

UNCLASSIFIED

**Department of Defense  
Fiscal Year (FY) 2025 Budget Estimates**

March 2024



**Defense Threat Reduction Agency**

*Defense-Wide Justification Book Volume 5 of 5*

***Research, Development, Test & Evaluation, Defense-Wide***

UNCLASSIFIED

**UNCLASSIFIED**

**THIS PAGE INTENTIONALLY LEFT BLANK**

**UNCLASSIFIED**

**UNCLASSIFIED**

Defense Threat Reduction Agency • Budget Estimates FY 2025 • RDT&E Program

**Table of Volumes**

**Defense Advanced Research Projects Agency..... Volume 1**

**Missile Defense Agency..... Volume 2**

**Office of the Secretary Of Defense..... Volume 3**

**Creating Helpful Incentives To Produce Semi-Conductors (CHIPS) for America..... Volume 3**

**Chemical and Biological Defense Program..... Volume 4**

**Defense Contract Audit Agency..... Volume 5**

**Defense Contract Management Agency..... Volume 5**

**Defense Counterintelligence and Security Agency..... Volume 5**

**Defense Information Systems Agency..... Volume 5**

**Defense Logistics Agency..... Volume 5**

**Defense Security Cooperation Agency..... Volume 5**

**Defense Technical Information Center..... Volume 5**

**Defense Threat Reduction Agency..... Volume 5**

**DoD Human Resources Activity..... Volume 5**

**Operational Test and Evaluation, Defense..... Volume 5**

**The Joint Staff..... Volume 5**

**UNCLASSIFIED**

**UNCLASSIFIED**

Defense Threat Reduction Agency • Budget Estimates FY 2025 • RDT&E Program

**United States Cyber Command..... Volume 5**  
**United States Special Operations Command..... Volume 5**  
**Washington Headquarters Services..... Volume 5**

**UNCLASSIFIED**

**UNCLASSIFIED**

Defense Threat Reduction Agency • Budget Estimates FY 2025 • RDT&E Program

**Volume 5 Table of Contents**

**Introduction and Explanation of Contents.....Volume 5 - v**  
**Comptroller Exhibit R-1..... Volume 5 - ix**  
**Program Element Table of Contents (by Budget Activity then Line Item Number).....Volume 5 - xv**  
**Program Element Table of Contents (Alphabetically by Program Element Title).....Volume 5 - xix**  
**Acronyms..... Volume 5 - xxi**  
**Exhibit R-2s..... Volume 5 - 1**

**UNCLASSIFIED**

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

**Exhibit R-1, RDT&E Programs**  
**Defense Threat Reduction Agency**  
**Fiscal Year (FY) 2025 Budget Estimates**

**Appropriation: RDT&E, Defense-Wide**

**Date: March 2024**

**Introduction**

The United States (U.S.) faces a highly competitive security environment characterized by diverse, dynamic, and growing numbers of weapons of mass destruction (WMD) risks. Consistent with national and defense strategy, the Defense Threat Reduction Agency (DTRA) must refocus its efforts to counter WMD risks posed by our strategic nation-state competitors. China and Russia are actively degrading established international norms while rapidly expanding and modernizing their nuclear forces, diversifying advanced conventional systems, and using chemical, biological, radiological, and nuclear (CBRN) capabilities to exploit U.S. and allied vulnerabilities in the grey zone short of direct military conflict. While the threat posed by Russia remains acute, China, with its rapid conventional and strategic military expansion and aggressive regional posture, is the pacing challenge. At the same time, Iran and North Korea continue pursuing advanced warfighting capabilities to undermine regional security and global stability in ways that can pose considerable risk to U.S. strategy and priorities. Persistent CBRN challenges from violent extremist organizations pose considerable dangers while the intentional, natural, or accidental release of biological pathogens or chemical accidents factor into the continuous evolution of the CBRN threat environment.

DTRA's Fiscal Year (FY) 2025 budget request invests in the capabilities and expertise necessary to enable the Department of Defense (DoD), the United States Government, and international partners to deter strategic attack against the United States and its allies; prevent, reduce, and counter WMD and emerging threats; and prevail against WMD-armed adversaries in crisis and conflict.

DTRA's strategic priorities align with the priorities of the National Defense Strategy (NDS), the Nuclear Posture Review (NPR), and other strategic guidance documents directing DoD to meet national security goals through integrated deterrence, campaigning, and building enduring advantages. Utilizing its dual roles as a Defense and Combat Support Agency, DTRA provides cross-cutting counter WMD (CWMD) solutions to support each of these mission priorities. DTRA is committed to achieving concrete outcomes and strategic effects through its five core functions:

- Ensuring a reliable, resilient strategic deterrent through nuclear surety, mission assurance, and crisis response activities;
- Developing and delivering innovative capabilities to the warfighter across the threat spectrum;
- Preventing, reducing and eliminating CBRN threats through risk reduction, arms control, partner capacity building and warfighter support;
- Providing strategic and operational support through subject matter expertise, technical reach back, tailored analysis, and exercise support;
- Supporting the Joint Force with plans, concepts, exercises and materiel solutions to address CBRN operational and strategic risks.

To proactively meet the challenges of an evolving security environment, the Agency will augment its core functions through five cross-agency initiatives: Strengthen Future Arms Control, Operationalize Campaign Approaches, Modernize and Enhance Data Analytics and Dynamic Decision Support, Build an Integrated and Forward-Thinking Agency, and Advance the Workforce of the Future. Cross-agency integration, proactive posturing, and effective partnering will allow DTRA to build enduring advantages across the strategic deterrence and counter-WMD enterprise. For the Combatant Commanders and other Joint Force partners, DTRA remains focused on identifying, developing, and delivering solutions and capabilities required to address WMD and emerging threats—specifically those posed by China, Russia, North Korea, and Iran. Such counter-WMD capabilities reinforce integrated deterrence by compounding the adversaries’ threat calculus while also reducing risks to the Joint Warfighter. Given the CBRN-related operational risks posed by China and Russia, as well as North Korea and Iran, DTRA will continue to enhance its response readiness to potential crisis and its ability to posture sustainable effective support for crisis and conflict, both at home and abroad. In addition, DTRA will engage a campaigning approach to ensure the Agency’s programs, resources and activities are integrated, aligned and effective in addressing the counter-WMD challenges posed by China and Russia.

DTRA will also strengthen relationships within DoD and with key interagency partners to better align with the whole of government solutions needed to meet these challenges. This includes renewed emphasis on our efforts to collaborate and integrate with allies and partners in ways that create enduring advantages for DoD. Through continuous and proactive engagement with DoD, interagency and international partners, DTRA will build the campaigning approaches necessary to prevent and deter WMD threats and prevail against WMD armed adversaries from peacetime through conflict.

By focusing on addressing these challenges in integrated and cross-cutting ways, DTRA can leverage a highly diverse workforce of subject matter experts to provide the full spectrum of support to the counter WMD mission. A renewed emphasis on recruiting and retaining a diverse and highly skilled workforce will ensure the Agency can sustain the human capital advantage for meeting the CWMD challenges of the future.



The RDT&E portfolio is risk balanced to support the NDS and NPR, and address complex WMD threat problems for the warfighter, including understanding the environment, threats and vulnerabilities; controlling, defeating, disabling, and disposing of threats; and enhancing DoD's ability to safeguard the force and manage consequences and outcomes. DTRA accomplishes this through five integrated thrust areas:

- Understand current and emerging WMD situations, threats, and capabilities: Improve nuclear and radiological hazard assessment techniques, methodologies, and analytic tools (including the use of high-confidence modeling);
- Deny adversary benefits of WMD use: Develop and innovate technologies and concepts of operation that enable survivable, hardened, and resilient conventional forces, which deter adversaries from WMD use;
- Control, reduce, disable, and defeat WMD and emerging threats: Develop and improve direct or indirect physical or functional defeat of WMD threats, as well as capabilities that render adversary WMD programs and systems inoperable, harmless, or nonexistent prior to weapon employment through cooperative and non-cooperative approaches;
- Protect the force and mitigate crisis from WMD: Protect mounted and dismounted forces, reduce casualties, and degrade adversaries' abilities to disrupt operations using chemical, biological, nuclear, and emerged threats attacks;
- Enable cross cutting capabilities: Model system vulnerabilities and the effects of CBRN warfare on existing networks and infrastructure, as well as the compounding and cascading consequences across dependent networks with complex post-attack/detonation timelines; and improve test instrumentation capability and capacity for test data capture, integration and use.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Department of Defense  
FY 2025 President's Budget  
Exhibit R-1 FY 2025 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

Mar 2024

<u>Appropriation</u>	<u>FY 2023</u> <u>Actuals</u>	<u>FY 2024 PB</u> <u>Request with</u> <u>CR Adjustments</u>	<u>FY 2025</u> <u>Request</u>
Research, Development, Test and Evaluation, Defense-Wide	667,307	686,545	652,181
<b>Total Research, Development, Test, &amp; Evaluation</b>	<b>667,307</b>	<b>686,545</b>	<b>652,181</b>

\*A full-year FY 2024 appropriation for this account was not enacted at the time the budget was prepared; account is operating under the Further Additional Continuing Appropriations and Other Extensions Act, 2024 (Public Law 118-35). The amounts included for FY 2024 reflect the annualized level provided by the continuing resolution.

UNCLASSIFIED

Department of Defense  
 FY 2025 President's Budget  
 Exhibit R-1 FY 2025 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Mar 2024

	FY 2023 Actuals	FY 2024 PB Request with CR Adjustments*	FY 2025 Request
<b><u>Summary Recap of Budget Activities</u></b>			
Basic Research	16,172	14,761	15,311
Applied Research	186,813	208,870	174,955
Advanced Technology Development	402,952	418,937	418,044
Advanced Component Development & Prototypes	6,953	8,328	7,475
System Development & Demonstration	27,787	23,730	24,281
Management Support	26,630	11,919	12,115
<b>Total Research, Development, Test, &amp; Evaluation</b>	<b>667,307</b>	<b>686,545</b>	<b>652,181</b>
<b><u>Summary Recap of FYDP Programs</u></b>			
Research and Development	667,307	686,545	652,181
<b>Total Research, Development, Test, &amp; Evaluation</b>	<b>667,307</b>	<b>686,545</b>	<b>652,181</b>

\*A full-year FY 2024 appropriation for this account was not enacted at the time the budget was prepared; account is operating under the Further Additional Continuing Appropriations and Other Extensions Act, 2024 (Public Law 118-35). The amounts included for FY 2024 reflect the annualized level provided by the continuing resolution.

UNCLASSIFIED

Defense-Wide  
 FY 2025 President's Budget  
 Exhibit R-1 FY 2025 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Mar 2024

	FY 2023 Actuals	FY 2024 PB Request with CR Adjustments	FY 2025 Request
<b><u>Summary Recap of Budget Activities</u></b>			
Basic Research	16,172	14,761	15,311
Applied Research	186,813	208,870	174,955
Advanced Technology Development	402,952	418,937	418,044
Advanced Component Development & Prototypes	6,953	8,328	7,475
System Development & Demonstration	27,787	23,730	24,281
Management Support	26,630	11,919	12,115
<b>Total Research, Development, Test, &amp; Evaluation</b>	<b>667,307</b>	<b>686,545</b>	<b>652,181</b>
<b><u>Summary Recap of FYDP Programs</u></b>			
Research and Development	667,307	686,545	652,181
<b>Total Research, Development, Test, &amp; Evaluation</b>	<b>667,307</b>	<b>686,545</b>	<b>652,181</b>

\*A full-year FY 2024 appropriation for this account was not enacted at the time the budget was prepared; account is operating under the Further Additional Continuing Appropriations and Other Extensions Act, 2024 (Public Law 118-35). The amounts included for FY 2024 reflect the annualized level provided by the continuing resolution.

