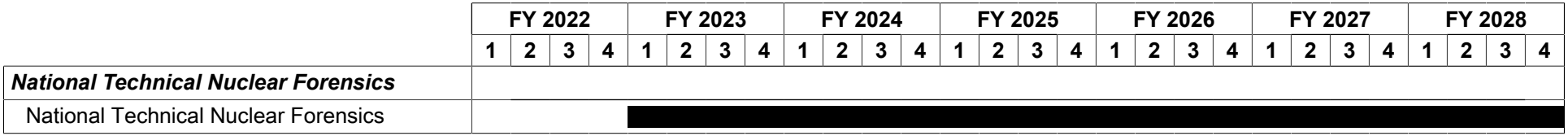

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 040 / *National Technical Nuclear Forensics Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
National Technical Nuclear Forensics				
National Technical Nuclear Forensics	1	2023	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	Project (Number/Name) 058 / *Innovative Technologies*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
058: *Innovative Technologies*	-	-	-	6.034	-	6.034	5.035	3.025	1.009	1.010	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Innovative Technologies is a classified project that is transferring responsibility from the Office of the Deputy Assistant Secretary of Defense for Threat Reduction and Arms Control to the Office of the Deputy Assistant Secretary of Defense for Nuclear Matters. Funding for this project is being transferred in FY 2024 from Program Element 0305310D8Z to 0603161D8Z.

A. Mission Description and Budget Item Justification

Advance Innovative Technologies is a classified project.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Innovative Technologies	-	-	6.034
Description: Advance Innovative Technologies is a classified project. ***FY 2024 Plans:*** Advance Innovative Technologies is a classified project. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY 2024 increase is related to transferring responsibility from the Office of the Deputy Assistant Secretary of Defense for Threat Reduction and Arms Control to the Office of the Deputy Assistant Secretary of Defense for Nuclear Matters. Funding for this project is being transferred in FY 2024 from Program Element 0305310D8Z to 0603161D8Z.			
Accomplishments/Planned Programs Subtotals	-	-	6.034

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	Project (Number/Name) 058 / *Innovative Technologies*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Advance Innovative Technologies	C/TBD	TBD : TBD	-	-		-		6.034		-		6.034	Continuing	Continuing	-
		Subtotal	-	-		-		6.034		-		6.034	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		6.034		-		6.034	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 058 / *Innovative Technologies*

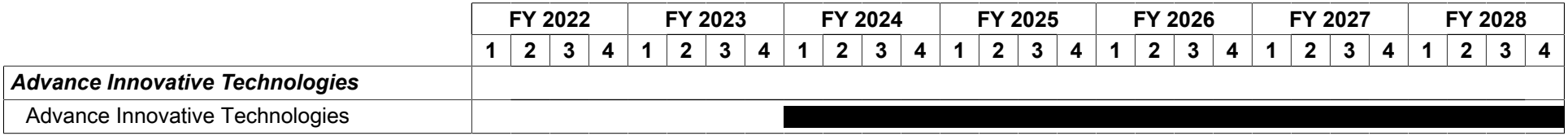

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 058 / *Innovative Technologies*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Advance Innovative Technologies				
Advance Innovative Technologies	1	2024	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	Project (Number/Name) 064 / *Nuclear Survivability*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
064: *Nuclear Survivability*	-	-	-	2.890	-	2.890	3.091	3.187	3.286	3.388	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Nuclear Survivability will invest in innovative radiation hardening techniques to modernize microelectronics for strategic and space systems and increase the reliability of mission critical systems. This program will result in achieving key metrics, including improved understanding of radiation effects on advanced complementary metal oxide semiconductor (CMOS) technologies; Radiation Hardened/Strategic radiation hardened parts qualified and available for space and strategic modernization; Improved mission critical systems reporting; and a Military Handbook for neutron single event effects testing.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Nuclear Survivability Research & Development	-	-	2.890
Description: Many DoD mission-critical systems must survive and operate through one or more nuclear weapons effects (NWE) environments. This requires assured DoD access to NEW-survivable components, materials, and the test and evaluation infrastructure to validate system performance. This program will result in achieving key metrics, including improved understanding of radiation effects on advanced CMOS technologies; Radiation Hardened/Strategic radiation hardened parts qualified and available for space and strategic modernization; Improved mission critical systems reporting; and a Military Handbook for neutron single event effects testing. ***FY 2024 Plans:*** - Sponsor R&D to better understand the effects of extreme radiation environments on state-of-the-art microelectronics to support nuclear modernization and improve radiation hardening by design. - Modernize the reporting infrastructure for the CBRN Mission Critical Reports in accordance with requirements from DoDI 3150.09. - Sponsor sustainment of trusted sources of supply and critical production lines for strategic radiation hardened microelectronics. - Increase access and reduce cost for technologies and materials that provide increased levels of survivability to the effects of nuclear weapons. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** New project added to Nuclear Matters' portfolio.			
Accomplishments/Planned Programs Subtotals	-	-	2.890

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 064 / *Nuclear Survivability*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 064 / *Nuclear Survivability*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Nuclear Survivability	TBD	TBD : TBD	-	-		-		2.890		-		2.890	Continuing	Continuing	-
		Subtotal	-	-		-		2.890		-		2.890	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		2.890		-		2.890	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 064 / *Nuclear Survivability*

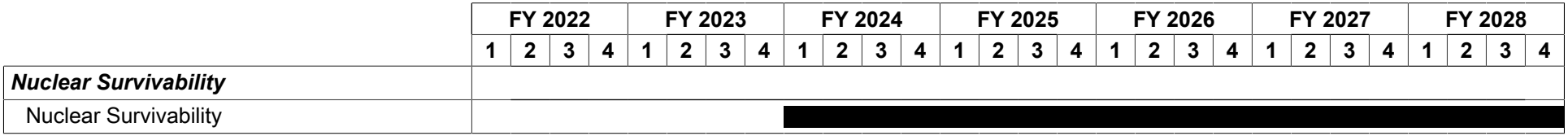

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603161D8Z / *Nuclear and Conventional Physical Security, Nuclear Forensics, Resilience, Survivability*	**Project (Number/Name)** 064 / *Nuclear Survivability*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Nuclear Survivability				
Nuclear Survivability	1	2024	4	2028