UNCLASSIFIED

Defense-Wide  
FY 2025 President's Budget  
Exhibit R-1 FY 2025 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

Mar 2024

<u>Appropriation</u>	FY 2023 Actuals	FY 2024 PB Request with CR Adjustments <sup>1</sup>	FY 2025 Request
Defense Threat Reduction Agency	667,307	686,545	652,181
<b>Total Research, Development, Test and Evaluation, Defense-Wide</b>	<b>667,307</b>	<b>686,545</b>	<b>652,181</b>

\*A full-year FY 2024 appropriation for this account was not enacted at the time the budget was prepared; account is operating under the Further Additional Continuing Appropriations and Other Extensions Act, 2024 (Public Law 118-35). The amounts included for FY 2024 reflect the annualized level provided by the continuing resolution.

UNCLASSIFIED

Defense-Wide  
 FY 2025 President's Budget  
 Exhibit R-1 FY 2025 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Mar 2024

Appropriation: 0400D Research, Development, Test and Evaluation, Defense-Wide

Line No	Program Element Number	Item	Act	Sec	FY 2023	FY 2024 PB	FY 2025
					Actuals	Request with CR Adjustments	Request
1	0601000BR	DTRA Basic Research	01	U	16,172	14,761	15,311
		<b>Basic Research</b>			<b>16,172</b>	<b>14,761</b>	<b>15,311</b>
24	0602718BR	Counter Weapons of Mass Destruction Applied Research	02	U	186,813	208,870	174,955
		<b>Applied Research</b>			<b>186,813</b>	<b>208,870</b>	<b>174,955</b>
35	0603160BR	Counter Weapons of Mass Destruction Advanced Technology Development	03	U	396,609	400,947	418,044
36	0603176BR	Advanced Concepts and Performance Assessment	03	U	6,343	7,990	
41	0603260BR	Intelligence Advanced Development	03	U		10,000	
		<b>Advanced Technology Development</b>			<b>402,952</b>	<b>418,937</b>	<b>418,044</b>
107	0604551BR	Catapult Information System	04	U	6,953	8,328	7,475
		<b>Advanced Component Development &amp; Prototypes</b>			<b>6,953</b>	<b>8,328</b>	<b>7,475</b>
139	0605000BR	Counter Weapons of Mass Destruction Systems Development	05	U	14,044	14,414	14,841
145	0605141BR	Mission Assurance Risk Management System (MARMS)	05	U	13,743	9,316	9,440
		<b>System Development &amp; Demonstration</b>			<b>27,787</b>	<b>23,730</b>	<b>24,281</b>
172	0605502BR	Small Business Innovation Research	06	U	16,591		
196	0606853BR	Management, Technical & International Support	06	U	10,039	11,919	12,115
		<b>Management Support</b>			<b>26,630</b>	<b>11,919</b>	<b>12,115</b>
<b>Total Research, Development, Test and Evaluation, Defense-Wide</b>					<b>667,307</b>	<b>686,545</b>	<b>652,181</b>

\*A full-year FY 2024 appropriation for this account was not enacted at the time the budget was prepared; account is operating under the Further Additional Continuing Appropriations and Other Extensions Act, 2024 (Public Law 118-35). The amounts included for FY 2024 reflect the annualized level provided by the continuing resolution.

UNCLASSIFIED

Defense Threat Reduction Agency  
 FY 2025 President's Budget  
 Exhibit R-1 FY 2025 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Mar 2024

Appropriation: 0400D Research, Development, Test and Evaluation, Defense-Wide

Line No	Program Element Number	Item	Act	Sec	FY 2023	FY 2024 PB	FY 2025
					Actuals	Request with CR Adjustments	Request
1	0601000BR	DTRA Basic Research	01	U	16,172	14,761	15,311
		<b>Basic Research</b>			<b>16,172</b>	<b>14,761</b>	<b>15,311</b>
24	0602718BR	Counter Weapons of Mass Destruction Applied Research	02	U	186,813	208,870	174,955
		<b>Applied Research</b>			<b>186,813</b>	<b>208,870</b>	<b>174,955</b>
35	0603160BR	Counter Weapons of Mass Destruction Advanced Technology Development	03	U	396,609	400,947	418,044
36	0603176BR	Advanced Concepts and Performance Assessment	03	U	6,343	7,990	
41	0603260BR	Intelligence Advanced Development	03	U		10,000	
		<b>Advanced Technology Development</b>			<b>402,952</b>	<b>418,937</b>	<b>418,044</b>
107	0604551BR	Catapult Information System	04	U	6,953	8,328	7,475
		<b>Advanced Component Development &amp; Prototypes</b>			<b>6,953</b>	<b>8,328</b>	<b>7,475</b>
139	0605000BR	Counter Weapons of Mass Destruction Systems Development	05	U	14,044	14,414	14,841
145	0605141BR	Mission Assurance Risk Management System (MARMS)	05	U	13,743	9,316	9,440
		<b>System Development &amp; Demonstration</b>			<b>27,787</b>	<b>23,730</b>	<b>24,281</b>
172	0605502BR	Small Business Innovation Research	06	U	16,591		
196	0606853BR	Management, Technical & International Support	06	U	10,039	11,919	12,115
		<b>Management Support</b>			<b>26,630</b>	<b>11,919</b>	<b>12,115</b>
<b>Total Defense Threat Reduction Agency</b>					<b>667,307</b>	<b>686,545</b>	<b>652,181</b>

\*A full-year FY 2024 appropriation for this account was not enacted at the time the budget was prepared; account is operating under the Further Additional Continuing Appropriations and Other Extensions Act, 2024 (Public Law 118-35). The amounts included for FY 2024 reflect the annualized level provided by the continuing resolution.



**UNCLASSIFIED**

Defense Threat Reduction Agency • Budget Estimates FY 2025 • RDT&E Program

**Program Element Table of Contents (by Budget Activity then Line Item Number)**

***Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide***

---

<b>Line #</b>	<b>Budget Activity</b>	<b>Program Element Number</b>	<b>Program Element Title</b>	<b>Page</b>
1	01	0601000BR	DTRA BASIC RESEARCH.....	Volume 5 - 1

***Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide***

---

<b>Line #</b>	<b>Budget Activity</b>	<b>Program Element Number</b>	<b>Program Element Title</b>	<b>Page</b>
24	02	0602718BR	COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH.....	Volume 5 - 7

***Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide***

---

<b>Line #</b>	<b>Budget Activity</b>	<b>Program Element Number</b>	<b>Program Element Title</b>	<b>Page</b>
35	03	0603160BR	COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT.....	Volume 5 - 25
36	03	0603176BR	ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT.....	Volume 5 - 45

**UNCLASSIFIED**

**UNCLASSIFIED**

Defense Threat Reduction Agency • Budget Estimates FY 2025 • RDT&E Program

***Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide***

---

<b>Line #</b>	<b>Budget Activity</b>	<b>Program Element Number</b>	<b>Program Element Title</b>	<b>Page</b>
41	03	0603260BR	INTELLIGENCE ADVANCED DEVELOPMENT.....	Volume 5 - 49

***Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide***

---

<b>Line #</b>	<b>Budget Activity</b>	<b>Program Element Number</b>	<b>Program Element Title</b>	<b>Page</b>
107	04	0604551BR	CATAPULT INFORMATION SYSTEM.....	Volume 5 - 53

***Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide***

---

<b>Line #</b>	<b>Budget Activity</b>	<b>Program Element Number</b>	<b>Program Element Title</b>	<b>Page</b>
139	05	0605000BR	COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT.....	Volume 5 - 61
145	05	0605141BR	MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS).....	Volume 5 - 75

**UNCLASSIFIED**

**UNCLASSIFIED**

Defense Threat Reduction Agency • Budget Estimates FY 2025 • RDT&E Program

***Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide***

---

<b>Line #</b>	<b>Budget Activity</b>	<b>Program Element Number</b>	<b>Program Element Title</b>	<b>Page</b>
172	06	0605502BR	SMALL BUSINESS INNOVATION RESEARCH.....	Volume 5 - 85
196	06	0606853BR	MANAGEMENT TECHNICAL AND INTERNATIONAL SUPPORT.....	Volume 5 - 91

**UNCLASSIFIED**

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

**UNCLASSIFIED**

Defense Threat Reduction Agency • Budget Estimates FY 2025 • RDT&E Program

**Program Element Table of Contents (Alphabetically by Program Element Title)**

<b>Program Element Title</b>	<b>Program Element Number</b>	<b>Line #</b>	<b>BA</b>	<b>Page</b>
ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT	0603176BR	36	03.....	Volume 5 - 45
CATAPULT INFORMATION SYSTEM	0604551BR	107	04.....	Volume 5 - 53
COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	0603160BR	35	03.....	Volume 5 - 25
COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	0602718BR	24	02.....	Volume 5 - 7
COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	0605000BR	139	05.....	Volume 5 - 61
DTRA BASIC RESEARCH	0601000BR	1	01.....	Volume 5 - 1
INTELLIGENCE ADVANCED DEVELOPMENT	0603260BR	41	03.....	Volume 5 - 49
MANAGEMENT TECHNICAL AND INTERNATIONAL SUPPORT	0606853BR	196	06.....	Volume 5 - 91
MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS)	0605141BR	145	05.....	Volume 5 - 75
SMALL BUSINESS INNOVATION RESEARCH	0605502BR	172	06.....	Volume 5 - 85

**UNCLASSIFIED**

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

## ACRONYMS

A2TD	Automated Advanced Targeting Development
AD	Agent Defeat
ADMB	Agent Defeat Modeling and Simulation Modeling
AI/ML	Artificial Intelligence/Machine Learning
ANTS	Attack the Network Tool Suite
ATAC	Advanced Targeting Assessment Capability
ATD	Advanced Technology Development
AWeS	Auto-Weaponering System
BAA	Broad Agency Announcement
CBRNE	Chemical, Biological, Radiological, Nuclear, and High-yield Explosives
CCDR	Combatant Commander
CCMD	Combatant Command
C-IED	Counter-Improvised Explosive Device

CNTN	Combatant Command Countering Nuclear Threat Network
COE	Consequence of Execution
CoE-NI	Consequence of Execution – Nuclear Integration
CONOPS	Concept of Operations
CONUS	Continental U.S
C-sUAS	Counter-Small Unmanned Aerial Systems
CT/CP	Counterterrorism/Counterproliferation
CTBT	Comprehensive Nuclear Test Ban Treaty
CTS	Component Test Structure
C-UAS	Counter-Unmanned Aerial System
CWMD	Countering Weapons of Mass Destruction
DAPSS	Denied Area Persistent Sensor System
DEL	DTRA Experimentation Lab
DIAMONDS	Defense Integration and Management of Nuclear Data Services
DIOCC/DIA	Defense Intelligence Operations Coordination Center/Defense Intelligence Agency



DITEC	DTRA Integration Technical Experimentation Center
DoD	Department of Defense
DPPG	Defense Policy and Planning Guidance
DRDC	Defense Research and Development Canada
DSCS	Defense Satellite Communications System
DT&E	Development, Test, and Evaluation
DTRA	Defense Threat Reduction Agency
DTRIAC	Defense Threat Reduction Information Analysis Center
ECA	Enhanced Consequence Analysis
ECBC	Edgewood Chemical Biological Center
EM-1	Capabilities of Nuclear Weapons: Effects Manual Number 1
EMP	Electromagnetic Pulse
EMREP	Electromagnetic Reliability and Effects Predictions
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ERDC	U. S. Army Engineer Research and Development Center

FeFET	Ferroelectric Field Effect Transistors
FEFLO	Finite Element Flow Solver
FFRDC	Federally Funded Research and Development Center
FOC	Full Operational Capability
FREAK	Force-on-Force Evaluation and Analysis of Key Performance Parameters
FYDP	Future Years Defense Program
GBSD	Ground-Based Strategic Deterrent
HDBT	Hard and Deeply Buried Target
HPAC	Hazardous Prediction and Assessment Capabilities
HPC	High Performance Computing
HREIOR	High Resolution Electro-Optical Infrared Camera
HTD	Hard Target Defeat
HWIL	Hardware-in-the-Loop
IED	Improvised Explosive Device
IIRM	Interaction of Ionizing Radiation with Matter
IMAAC	Interagency Modeling and Atmospheric Assessment Center

IMEA	Integrated Munitions Effects Assessment
IMS	International Monitoring System
IoT	Internet of Things
IR	Infrared
ISS	Integrated Sensor System
IT	Information Technology
JOC	Joint Operations Center
JWICS	Joint Worldwide Intelligence Communications System
LAMP	Loop-mediated Isothermal Amplification
LBTS	Large Blast Thermal Simulator
LLE	Laboratory for Laser Energetics
LLNL	Lawrence Livermore National Laboratory
LTRI	Left-to-Right-of-Launch
M&S	Modeling and Simulation
MACS	Modular Autonomous Countering WMD System
MAGICS	Modular Airborne Gaseous Isotope Collection System

MCAPS	Mobile C-sUAS Airborne Platform Suite
MDA	Missile Defense Agency
MFO	Microwave Frequency Oscillator
MIL-HDBK	Military Handbook
MIL-STD	Military Standard
MINES	Mission Impact of Nuclear Effects Software
MIT	Mission Information Technology
MSEE	Materials Science in Extreme Environments
NACT	Nuclear Arms Control Technology
NAIMLE	Artificial Intelligence/Machine Learning Environment (NAIMLE )
NBCRV	Nuclear Biological Chemical Reconnaissance Vehicle
NCBRE	Nuclear, Chemical, Biological, Radiological, and High-Yield Explosive
NIEM	National Information Exchange Model
NIPR	Non-classified Internet Protocol Router
NLAN	Non-classified Local Area Network
NTM	Improved National Technical Means (NTM)

NuCS	Nuclear Capabilities Services
NWE	Nuclear Weapons Effects
OGA	Other Governmental Agencies
QRC	Quick Reaction Capabilities
RN	Radiological-nuclear
SAR	Synthetic Aperture Radar
SIPR	Secret Internet Protocol Router
SPIDA	Spectral Polarimetric Instrument Data Analysis
SPINS	Standoff Portable Isotopic Neutron Spectroscopy
sUAS	Small Unmanned Aerial Systems
TTP	Tactics, Techniques, and Procedures
TWAC	Targeting Weaponeeing Assistance Cell
TXL	Transportable Xenon Laboratory
UAS	Unmanned Aerial Systems
UCP	Unified Command Plan
UGF	Underground Facility

UGT	Underground Test
UK	United Kingdom
URA	University Research Alliance
USANCA	U.S. Army Nuclear and Countering WMD Agency
USEUCOM	U.S. European Command
USFK	U.S. Forces Korea
USG	U.S. Government
USNORTHCOM	U.S. Northern Command
USINDOPACOM	U.S. Indo-Pacific Command
USSOCOM	U.S. Special Operations Command
USSTRATCOM	U.S. Strategic Command
UTAS	Underground Targeting and Analysis System
V&V	Verification and Validation
VAPO	Vulnerability Assessment and Protection Option
VEO	Violent Extremist Organization
VIPER	Vehicle Integrated Platform Enhanced Radiac

VIRTUS	Virtual Radiation Training Through Ubiquity System
VMS	Virtual Management System
VR/AR	Virtual Reality/Augmented Reality
WEP	Weapon Effects Phenomenology
WMD	Weapons of Mass Destruction
WSMR	White Sands Missile Range

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED



**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>								<b>Cost To Complete</b>	<b>Total Cost</b>		
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 1: Basic Research</i>	PE 0601000BR / DTRA BASIC RESEARCH											
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	412.577	16.172	14.761	15.311	-	15.311	15.897	16.498	17.128	17.488	Continuing	Continuing
RU: <i>BASIC RESEARCH FOR COUNTERING WMD</i>	412.577	16.172	14.761	15.311	-	15.311	15.897	16.498	17.128	17.488	Continuing	Continuing

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

The Basic Research for Countering Weapons of Mass Destruction (CWMD) project, as the nation’s primary basic research portfolio dedicated to CWMD, is a core strategic investor in future scientific and technological progress across the Defense Threat Reduction Agency’s (DTRA) mission areas. This project concentrates on high-risk, high-payoff basic research, leveraging world-class expertise in academia, government, and industry, to increase the foundational body of scientific knowledge supporting DTRA’s Applied Research and Advanced Technology Development projects. This project aligns with DTRA’s strategic objectives that support policy and planning guidance from the Executive Office of the President, the DoD, and the broader Weapons of Mass Destruction (WMD) threat reduction community. The portfolio addresses this guidance through capability enhancements, projects, and Science and Technology (S&T) investments that support CWMD. Specifically, they include: accelerating the development of standoff radiological/nuclear detection capabilities; securing vulnerable materials; defeating WMD agents; strategic radiation hardened microelectronics; and leveraging science, technology, and innovation through domestic partnerships and agreements.

This project solicits, coordinates, and conducts research to build a robust, forward-looking fundamental research portfolio targeting strategic, mission-focused, basic research with high potential impact for CWMD. The research projects are selected for scientific merit, technical quality, and the potential for innovation. Each research project offers opportunities to expand the knowledge base to help the warfighter, to bring to bear new science solutions with a fresh approach, or to leverage revolutionary approaches to technical surprise, building a foundation for future CWMD solutions. This research will enable new capabilities to control, defeat, disable, and/or dispose of WMD threats.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	16.584	14.761	15.311	-	15.311
Current President's Budget	16.172	14.761	15.311	-	15.311
Total Adjustments	-0.412	0.000	0.000	-	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.412	0.000			

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2025 Defense Threat Reduction Agency	<b>Date:</b> March 2024
--	-------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> / BA 1: <i>Basic Research</i>	<b>R-1 Program Element (Number/Name)</b> PE 0601000BR / <i>DTRA BASIC RESEARCH</i>
---	---

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** RU: *BASIC RESEARCH FOR COUNTERING WMD*  
 Congressional Add: *Materials Science in Extreme Environments*

	FY 2023	FY 2024
	5.000	-
Congressional Add Subtotals for Project: RU	5.000	-
Congressional Add Totals for all Projects	5.000	-

**Change Summary Explanation**

There is no change from the previous President’s Budget.

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 1					<b>R-1 Program Element (Number/Name)</b> PE 0601000BR / DTRA BASIC RESEARCH				<b>Project (Number/Name)</b> RU / BASIC RESEARCH FOR COUNTERING WMD			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
RU: BASIC RESEARCH FOR COUNTERING WMD	412.577	16.172	14.761	15.311	-	15.311	15.897	16.498	17.128	17.488	Continuing	Continuing

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

The Basic Research for Countering Weapons of Mass Destruction (CWMD) project, as the nation’s primary basic research portfolio dedicated to CWMD, is a core strategic investor in future scientific and technological progress across the Defense Threat Reduction Agency’s (DTRA) mission areas. This project concentrates on high-risk, high-payoff basic research, leveraging world-class expertise in academia, government, and industry, to increase the foundational body of scientific knowledge supporting DTRA’s Applied Research and Advanced Technology Development projects.

This project aligns with DTRA’s strategic objectives that support policy and planning guidance from the Executive Office of the President, the DoD, and the broader Weapons of Mass Destruction (WMD) threat reduction community. The portfolio addresses this guidance through capability enhancements, projects, and Science and Technology (S&T) investments that support CWMD. Specifically, they include: accelerating the development of standoff radiological/nuclear detection capabilities; securing vulnerable materials; defeating WMD agents; strategic radiation hardened microelectronics; and leveraging science, technology, and innovation through domestic partnerships and agreements.

This project solicits, coordinates, and conducts research to build a robust, forward-looking fundamental research portfolio targeting strategic, mission-focused, basic research with high potential impact for CWMD. The research projects are selected for scientific merit, technical quality, and the potential for innovation. Each research project offers opportunities to expand the knowledge base to help the warfighter, to bring to bear new science solutions with a fresh approach, or to leverage revolutionary approaches to technical surprise, building a foundation for future CWMD solutions. This research will enable new capabilities to control, defeat, disable, and/or dispose of WMD threats.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<b>Title:</b> Project RU: Basic Research for Countering WMD	11.172	14.761	15.311
<b>Description:</b> The Defense Threat Reduction Agency (DTRA) Basic Research Program conducts revolutionary countering-weapons of mass destruction (CWMD) scientific research with broad applicability across multiple mission areas. The research sets conditions for disruptive gains in the effectiveness of technology-enabled concepts of operation not possible through evolutionary excursions from the current state of practice. Basic research builds up U.S. research personnel, and institutional scientific capability and capacity to counter near peer competitors below the threshold of armed conflict.			
<b>FY 2024 Plans:</b>			
- Maintain two University Research Alliances (URAs).			
- Provide four additional post-doctoral experts, two for each URA.			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 1	<b>R-1 Program Element (Number/Name)</b> PE 0601000BR / DTRA BASIC RESEARCH	<b>Project (Number/Name)</b> RU / BASIC RESEARCH FOR COUNTERING WMD

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>Materials Science in Extreme Environments (MSEE) URA:</p> <ul style="list-style-type: none"> <li>- Develop and certify FY 2024-25 MSEE URA Biennial Program Plan and modify, adapt, and change 10 research thrust areas as required to meet new threats.</li> <li>- Extend existing foundational research in three primary research areas supporting DTRA's mission in preparation for possible transition including: enhanced computational modeling for agent defeat scenarios, and quantification of uncertainty in nuclear blast simulation modeling.</li> </ul> <p>Interaction of Ionizing Radiation with Matter (IIRM) URA:</p> <ul style="list-style-type: none"> <li>- Develop and certify FY 2024-25 IIRM URA Biennial Program Plan and modify, adapt, and change 12 research thrust areas as required to meet new threats.</li> <li>- Extend existing foundational research in three primary research areas supporting DTRA's mission in preparation for possible transition including: development and assessment of low-cost methods for assessing chip vulnerability, and implementation of AI-driven modeling techniques to develop novel semiconductor systems.</li> </ul> <p><b>FY 2025 Plans:</b></p> <ul style="list-style-type: none"> <li>- Maintain two University Research Alliances (URAs).</li> </ul> <p>Materials Science in Extreme Environments (MSEE) URA:</p> <ul style="list-style-type: none"> <li>- Complete or mature foundational research (progress is performer-specific) in the areas of enhanced computational modeling for agent defeat scenarios, and quantification of uncertainty in nuclear blast simulation modeling.</li> <li>- Finalize experimental scaling of ablation of targets using optical lasers and X-rays validated by experiments to measure and predict shock impact from nuclear blasts. Transition machine learning analysis in hyperspectral imaging, high speed spectroscopy, and in-situ visualization.</li> </ul> <p>Interaction of Ionizing Radiation with Matter (IIRM) URA:</p> <ul style="list-style-type: none"> <li>-Complete or mature foundational research (progress is performer-specific) including the development and assessment of low-cost methods for assessing chip vulnerability, and implementation of AI-driven modeling techniques to develop novel semiconductor systems.</li> </ul>			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency	<b>Date:</b> March 2024
---	-------------------------

<b>Appropriation/Budget Activity</b> 0400 / 1	<b>R-1 Program Element (Number/Name)</b> PE 0601000BR / DTRA BASIC RESEARCH	<b>Project (Number/Name)</b> RU / BASIC RESEARCH FOR COUNTERING WMD
--	--	--

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2023	FY 2024	FY 2025
<p>-Demonstrate enhanced energy resolution from scintillators through a computationally driven surface engineering of photonic crystal structures. Construct machine learning models that can rapidly identify synthesizable materials which are verifiable by theory, simulation, and experiments.</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The increase from FY 2024 to FY 2025 enables fundamental research in the manufacturing of new radiation-sensitive materials ultimately leading to lower cost radiation detection technologies in support of future warfighting.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	11.172	14.761	15.311

	FY 2023	FY 2024
<p><b>Congressional Add:</b> Materials Science in Extreme Environments</p> <p><b>FY 2023 Accomplishments:</b> Investment enabled the Materials Science in Extreme Environments (MSEE) program to more effectively support DoD's response to emerging threats by providing critical understanding, research transitions, and a highly skilled future workforce. Investments included:</p> <ul style="list-style-type: none"> <li>- Modernization of aging facilities at four Lead Research Area Organization (LRAO) universities to ensure state of the art equipment and facilities are available to the URAs.</li> <li>- Further support of the collaborative workforce development program, Extreme Science Internships.</li> <li>- Support for early career investigators and collaborative opportunities across the URAs for students, postdocs, and principal investigators.</li> </ul>	5.000	-
<b>Congressional Adds Subtotals</b>	5.000	-

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

N/A

**Remarks**

**D. Acquisition Strategy**

Procurement methods include competitive selection awards through university partnerships, DTRA's Broad Agency Announcement, and collaborative funding through other organizations.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 2: Applied Research</i>	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / <i>COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH</i>
--	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	1,106.623	186.813	208.870	174.955	-	174.955	180.404	185.863	185.744	189.555	Continuing	Continuing
RA: <i>CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES</i>	428.263	29.047	37.218	21.986	-	21.986	22.538	26.949	23.627	24.113	Continuing	Continuing
RD: <i>NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT</i>	326.950	109.737	119.670	106.576	-	106.576	107.899	107.340	109.484	111.675	Continuing	Continuing
RG: <i>CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT</i>	186.425	30.311	30.871	28.193	-	28.193	29.028	31.788	32.423	33.104	Continuing	Continuing
RR: <i>CWMD TEST AND EVALUATION</i>	164.985	17.718	21.111	18.200	-	18.200	20.939	19.786	20.210	20.663	Continuing	Continuing

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

The Defense Threat Reduction Agency (DTRA) Counter Weapons of Mass Destruction (CWMD) Applied Research program element funds the application and advancement of basic scientific knowledge to develop novel materials, devices, systems, and methods supporting next generation concepts and technologies, to include advances in Weapons of Mass Destruction (WMD) surveillance, detection, defeat, prevention, nonproliferation, counter proliferation, consequence management, and treaty verification.

This Applied Research portfolio is aligned with strategic planning objectives and Science and Technology (S&T) investment direction established annually by DTRA, which directly support policy and planning guidance from the Executive Office of the President, the Department of Defense (DoD), and the broader WMD threat reduction community.

The portfolio advances DTRA's CWMD mission by balancing the following: invest in DTRA's applied research capabilities and increase the CWMD technology base to maximize future pay-off; capitalize on opportunities to deliver innovative, cost-effective solutions to technical challenges that must be resolved prior to system-specific technology investigations and development; and ensure applied research efforts are directly aligned to the mission-specific capability requirements of DTRA, the Military Departments, Combatant Commanders, other DoD and federal agencies, and international partners.

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 2: Applied Research</i>	PE 0602718BR / <i>COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH</i>

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	191.632	208.870	212.096	-	212.096
Current President's Budget	186.813	208.870	174.955	-	174.955
Total Adjustments	-4.819	0.000	-37.141	-	-37.141
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-4.764	0.000			
• Return to OSD for DCAA IT SBIR/STTR	-0.055	-	-	-	-
• Realignments	0.000	0.000	-28.907	-	-28.907
• Program Adjustment	-	-	-8.234	-	-8.234

**Change Summary Explanation**

The decrease from the previous President's Budget reflects a program adjustment in Projects RD, RG, and RR to fund higher Departmental priorities and the following realignments:

- 1) From Project RA in this Program Element (PE) to Project RA in PE 0603160BR for the CWMD Information Integration Cell (CIIC) for CWMD situational awareness,
- 2) From DTRA's Operation and Maintenance (O&M) account to Project RA in this PE for advanced information technology engineering and component architecture development and integration,
- 3) From Project RD in this PE to Project RD in PE 0603160BR for the progression of nuclear survivability technologies to advanced technology development,
- 4) From RDT&E in this PE to DTRA's O&M account for higher Agency priorities, and
- 5) From Project RA in PE 0603160BR to Project RD in this PE for CWMD modeling and simulation.



**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES
--	---	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
RA: CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES	428.263	29.047	37.218	21.986	-	21.986	22.538	26.949	23.627	24.113	Continuing	Continuing

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

The Counter Weapons of Mass Destruction (CWMD) Cross-Cutting Technical and Information Sciences project develops concepts and technologies in the areas of high-speed information processing, modeling and simulation, signal detection, and data-driven decision analysis in support of the Defense Threat Reduction Agency's (DTRA's) technical reach-back teams. This project develops and maintains continuously improving collaborative architectures and Weapons of Mass Destruction (WMD) modeling and simulation codes that drive an integrated suite of decision support tools serving the Combatant Commands, other Department of Defense (DoD) agencies, and national and international CWMD partners. This effort also funds research activities that benefit the public through analysis and engagement to reduce and counter threats posed by WMD via the Strategic Trends Research Initiative (STRI). STRI cultivates national and international research community partnerships across domains, bringing scientific, technical, and social science experts together to help understand and anticipate WMD capabilities and threats.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<b>Title:</b> RA: CWMD Cross-Cutting Technical and Information Sciences	29.047	37.218	21.986
<b>Description:</b> Project RA develops concepts and technologies in the areas of high-speed information processing, modeling and simulation, signal detection, and data-driven decision analysis.			
<b>FY 2024 Plans:</b>			
<ul style="list-style-type: none"> <li>- Use new and emergent advanced modeling and simulation tools and development activities to develop and deliver one new, integrated CWMD modeling capability to support in theater operational planning.</li> <li>- Expand development capabilities within the development, security, and operations (DevSecOps) pipeline and move to a more automated, secure, agile, and efficient System Development Life Cycle (SDLC); combine containerized technology environments enabling customer to package application development of all of its dependencies and process together with DoD approved Cloud solution to create hybrid, on premise/Cloud solutions to meet DTRA mission needs and DoD software development mandates; increase the security posture of the DTRA Experimentation Lab-Unclassified (DEL-U) enclave by meeting DISA Risk Management Framework and Continuous Monitoring measurements to ensure DTRA maintains Authority To Operate (ATO); implement automated security and monitoring measures in DEL-Classified enclave to meet Agency requirements for the Annual Security Review (ASR) and upcoming ATO (FY2024/25).</li> <li>- Provide ready access to the DoD High-Performance Computing Modernization Program (HPCMP) resources enabling researchers across the entire RD application spectrum to rapidly perform the detailed computer simulations integral to the successful execution of the Agency's R&amp;D Mission; enable performance engineers and DTRA application teams to collaborate,</li> </ul>			

PE 0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPL...

**UNCLASSIFIED**

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<p>modernize, and optimize the heavily used High Fidelity (HF) computer codes for existing and future High-Performance Computing (HPC) architectures.</p> <ul style="list-style-type: none"> <li>- Facilitate international S&amp;T cooperation with partners from 14+ countries, contributing to new U.S. CWMD capabilities, improved ally CWMD capability, and RDT&amp;E cost sharing; conduct technology demonstration events for multiple CCMDs, helping to match developmental CWMD capabilities with critical warfighter needs.</li> <li>- Sponsor projects with DoD academic organizations, Federally Funded Research and Development Centers (FFRDCs), and U.S. think-tanks to gather insights on CWMD challenges for the Warfighter and refine strategic dialogues/symposia/fora to accommodate year-upon-year learning and advancement on anticipated future battlespace challenges.</li> <li>- Generate timely and actionable recommendations on countering and mitigating current and future WMD trends and challenges.</li> <li>- Conduct timely and relevant strategic studies and dialogues with international partners to facilitate year-upon-year learning on anticipated future challenges.</li> <li>- Refine strategic research projects to improve tangible outcomes and actionable recommendations for future activities to deter and counter WMD threats.</li> <li>- Provide in-depth research and analysis to anticipate, assess, and address key challenges related to strategic stability, strategic competition, multipolar escalation dynamics, limited WMD development and use, and other WMD threat trends by leveraging expert community resources.</li> <li>- Sponsor external research on strategic WMD and emerging threat topics and execution of bilateral, trilateral, and multilateral strategic dialogues with allies/partners.</li> </ul> <p><b>FY 2025 Plans:</b></p> <ul style="list-style-type: none"> <li>- Expand and modernize container technology capabilities integrated with cybersecurity framework methodologies (Zero Trust) within the DTRA Experimentation Lab's (DEL's) development, security, and operations (DevSecOps) pipeline. This will enable a more secure, agile, and efficient System Development Life Cycle coupled with DoD Enterprise Cloud Environment (DECE) to create a hybrid on-premise/Cloud solution to meet DTRA mission needs and DoD software development mandates.</li> <li>- Increase security modernization of the DEL unclassified and DEL classified enclaves meeting DISA-mandated Risk Management Framework and Continuous Monitoring (CM) measurements for an Authority To Operate (ATO), to include robust Zero Trust and Comply-to-Connect solutions.</li> <li>- Provide ready access to the DoD High Performance Computing Modernization Program (HPCMP) resources enabling researchers to rapidly perform detailed computer simulations integral to the successful execution of the Agency's R&amp;D Mission.</li> <li>- Enable performance engineers and DTRA application teams to collaborate, modernize and optimize the heavily used High Fidelity (HF) computer codes for existing and future High-Performance Computing (HPC) architectures.</li> <li>- Provide advanced information technology engineering and component architecture development and integration.</li> <li>- Identify legacy code for application modernization for more productive provisioning of HPC assets.</li> </ul>			

PE 0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPL...

**UNCLASSIFIED**

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<ul style="list-style-type: none"> <li>- Facilitate technical exchanges with partners in 14+ countries and with all geographic and functional Combatant Commands to improve understanding of and refine requests to align developmental CWMD capabilities with critical warfighter needs.</li> <li>- Conduct technology demonstration events for at least two Combatant Commands to showcase capability solutions addressing critical theater CWMD requirements in cooperation with key U.S allies and increase early joint force operational input to CWMD capability development.</li> <li>- Generate timely and actionable recommendations on countering and mitigating current and future WMD trends and challenges.</li> <li>- Conduct timely and relevant strategic studies and dialogues with international partners to facilitate year-upon-year learning on anticipated future challenges.</li> <li>- Refine strategic research projects to improve tangible outcomes and actionable recommendations for future activities to deter and counter WMD threats.</li> <li>- Provide in-depth research and analysis to anticipate, assess, and address key challenges related to strategic stability, strategic competition, multipolar escalation dynamics, limited WMD development and use, and other WMD threat trends by leveraging expert community resources.</li> <li>- Sponsor external research on strategic WMD and emerging threat topics and execution of bilateral, trilateral, and multilateral strategic dialogues with allies/partners.</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The decrease from FY 2024 to FY 2025 reflects net realignments:</p> <ol style="list-style-type: none"> <li>1) From this project to Project RA in Program Element 0603160BR for the CWMD Information Integration Cell (CIIC) to provide visualization, simulation, data analysis, and decision support capabilities for CWMD situational awareness,</li> <li>2) From DTRA's Operation and Maintenance (O&amp;M) account to this project for advanced information technology engineering and component architecture development and integration, and</li> <li>3) From this project to DTRA's O&amp;M account for higher Agency priorities.</li> </ol>			
<b>Accomplishments/Planned Programs Subtotals</b>	29.047	37.218	21.986

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• BA3/35/0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	70.234	86.415	82.711	0.000	82.711	76.041	76.146	86.289	88.165	Continuing	Continuing

PE 0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPL...

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES
--	---	--

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

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• BA4/107/0604551BR: CATAPULT	6.953	8.328	7.475	0.000	7.475	7.625	7.777	7.933	8.100	Continuing	Continuing
• BA6/172/0605502BR: SMALL BUSINESS INNOVATION RESEARCH	16.591	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

Competitive selection of most appropriate performers to fulfill science and technology development needs.

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT
--	---	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
RD: NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT	326.950	109.737	119.670	106.576	-	106.576	107.899	107.340	109.484	111.675	Continuing	Continuing

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

Nuclear Technologies and Capabilities Development encompasses the following related areas:

Research, development, test, and evaluation (RDT&E) to identify, develop, and exploit signatures associated with nuclear threats in support of U.S. capabilities that detect and interdict such threats; and locate, identify, and track special nuclear material and improve detection factors such as range, time, sensitivity, and accuracy to enhance Service and Special Mission Unit capabilities. These efforts support Department of Defense (DoD) requirements for countering terrorism, counterproliferation, nonproliferation, countering rogue states, and homeland defense.

RDT&E to systematically study signatures associated with adversary nuclear programs and nuclear detonations to gain knowledge or understanding necessary to: determine technical capabilities needed to improve DoD contingency planning activities; improve DoD situational awareness on the nuclear battlefield; and improve capabilities to attribute the source of a nuclear detonation.

Research and develop innovative technologies for the protection of mission-essential personnel, critical military and national defense capabilities, and associated control and support systems during a nuclear event. Research under this project supports the mission critical systems identified under DoD Instruction 3150.09, Chemical, Biological, Radiological, and Nuclear Survivability Policy. System vulnerability research develops nuclear assessment capabilities to support operational planning, weapons effects predictions, and strategic system design. This activity also provides the DoD's nuclear design and protection standards for new and existing systems, e.g., command and control facilities and aircraft. Key systems include the Nuclear Command and Control System, the net-centric thin-line, and both military and civilian satellites and associated support systems. Experimental capabilities research provides the warfighter with unique x-ray, gamma ray, and electromagnetic pulse (EMP) test capabilities in support of system survivability development, certification, and sustainment. These efforts also support international collaboration, user groups, case study reviews, and the Joint Atomic Information Exchange Group. The human survivability effort conducts research to develop and validate mortality and morbidity models associated with radiological and nuclear weapon effects.

Research and develop modeling tools to support military operational planning, weapons effects predictions, and strategic system design decisions; consolidate validated modeling tools for integrated functionality; predict system responses to nuclear and radiological weapons producing electromagnetic, thermal, blast, shock, and radiation environments; provide detailed adversary nuclear infrastructure characterization to enhance counterforce operations and hazard effects; and, develop foreign nuclear weapon outputs.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

Delivers integrated applications, data analysis, and cloud-ready Artificial Intelligence (AI)-enhanced capabilities, using a cross-cutting platform supporting the full spectrum of nuclear operations, wargaming, and assessments. Provides timely electronic access to Nuclear Testing Archives supporting validation of the effectiveness of the Nuclear Deterrent and survivability of U.S. military assets without a return to nuclear testing.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p><b>Title:</b> RD: Nuclear Technologies and Capabilities Development</p> <p><b>Description:</b> Project RD develops direct and indirect technologies for the detection of radiation and non- radiative signatures associated with nuclear threats, and advances warfighter capabilities to rapidly locate, characterize, and counter such threats.</p> <p><b>FY 2024 Plans:</b></p> <ul style="list-style-type: none"> <li>- Prototype search capabilities to increase document recognition by ~167%, photography by ~150%, and film by 400%, over the FY 2023 baseline metrics, enabling greater accessibility for nuclear technologies Subject Matter Experts (SMEs).</li> <li>- Integrate a computational methodology to estimate vehicle-specific radiation protection factors to assess personnel survivability.</li> <li>- Use the Mission Impacts of Nuclear Events (MINES) software to support design/execution of nuclear play in 10 DoD exercises (including 2 Title X), 1 North Atlantic Treaty Organization (NATO) or United Kingdom war-game/exercise, and 1 nuclear war-game for Combatant Commands (CCMDs).</li> <li>- Complete analysis of high-explosive experiment at Balapan nuclear testing site; deliver advanced models of yield estimation in extreme topography.</li> <li>- Develop electronics to replace Geiger tubes for high-dose rate applications to reduce the size, weight, power, and increase the actionable information available to end-users during Conventional Nuclear Integration (CNI) warfighting.</li> <li>- Transition improved electronics from applied research to prototyping and evaluate emerging National Nuclear Security Administration (NNSA) developed scintillators to reduce the size, weight, power, and cost, while increasing the performance of radiation detection systems; evaluate non-radiation approaches to detecting and geo-locating nuclear weapons or delivery systems.</li> <li>- Develop near-field technologies to improve real-time assessments of the geo-location, height-of-burst, and other characterization data from a nuclear explosion during battlefield operations.</li> <li>- Deliver improved multi-physics / multi-regime algorithms to bridge modeling gaps in time and burst altitude, and add additional EMP models to contribute to Nuclear Command, Control and Communications (NC3) modernization efforts, USAF Ground Based Strategic Deterrent, and USN Strategic Systems Programs (SSP) modernization</li> <li>- Deliver updated economic, social, communications, and electrical power impact models for significant nuclear weapons environments.</li> <li>- Deliver improved nuclear weapons environment model that reduces uncertainty of fratricide on military systems.</li> <li>- Deliver improved thermal radiation environment model valid across a broader range of weapon employment scenarios, geographies, and atmospheric conditions.</li> </ul>	109.737	119.670	106.576

PE 0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPL...

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEAR CH	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> <li>- Deliver air blast models jointly with the UK appropriate for non-ideal environments.</li> <li>- Deliver improved nuclear weapons environment model for nuclear fire ignition and spread in urban areas accounting for building types, with initial atmospheric conditions from DoD-approved numerical weather model forecasts.</li> <li>- Nuclear Survivability (NS) Military Standards (MIL-STDs) and Military Handbooks (MIL-HDBKs) for Space and Missiles (NTSI): Final coordination of Nuclear Space Environments MIL-STD, Phase 1 of the Comprehensive Endo-/Exo-Atmospheric Nuclear Environment Standard (CANES) revision.</li> <li>- Support Nuclear Weapons Effects survivability testing at the National Ignition Facility; execute experiments for complex surfaces and optimization of sources; and support 41 weeks of strategic user testing at the West Coast Facility.</li> <li>- Transition scintillation hardware-in-the-loop from prototype to user test capability, demonstrate modular electromagnetic pulse capability on warfighter asset and begin transition from prototype to user test capability, and research on characterization and mitigation of prompt neutron and gamma dose rate effects.</li> <li>- Deliver version 6.0 of Testable Hardware Toolkit and support over 40+ customers with training and requests; conduct response validation test campaign, and conduct large solar cell experiment on Quad Eagle.</li> <li>- Demonstrate the full operating capability of Quad Eagle X-ray Simulator to the Test and Evaluation (T&amp;E) community and conduct a Critical Design Review of Pithon II data sources to modernize diagnostics for use in future test events.</li> <li>- Publish Ground Systems Hardening MIL-STD and MIL-HDBK-4023 (Surface Vessel EMP Hardening).</li> </ul> <p><b>FY 2025 Plans:</b></p> <ul style="list-style-type: none"> <li>- Implement Mission Impacts of Nuclear Events Software (MINES) for adjudication of nuclear play in four Service, four Combatant Command, two Joint Staff, four DTRA, two US Forces Korea, and four Five Eyes (FVEY)/North Atlantic Treaty Organization (NATO) wargames and exercises.</li> <li>- Complete prototype for next-generation radionuclide particulate collection and analysis system for the International Monitoring System for greater awareness of nuclear testing activities in denied areas.</li> <li>- Deliver improved nuclear weapons environment models that improve vulnerability assessments, reduce uncertainty of fratricide and thermal effects on military systems, and reduce uncertainty from nuclear ground shock.</li> <li>- Deliver improved structure damage models from nuclear air blast insults.</li> <li>- Deliver improved lower-altitude nuclear disturbed environment tools and additional EMP models to contribute to Nuclear Command, Control and Communications (NC3) modernization efforts, USAF Ground Based Strategic Deterrent, and USN Strategic Systems Programs (SSP) modernization.</li> <li>- Deliver Electromagnetic Reliability and Effects Prediction (EMREP) toolsets with relevant test data for technical reachback, exercise support, and data visualization of unhardened EMP effects to support nuclear verification and survivability.</li> <li>- Complete Phase 2 of the Comprehensive Endo-/Exo-Atmospheric Nuclear Environment Standard</li> </ul>			

PE 0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION  
APPL...

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<p>(CANES) Nuclear Survivability Military Standards (MIL-STD) revision in support of acquisition programs survivability certification and compliance efforts.</p> <ul style="list-style-type: none"> <li>- Support Nuclear Weapons Effects survivability testing at the National Ignition Facility (NIF); execute experiments for the optimization of X-ray, neutron, and combined environment sources for strategic testing at the NIF; and support 41 weeks of strategic user testing and 14 weeks of development testing at the West Coast Facility.</li> <li>- Demonstrate operating capability of Pithon II X-ray Simulator and transition to test and evaluation warfighter community; demonstrate mixed gas and multishell nozzle cold x-ray generation platforms on Quad Eagle.</li> <li>- Transition prototype sensors to replace Geiger tubes for high-dose rate applications to reduce the size, weight, power, and increase the actionable information available to end-users during Conventional Nuclear Integration (CNI) warfighting.</li> <li>- Develop a prototype Cadmium Zinc Telluride (CZT)-based multi-function diagnostics tool and perform early operational assessments with end-users to reduce the size, weight, and power, while increasing performance of radiation sensors.</li> <li>- Develop novel nuclear search algorithms, including those that use novel machine learning approaches to improve threat identification software.</li> <li>- Integrate new capabilities into the Comprehensive Nuclear Effects Model (CNEM) to improve the model's underground facility response to nuclear strike, model fire ignition and spread from nuclear strike.</li> <li>- Integrate new capabilities into the Comprehensive Nuclear Effects Model (CNEM) to improve the model's underground facility response to nuclear strike, model fire ignition and spread from nuclear strike.</li> <li>- Integrate nuclear incident analytic outputs with command and control (C2) and geospatial systems in a chemical, biological, radiological, and nuclear (CBRN) warning and reporting networks testbed to provide enhanced situational awareness in support of Conventional Nuclear Integration. Analytics to include yield, height of burst (HOB ), near-real time hazard prediction and decision support outputs.</li> <li>- Improve Over the Horizon Arms Control (OTHAC) capability, replacing Arms Control Enterprise System (ACES) with a modern application hosted on the Nuclear, Chemical, Biological, Radiological, and high Explosive (NCBRE) Analysis Toolset (NATs) platform in support of arms control monitoring modernization.</li> <li>- Expand and advance Optical Character Recognition (OCR) and multimedia (video) Artificial Intelligence/Machine Learning (AI/ML) methods to increase discoverability of the Defense Threat Reduction Information Analysis Center (DTRIAC) multimedia collection to support research in the DoD nuclear weapons community.</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The decrease from FY 2024 to FY 2025 reflects the net impact of 1) the transition of nuclear survivability activities to Project RD in Program Element 0603160BR due to the progression of these technologies to the advanced technology development phase, and</p>			

PE 0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPL...



**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
2) decreased investment in nuclear technologies integration and nuclear survivability activities to fund higher priority Departmental requirements, and 3) increased investment in nuclear detection, assessments, and nuclear and radiological effects.			
<b>Accomplishments/Planned Programs Subtotals</b>	109.737	119.670	106.576

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• BA3/35/0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	64.264	51.697	76.899	0.000	76.899	75.475	74.596	72.108	73.717	Continuing	Continuing
• BA5/139/0605000BR: COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	14.044	14.414	14.841	0.000	14.841	15.069	17.522	17.860	18.323	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

Competitive selection of most appropriate performers to fulfill science and technology development needs.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 0400 / 2					<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH					<b>Project (Number/Name)</b> RG / CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT		
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
RG: CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT	186.425	30.311	30.871	28.193	-	28.193	29.028	31.788	32.423	33.104	Continuing	Continuing

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

Counter Weapons of Mass Destruction (CWMD) Technologies and Capabilities Development encompasses the following areas:

Defeat Technologies supports Combatant Commands through research, development, and transition of offensive weapons and other capabilities to counter Weapons of Mass Destruction (WMD) while mitigating collateral contamination effects. Technology development focuses on the physical or functional defeat of WMD threat materials, an adversary's ability to deliver the same, and the physical and nonphysical support networks enabling both. It does so through the systematic identification and maturation of technologies capable of defeating WMD agents or agent-based processes and selecting technologies for integration into weapons, delivery systems, or rapid WMD elimination capabilities. This effort includes developing specific WMD agent/agent-based process simulants, sub-scale test infrastructure, and sampling capability required for effective development, testing, and evaluation of next-generation CWMD capabilities. The project places a high priority on understanding, characterizing, and validating potential weapon effects within mathematical confidence as it relates to the unintended release of hazardous threat materials. Energetics research develops materials and weapon design technology providing defeat capabilities for engaging hard and deeply buried targets that are beyond current high explosive blast/fragmentation warhead technology. Technologies with the potential for weapon and capability integration are transitioned to Budget Activity (BA) 3, Advanced Technology Development (ATD) efforts. On a limited basis, technology test data is shared with coalition partners.

WMD counterforce technologies research develops weapons effects modeling algorithms, full and sub-scale test series required to investigate CWMD weapon effects and sensor performance, and visualization and situational awareness tools to support the next generation Technical Reachback cell. These activities are critical enablers for the development of advanced CWMD planning tools. This effort couples long-range fundamental and applied research with technology development in the physical, life, and computational sciences to support kill chain activities in countering emerging WMD threats.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> RG: Counter WMD Technologies and Capabilities Development	30.311	30.871	28.193
<b>Description:</b> Project RG uses applied research to develop counter WMD (CWMD) technologies and capabilities.			
<b>FY 2024 Plans:</b> - Modernize and evolve instrumentation and diagnostics capability to support test and evaluation activities across the CWMD spectrum, and develop new methods to address the evolving threats. Includes improving data communications links, enhancing acoustic temperature systems, and networking autonomous underground vehicles (UGVs) with obstacle avoidance capabilities.			

PE 0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION  
APPL...

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEAR CH	<b>Project (Number/Name)</b> RG / CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>- Remediate and restore existing test bed articles to continue support across the CWMD spectrum. Includes structure demolition and clean-up at White Sands Missile Range (WSMR), New Mexico.</p> <p>- Replicate, test, and evaluate identified threat WMD systems and use tactics, techniques, and procedures to support the development of WMD detection, characterization, and countermeasures documented in Combatant Command (CCMD) requirements.</p> <p>- Perform threat-relevant test and evaluation activities to document unique signatures that identify, characterize, and determine the effectiveness of defeat techniques for WMD proliferation and production facilities, leveraging the Nevada National Security Site, and a novel transportable capability that can replicate specific threats of interest to the CCMDs.</p> <p>- Design and build testbeds in small, mid, and large-scale environments capable of capturing data needed to improve and validate high-fidelity modeling and simulation tools used to predict U.S. weapon and adversary threat effects on facilities of interest.</p> <p><b>FY 2025 Plans:</b></p> <p>- Continue to advance additive manufacturing capabilities within the Next Generation Defeat portfolio in order to enhance/improve current capabilities.</p> <p>- Research and develop an initial prototype for small-scale testing of a ruggedized/miniaturized high-powered laser to meet the needs of Explosive Ordnance Disposal (EOD) CWMD defeat.</p> <p>- Research and develop an initial prototype for novel 3-D energetics to enable end-users to disrupt upstream WMD.</p> <p>- Develop and improve next generation core Modular Autonomous C-WMD System (MACS) single-platform autonomous navigation as well as multi-agent coordination and data-fusion competencies and core algorithms to enable improved Manned-Unmanned-Teaming (MUM-T).</p> <p>- Finish the final three tests of the Agent Defeat Modeling and Simulation Baseline (ADMB) capstone test series. Perform post-capstone validation of agent release/defeat models and source term generation for collateral effects assessment.</p> <p>- Initiate Legacy Weapons Test Program with focus on pacing and acute time-sensitive mobile WMD threats.</p> <p>- Conduct testing blast response and residual capacity of precast columns, precast beam-column connections, and precast load-bearing walls in collaboration with Singapore.</p> <p>- Accredit and transition Optimized Weapon Load-out (OWL) tool to the Integrated Munitions Effects Assessment (IMEA) Program improving the accuracy and fidelity of weapons effects models to aid targeting decisions against challenging pacing and acute threats.</p> <p>- Deliver improved automated targeting capabilities utilizing continuous machine learning and trained neural networks to automate portions of the targeting process improving lethality against WMD and Hard and Deeply Buried Targets (HDBT).</p> <p>- Continue delivery of real-time mapping and situational awareness innovations for subterranean CWMD operations through Edge-Enhanced Mapping &amp; Positioning System (E2MAPS).</p> <p>- Develop streaming of underground facility schematics to contact lens displays.</p>			

PE 0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPL...

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	<b>Project (Number/Name)</b> RG / CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
- Develop map compression algorithms for communications-limited operations. - Advance novel map visualizations in augmented reality to reduce incidence of mission errors.			
<b><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i></b> The decrease from FY 2024 to FY 2025 is due to decreased investment in CWMD hard target defeat and WMD counterforce technologies to fund higher priority Departmental requirements.			
<b>Accomplishments/Planned Programs Subtotals</b>	30.311	30.871	28.193

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• BA3/35/0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	251.650	254.610	246.304	0.000	246.304	256.101	260.045	265.246	270.816	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

Competitive selection of most appropriate performers to fulfill science and technology development needs.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 0400 / 2					<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEAR CH				<b>Project (Number/Name)</b> RR / CWMD TEST AND EVALUATION			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
RR: CWMD TEST AND EVALUATION	164.985	17.718	21.111	18.200	-	18.200	20.939	19.786	20.210	20.663	Continuing	Continuing

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

The Countering Weapons of Mass Destruction (CWMD) Test and Evaluation project provides a unique national test capability for simulated Weapons of Mass Destruction (WMD) facilities and processes. This capability provides DTRA's structured and systematic end-to-end test event planning, preparation, management, execution, and data analysis. It also offers test instrumentation (data acquisition systems and optics), scientific analysis and predictions, test article construction, test article/test bed remediation, tunnel mining, architectural and engineering design, systems engineering and integration, and test data management. The project leverages 50 years of expertise in investigating weapons effects and target response across the spectrum of hostile environments that could be created by proliferate nations or terrorist organizations with access to advanced conventional weapons or WMD. Subject matter experts design full and sub-scale testing strategies focusing on weapon-target interaction with fixed soft and hardened facilities to include above ground facilities, cut-and-cover facilities, and deep underground tunnels.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> RR: Countering WMD Test and Evaluation	17.718	21.111	18.200
<b>Description:</b> Project RR provides innovative science and technology to enable the development, evaluation, and validation of capabilities for DTRA, DoD, and federal partners that maintain U.S. superiority in countering weapons of mass destruction (CWMD) and emerging threats, mitigate the risks of technological surprise, and respond to the warfighter's CWMD requirements.			
<b>FY 2024 Plans:</b>			
- Modernize and evolve instrumentation and diagnostics capability to support test and evaluation activities across the CWMD spectrum, and develop new methods to address the evolving threats. Includes improving data communications links, enhancing acoustic temperature systems, and networking autonomous underground vehicles (UGVs) with obstacle avoidance capabilities.			
- Remediate and restore existing test bed articles to continue support across the CWMD spectrum. Includes structure demolition and clean-up at WSMR, NM.			
- Replicate, test, and evaluate identified threat WMD systems and use tactics, techniques, and procedures to support the development of WMD detection, characterization, and countermeasures documented in CCMD requirements.			
- Perform threat-relevant test and evaluation activities to document unique signatures that identify, characterize, and determine the effectiveness of defeat techniques for WMD proliferation and production facilities, leveraging the Nevada National Security Site, and a novel transportable capability that can replicate specific threats of interest to the CCMDs.			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEAR CH	<b>Project (Number/Name)</b> RR / CWMD TEST AND EVALUATION

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>- Design and build testbeds in small, mid, and large-scale environments capable of capturing data needed to improve and validate high-fidelity modeling and simulation tools used to predict U.S. weapon and adversary threat effects on facilities of interest.</p> <p><b>FY 2025 Plans:</b></p> <ul style="list-style-type: none"> <li>- Improve efficiency and effectiveness of DTRA's RDT&amp;E programs by procuring and guaranteeing availability of software tools that provide rapid analysis and modeling.</li> <li>- Purchase necessary test and life safety equipment in support of RDT&amp;E programs.</li> <li>- Support test bed construction, geological surveys, and site remediation.</li> <li>- Provide calibration and life cycle management of safety and air sampling monitoring equipment.</li> <li>- Provide testing support for Agent Defeat Modeling and Simulation Baseline (ADMB) efforts to improve modeling capabilities.</li> <li>- Provide integration of fluorescence detection, chemical sensors, and radiological detectors into autonomous unmanned ground vehicle platforms.</li> <li>- Deliver four test campaigns across three novel test activities to refine collection of Tactics, Techniques and Procedures; validate new sensors; and broaden U.S. Government search, collection, and characterization capabilities.</li> <li>- Provide program management, operational/logistics support, and explosives support consisting of test planning, fielding, management, safe execution and results analysis for 100 blast tests.</li> <li>- Support operational and developmental testing at three fixed locations (Kirtland Air Force Base, White Sands Missile Range (WSMR), and the Nevada National Security Site) and maintain an expeditionary capability to enable testing activities at multiple remote locations.</li> <li>- Provide explosives support including planning, operations, explosives development, procurement, explosives safety, operational use, fielding, firing, and disposal of explosives for operational and developmental testing.</li> <li>- Remediate a penetration test target at WSMR to comply with WSMR agreements to remove targets no longer required.</li> <li>- Clean-up and close open pits and remove abandoned cable hazards on the Small and Intermediate Test Beds on WSMR.</li> <li>- Protect the local Albuquerque Community through improvements to the in-house seismic/acoustic laboratory, enabling safe conduct of explosive testing at Kirtland Air Force Base.</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The decrease from FY 2024 to FY 2025 is due to decreased investment in test support and assets to fund higher priority Departmental requirements.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	17.718	21.111	18.200

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602718BR / COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	<b>Project (Number/Name)</b> RR / CWMD TEST AND EVALUATION

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

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• BA3/35/0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	10.461	8.225	12.130	0.000	12.130	12.530	13.118	13.380	13.661	Continuing	Continuing
• BA3/36/0603176BR: ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT	6.343	7.990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.495

**Remarks**

**D. Acquisition Strategy**

Competitive selection of most appropriate performers to fulfill science and technology development needs.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED



**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / <i>COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT</i>
---	---

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	1,427.935	396.609	400.947	418.044	-	418.044	420.147	423.905	437.023	446.359	Continuing	Continuing
RA: <i>CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES</i>	275.484	70.234	86.415	82.711	-	82.711	76.041	76.146	86.289	88.165	Continuing	Continuing
RD: <i>NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT</i>	249.102	64.264	51.697	76.899	-	76.899	75.475	74.596	72.108	73.717	Continuing	Continuing
RG: <i>CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT</i>	898.540	251.650	254.610	246.304	-	246.304	256.101	260.045	265.246	270.816	Continuing	Continuing
RR: <i>CWMD TEST AND EVALUATION</i>	4.809	10.461	8.225	12.130	-	12.130	12.530	13.118	13.380	13.661	Continuing	Continuing

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

The Counter Weapons of Mass Destruction (CWMD) Advanced Technology Development portfolio is aligned with National and Department of Defense (DoD) strategic objectives and with Science and Technology (S&T) investment direction established annually by the Defense Threat Reduction Agency (DTRA). The objectives directly support policy and planning guidance from the Executive Office of the President, the DoD, and the broader Weapons of Mass Destruction (WMD) threat reduction community.

The portfolio advances the CWMD mission by selecting advanced technology development initiatives that meet the following criteria: (1) efforts are clearly defined and directly linked to mission-specific capability requirements of DTRA, the Military Departments, Combatant Commanders, other DoD and federal agencies, and international partners; (2) preliminary assessments of subsystems and components offer the highest potential for technological feasibility, operability, and producibility upon transition out of S&T research; and (3) activities demonstrate cost effectiveness or cost reduction potential of technologies during field testing or simulation at scale.

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / <i>COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT</i>
---	---

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	406.721	400.947	411.296	-	411.296
Current President's Budget	396.609	400.947	418.044	-	418.044
Total Adjustments	-10.112	0.000	6.748	-	6.748
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-10.112	0.000			
• Realignment	-	0.000	26.179	-	26.179
• Program Adjustment	-	-	-19.431	-	-19.431

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** RG: *CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT*

Congressional Add: *Detection and Tracking Technology*

Congressional Add: *Advanced Manufacturing of Energetics*

Congressional Add Subtotals for Project: RG

Congressional Add Totals for all Projects

	<b>FY 2023</b>	<b>FY 2024</b>
	6.000	-
	5.000	-
Congressional Add Subtotals for Project: RG	11.000	-
Congressional Add Totals for all Projects	11.000	-

**Change Summary Explanation**

The increase from the previous President's Budget reflects a program adjustment in Projects RA, RG, and RR to fund higher Departmental priorities and the following realignments:

- 1) From Project RA in Program Element (PE) 0602718BR to Project RA in this PE for the CWMD Information Integration Cell (CIIC) for CWMD situational awareness,
- 2) From Project RD in PE 0602718BR to Project RD in this PE for the progression of nuclear survivability technologies to advanced technology development,
- 3) From Project RD in this PE to Project RD in PE 0605000BR to transition Nuclear, Chemical, Biological, Radiological, and high Explosive Analysis Toolsets (NATs) to the systems demonstration phase,
- 4) From this project to DTRA's Operation and Maintenance (O&M) account for technical reachback and other Departmental priorities,
- 5) From this project to DTRA's Procurement, Defense-Wide (P, DW) account to upgrade one radionuclide shelter to enhance the performance and sustainment of the International Monitoring System nuclear explosion monitoring capability, and

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	PE 0603160BR / <i>COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT</i>

6) From Project RR in PE 0603176BR to Project RA in this PE, to better integrate National Assessment Group activities into the RDT&E portfolio.

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES
--	--	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
RA: CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES	275.484	70.234	86.415	82.711	-	82.711	76.041	76.146	86.289	88.165	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The Counter Weapons of Mass Destruction (CWMD) Cross-Cutting Technical and Information Sciences project provides technical expertise through continuous reach-back and quick reaction support to the United States and its allies across the CWMD mission space. The project performs continuous modeling of ad hoc computational analyses on the consequences of Weapons of Mass Destruction (WMD) in consultation with military and civilian planners, warfighters, and first responders. The project also supports international CWMD cooperation by developing technologies and concepts suitable for foreign release.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<b>Title:</b> RA: CWMD Cross-Cutting Technical and Information Sciences	70.234	86.415	82.711
<b>Description:</b> Project RA develops modeling and simulation capabilities and provides technical reachback support to maintain and increase decision advantages for the United States and its allies through improved situational understanding across the complete CWMD mission space.			
<b>FY 2024 Plans:</b>			
- Provide 24/7 technical reachback assistance, decision support and planning support to Combatant Command (CCMD), Service, interagency, and other government customers to support immediate mission and operational environments; respond to over 1200 requests for information/assistance with over 95% timeliness in responses.			
- Develop data integration, analysis and visualization solutions in support of CCMDs, Special Operations Forces, and other mission partners; apply advanced analytics to develop novel capabilities for illuminating and disrupting procurement and proliferation networks and coordinating CWMD operations; transition operational prototype applications/processes to supported commands/units or sustainment programs.			
- Develop and deliver critical technical capabilities responsive to urgent, emergent theater requirements in support of critical strategic partners via non-traditional, efficient acquisition pathways; deliver timely technical capabilities in response to emergent needs that would otherwise not be met in the required timeline.			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>- Enhance and integrate toolset for capturing, documenting, decomposing, and prioritizing DTRA RDT&amp;E activities, including the identification and de-confliction of redundancies across DTRA, greater DoD and broader government CWMD capability development activities.</p> <p><b>FY 2025 Plans:</b></p> <ul style="list-style-type: none"> <li>- Provide 24/7 technical reachback assistance, decision support and planning support to Combatant Command (CCMD), Service, interagency and other government customers to support immediate mission and operational environments; respond to over 1300 requests for information/assistance with over 95% timeliness in responses.</li> <li>- Develop comprehensive capability for modeling atmospheric release and effects of chemical, biological, radiological, and nuclear (CBRN) material, incorporating the latest threat developments and trends into the Hazard Prediction and Assessment Capability (HPAC) model; develop multi-operating system containerized version to meet Security, Development, and Operations (SecDevOps) guidance and streamline integration and transition.</li> <li>- Rapidly prototype software applications and data science solutions to enhance CWMD situational awareness and information sharing, synchronization of operations, and identification of WMD threats. Maintain rotating portfolio in various stages of development, from initial concept through transition to advanced developer or to the customer for sustainment.</li> <li>- Develop data integration, analysis and visualization solutions in support of mission partners; apply advanced analytics to develop novel capabilities for illuminating and disrupting procurement and proliferation networks and coordinating CWMD operations; transition operational prototype applications/processes to supported commands/units or sustainment programs.</li> <li>- Deliver engineering /vulnerability studies identifying areas for continued capability development to support CCMD counter threats; develop/deliver rapid prototype CWMD and emerging threat capabilities addressing emerging theater CWMD requirements, with focus on: vulnerabilities analysis, human-machine interfaces, networked sensing and signatures, next generation communications, and disruptive technologies.</li> <li>- Develop and deliver critical technical capabilities responsive to urgent, emergent theater requirements in support of critical strategic partners via non-traditional, efficient acquisition pathways; deliver timely technical capabilities in response to emergent needs that would otherwise not be met in the required timeline.</li> <li>- Enhance and integrate toolset under the DTRA Requirements Management Tool (DRMT) to capture, document, decompose, and prioritize DTRA RDT&amp;E activities, including the identification and de-confliction of redundancies across DTRA, greater DoD and broader government CWMD capability development activities.</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The decrease from FY 2024 to FY 2025 reflects the net impact of a program adjustment to cross-cutting technology development to fund higher priority Departmental requirements and the following realignments:</p>			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
1) From Project RA in Program Element (PE) 0602718BR to this project for the CWMD Information Integration Cell (CIIC) to provide visualization, simulation, data analysis, and decision support capabilities for CWMD situational awareness, 2) From this project to Project RD in PE 0602718BR for CWMD modeling and simulation, 3) From this project to Project RD for increased investment in Over-the Horizon Arms Control (OTHAC) initiative efforts for radiation detection and test bed activities, 4) From this project to DTRA's Operation and Maintenance (O&M) account for technical reachback and other Departmental priorities, and 5) From this project to DTRA's Procurement, Defense-Wide (P, DW) account to upgrade one radionuclide shelter to enhance the performance and sustainment of the International Monitoring System nuclear explosion monitoring capability.			
<b>Accomplishments/Planned Programs Subtotals</b>	70.234	86.415	82.711

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• BA2/24/0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	29.047	37.218	21.986	0.000	21.986	22.538	26.949	23.627	24.113	Continuing	Continuing
• BA4/107/0604551BR: CATAPULT	6.953	8.328	7.475	0.000	7.475	7.625	7.777	7.933	8.100	Continuing	Continuing
• BA6/172/0605502BR: SMALL BUSINESS INNOVATION RESEARCH	16.591	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

Assessment and selection of best performer for developmental requirements to meet specific military capability needs.

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT
--	--	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
RD: NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT	249.102	64.264	51.697	76.899	-	76.899	75.475	74.596	72.108	73.717	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Research, development, test, and evaluation (RDT&E) to identify, develop, and exploit signatures associated with nuclear threats in support of U.S. capabilities that detect and interdict such threats; and locate, identify, and track special nuclear material and improve detection factors such as range, time, sensitivity, and accuracy to enhance Service and Special Mission Unit capabilities. These efforts support Department of Defense (DoD) requirements for countering terrorism, counter proliferation, nonproliferation, countering rogue states, and homeland defense.

RDT&E to systematically study signatures associated with adversary nuclear programs and nuclear detonations to gain knowledge or understanding necessary to: determine technical capabilities needed to improve DoD contingency planning activities; improve DoD situational awareness on the nuclear battlefield; and improve capabilities to attribute the source of a nuclear detonation.

Research and develop innovative technologies for the protection of mission-essential personnel, critical military and national defense capabilities, and associated control and support systems during a nuclear event. Research under this project supports the mission critical systems identified under DoD Instruction 3150.09, Chemical, Biological, Radiological, and Nuclear Survivability Policy. System vulnerability research develops nuclear assessment capabilities to support operational planning, weapons effects predictions, and strategic system design. This activity also provides the DoD's nuclear design and protection standards for new and existing systems, e.g., command and control facilities and aircraft. Key systems include the Nuclear Command and Control System, the net-centric thin-line, and both military and civilian satellites and associated support systems. Experimental capabilities research provides the warfighter with unique x-ray, gamma ray, and electromagnetic pulse (EMP) test capabilities in support of system survivability development, certification, and sustainment. These efforts also support international collaboration, user groups, case study reviews, and the Joint Atomic Information Exchange Group. The human survivability effort conducts research to develop and validate mortality and morbidity models associated with radiological and nuclear weapon effects.

Research and development modeling tools to support military operational planning, weapons effects predictions, and strategic system design decisions; consolidate validated modeling tools for integrated functionality; predict system responses to nuclear and radiological weapons producing electromagnetic, thermal, blast, shock, and radiation environments; provide detailed adversary nuclear infrastructure characterization to enhance counterforce operations and hazard effects; and, develop foreign nuclear weapon outputs.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency	<b>Date:</b> March 2024
---	-------------------------

<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT
--	--	--

Delivers integrated applications, data analysis, and cloud-ready artificial intelligence (AI)-enhanced capabilities, cross-cutting platform supporting full spectrum of nuclear operations, wargaming, and assessments. Provides timely electronic access to Nuclear Testing Archives supporting validation of the effectiveness of the Nuclear Deterrent and survivability of U.S. military assets without a return to nuclear testing.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<p><b>Title:</b> RD: Nuclear Technologies and Capabilities Development</p> <p><b>Description:</b> Project RD develops, integrates and transitions radiation detection technologies, and systems, tools, techniques, and procedures that take advantage of non-radiation based signatures, in order to advance warfighter capabilities to rapidly detect, localize, characterize, and interdict nuclear and radiological threats.</p> <p><b>FY 2024 Plans:</b></p> <ul style="list-style-type: none"> <li>- Develop Artificial Intelligence/Machine Learning (AI/ML) capability to ingest and analyze sensor feeds into DoD command and control (C2) systems for situational awareness, risk mitigation planning, and assessment tools.</li> <li>- Deliver Mission Impacts of Nuclear Events (MINES) support of the analysis and assessment of Combatant Command (CCMD) operation plans (OPLANs), course of action (COA) development, and concept of operations (CONOPs); leverage AI/ML and Augmented Reality/Virtual Reality (AR/ VR) to increase nuclear environment visualization.</li> <li>- Complete laboratory testing of next-generation radionuclide particulate monitoring system and prototype field mass-spectrometry analysis system; operational test and evaluation (OT&amp;E) of field X-ray/gamma analysis system.</li> <li>- Transition modular radiation detection systems to meet the needs of Explosive Ordnance Disposal, Special Operations Forces, National Guard Bureau, 20th CBRNE, and DTRA Technical Support Groups (TSGs), while ensuring every system is interoperable with the widely used Tactical Assault Kit (TAK) ecosystem.</li> <li>- Support end-user early operational assessments and transition activities to ensure prototype capabilities meet the minimum criteria to be inserted into a program-of-record or for direct procurement.</li> <li>- Transition the Dose Rate Application to DTRA/TSG and Service end-users, complete transition of VIPER to Army Multi-Purpose Vehicle (AMPV), and begin transitioning VIPER into CH-47 Chinook, UH-60 Black Hawk, and UH-72 Lakota airborne platforms to include airworthiness certifications.</li> <li>- Perform environmental testing on the Vehicle Mounted Radiation Detection System (VMRDS) and fix any weaknesses in the system in preparation for transition to National Guard Civil Support Teams.</li> <li>- Collaborate with the Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense's CBRN Sensory Integration on Robotic Platforms for the Chemical Biological Incident Response Force (CBIRF) program to integrate state-of-the-art radiation detection systems on the Nuclear, Biological, Chemical Reconnaissance Vehicle (NBCRV) SkyRaider Unmanned Aerial System (UAS).</li> </ul>	64.264	51.697	76.899

PE 0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION  
ADVA...



**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> <li>- Demonstrate nuclear weapon effects capabilities in a relevant cloud environment for evaluation by Enhanced Consequence Analysis (ECA), MINES, and the Nuclear, Chemical, Biological, Radiological, and high Explosive (NCBRE) Analysis Toolset (NATs) and continue development and verification and validation (V&amp;V) of capabilities as prioritized by end users.</li> <li>- Demonstrate waste water and agricultural models that account for impacts of significant nuclear weapons environments.</li> <li>- Deliver updated nuclear effects damage calculator for Army maneuver planning.</li> <li>- Improve operational USSTRATCOM nuclear planning tools.</li> <li>- Publish two updated nuclear weapons effects chapters.</li> <li>- Expand the historical nuclear testing archive at the Defense Threat Reduction Information Analysis Center (DTRIAC).</li> </ul> <p><b>FY 2025 Plans:</b></p> <ul style="list-style-type: none"> <li>- Deliver Mission Impacts of Nuclear Events (MINES) support of the analysis and assessment of Combatant Command (CCMD) operation plans (OPLANs), course of action (COA) development, and concept of operations (CONOPs) to support mission impacts of nuclear detonations in the ground, air, maritime &amp; space domains.</li> <li>- Complete testing of machine-language tool for component identification and expand artifacts reference dataset for foreign equipment inspections to support arms control inspections, verifications, and authentications.</li> <li>- Complete 3-D models for topography effects on yield estimation and comparative data analysis for INDOPACOM areas of interest; complete xenon integration into a multi-function atom-trap trace analysis system and testing for potential International Monitoring System (IMS) integration.</li> <li>- Conduct space-based prompt diagnostics characterization preliminary design review (PDR) and develop plan for component ground testing to provide relevant forensic data supporting attribution in the event of a nuclear attack. Model and simulate improvements to detector response for prompt data collection to support U.S. Prompt Diagnostics System mission and deliver improved ground debris collection capabilities.</li> <li>- Demonstrate interdependent infrastructure models using water, petroleum, and transportation with coupling to a significant nuclear weapons effect environment and deliver 14 new integrated or updated capabilities through Nuclear Capabilities Services (NuCS) 2025 for strategic contingency planning and damage estimation efforts.</li> <li>- Deliver moving receiver radiation dose, eye damage/flash blindness, source-region EMP, and radiation hardness standard computation tool to U.S. Army via Enhanced Nuclear Weapons Effects Database (eNWEDS) for maneuver planning and NATO support.</li> <li>- Deliver MIL-STDs and handbooks that keep pace with threat, technology, and methodologies to ensure the warfighter has the tools necessary to develop a survivable strategic deterrent; provide Test and Evaluation (T&amp;E) support for Phase 2 of the Comprehensive Endo-/Exo-Atmospheric Nuclear Environment Standard (CANES) revision.</li> </ul>			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<ul style="list-style-type: none"> <li>- Transition modular radiation detection systems to meet the needs of Explosive Ordnance Disposal, Special Operations Forces, National Guard Bureau, 20th CBRNE, and DTRA Technical Support Groups (TSGs), while ensuring every system is interoperable with the widely used Tactical Assault Kit (TAK) ecosystem.</li> <li>- Support end-user early operational assessments and transition activities to ensure radiation sensor prototype capabilities meet the minimum criteria to be inserted into a program-of-record or for direct procurement and develop an application programming interface to reduce time and cost of integration with Service and CCMD training tools.</li> <li>- Refresh Nuclear, Chemical, Biological, Radiological, and high-Explosive (NCBRE) Analysis Toolset (NATs) Consequence Assessment user interface and integrate latest Linux version of the Hazard Prediction and Assessment Capability (HPAC) to improve system performance; deliver updates to Comprehensive Nuclear Effects Model providing one canvas for all available nuclear effects calculations for CCMDs, Services, and DTRA Technical Reachback.</li> <li>- Enhance the historical nuclear testing archive at Defense Threat Reduction Information Analysis Center (DTRIAC).</li> <li>- Deliver verified water shock environment tool to U.S. Army and Nuclear Capabilities Services (NuCS) Team for seaport damage to support U.S. Army planners' operations for nuclear environments.</li> <li>- Publish two updated nuclear weapons effects chapters for the Nuclear Weapons Effects Manual One (EM-1).</li> <li>- Enhance the historical nuclear testing archive at the Defense Threat Reduction Information Analysis Center (DTRIAC),</li> <li>- Modernize the Defense Stockpile Management System (DSMS).</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The increase from FY 2024 to FY 2025 reflects the net impact of realignments:</p> <ol style="list-style-type: none"> <li>1) From Project RA in this PE and O&amp;M to this project for Over the Horizon Arms Control (OTHAC) initiative efforts for radiation detection and test bed activities,</li> <li>2) From Project RD in PE 0602718BR to this project for the transition of nuclear survivability activities into advanced technology development efforts in the areas of electro-magnetic pulse hardening, verification technologies, X-ray simulators, and response validation,</li> <li>3) From this project to Project RD in PE 0605000BR for the transition of Nuclear, Chemical, Biological, Radiological, and high Explosive Analysis toolsets to the systems demonstration phase and to the Operation and Maintenance (O&amp;M) account for operations.</li> </ol>			
<b>Accomplishments/Planned Programs Subtotals</b>	64.264	51.697	76.899

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

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

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• BA2/24/0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	109.737	119.670	106.576	0.000	106.576	107.899	107.340	109.484	111.675	Continuing	Continuing
• BA5/139/0605000BR: COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	14.044	14.414	14.841	0.000	14.841	15.069	17.522	17.860	18.323	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

Assessment and selection of best performer for developmental requirements to meet specific military capability needs.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 0400 / 3					<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT					<b>Project (Number/Name)</b> RG / CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT		
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
RG: CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT	898.540	251.650	254.610	246.304	-	246.304	256.101	260.045	265.246	270.816	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Counter Weapons of Mass Destruction (CWMD) Technologies and Capabilities Development project develops advanced technologies and weapon concepts and validates their applicability to CWMD. Research encompasses the following areas:

Defeat Technologies supports Combatant Commands through research, development, and transition of offensive weapons and other capabilities to counter Weapons of Mass Destruction (WMD) while mitigating collateral contamination effects.

Enable rapid capability delivery supports urgent warfighter operational requirements in countering Weapons of Mass Destruction (WMD) and emerging threats, often below the level of armed conflict. This research develops and delivers urgent CWMD capabilities to provide Combatant Commands a competitive advantage against WMD-capable adversaries with a focus on innovative, agile, achievable, and effective technology solutions for DoD sensitive and classified programs, Combatant Command hybrid warfare support, and competition below the level of armed conflict.

Counter emergent threat technologies research develops and transitions a full spectrum of new technologies to counter emergent WMD threats providing combatant commanders improved offensive capabilities in support of near-peer emerging threats and counter-proliferation missions that combat weapons of mass destruction. This research supports the U.S. Special Operations Command (USSOCOM) in two areas: (1) counter proliferation research is a collaborative effort to develop advanced, warfighter-unique technologies to defeat WMD development and acquisition pathways, to include defeat of the devices themselves, while minimizing risks to U.S. forces; and (2) counter emerging threats concepts and technologies to integrate and synchronize activities that prevent violent extremist organizations and rogue nation states from developing, acquiring, proliferating, or using WMD. This effort supports Commander, USSOCOM responsibilities under the Chairman, Joint Chiefs of Staff Unified Command Plan.

Counterforce technologies research develops, integrates, demonstrates, and transitions advanced sensors, surveillance, and target defeat planning technologies to enable the warfighter to hold WMD-related targets at risk. There are three core research efforts in this project: Technical Reconnaissance; CWMD Weapons Effects; and, Applied CWMD Computational, Physical and Life Science Research.

Target assessment technologies research develops, applies, and transitions processes and technologies providing advanced capabilities in the areas of Nuclear Advanced Automated Target Development (N-A2TD), WMD Targets Immersive Mission Planning (TIMP), and Full Dimensional Defeat Enterprise (FDDE). N-A2TD automates intelligence input to provide more realistic target input parameters incorporating 3-D models. WMD-TIMP provides an interactive virtual reality platform

PE 0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION  
ADVA...

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RG / CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT
--	--	---

for mission planning that mitigates impact of characterization uncertainty by allowing mission planners to execute multiple planning iterations with varied uncertainty parameters. FDDE aims to develop an enterprise capability for finding and identifying a facility, characterizing its function and physical layout, determining current or future vulnerabilities to available defeat mechanisms, planning and executing an attack, assessing damage, and denying reconstitution efforts. The dynamic capabilities encompassed in this effort provide Combatant Commands (CCMDs) and the intelligence community tools and processes needed to hold at risk high value hard targets and WMD targets possessed by adversaries.

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
---	----------------	----------------	----------------

<p><b>Title:</b> RG: CWMD Technologies and Capabilities Development</p> <p><b>Description:</b> Project RG develops advanced technologies and weapon concepts and validates their applicability to CWMD.</p> <p><b>FY 2024 Plans:</b></p> <ul style="list-style-type: none"> <li>- Provide offensive counter proliferation/CWMD facility defeat and critical node disruptive technologies.</li> <li>- Conduct USSOCOM SOF specific counter proliferation RDT&amp;E to execute system integration and system demonstration for counter proliferation/CWMD technologies. Execute system test, evaluation, and development of tactics, techniques, and procedures.</li> <li>- Provide diagnostic and defeat RDT&amp;E against emergent CWMD requirements for specific Explosive Ordnance Disposal (EOD) render safe operations.</li> <li>- Purchase additional access denial test articles with advanced development (specifically for Active Denial for Targets Right of the Line (ADTROL): seeker, warhead, communications). Conduct preliminary aircraft integration of ADTROL.</li> <li>- Conduct field testing of advanced sensor prototypes in collaboration with Air Force Technical Applications Center (AFTAC) for dual-use applications. Develop and deliver enhanced capability to perform magnetic characterization for time-sensitive targets.</li> <li>- Develop models to simulate combined kinetic and non-kinetic effects for WMD targets. Implement improvements for robust collateral damage estimates and uncertainty bounds.</li> <li>- Initiate Adversarial Weapons Asset Protection Toolkit (AWAPT) development for near-peer threat.</li> <li>- Develop and transition technology required to meet urgent CCMD needs for planned hybrid-warfare missions to counter WMD.</li> <li>- Mature the Full Dimensional Defeat Enterprise (FDDE) organization, functionality, and cross-functional CWMD Technical Assistance Group (TAG) to effectively utilize the agent-based modeling approach to system of systems analysis of WMD targets.</li> <li>- Expand functional agent libraries and facility templates, including larger system of facilities and cross-domain targeting.</li> <li>- Provide Analysis of Effect on WMD network domains, including consequences actions.</li> <li>- Develop models, leveraging legacy models, to create a 3-D immersive virtual reality environment for iterative mission planning.</li> <li>- Verification and validation of Nuclear-Automated Advanced Target Development (N-A2TD) prototype that provides more realistic target input parameters for more extensive and faster analytical results.</li> </ul>	240.650	254.610	246.304
--	---------	---------	---------

PE 0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION  
ADVA...

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RG / CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>- Deliver Targeting Weaponering Assistance Cell (TWAC) targeting recommendation packages and conduct training activities as requested by Combatant Commands.</p> <p><b>FY 2025 Plans:</b></p> <ul style="list-style-type: none"> <li>- Demonstrate electromagnetic pulse (directed energy) effects capabilities in a developed prototype on a relevant WMD hardened structure as prioritized by end users.</li> <li>- Develop additional full-scale WMD manufacturing facility target model to test multiple agent and facility defeat capabilities.</li> <li>- Optimize rubble generation in support of active denial of adversary's use of hardened and deeply buried targets (HDBTs).</li> <li>- Develop and deliver high density high explosive materials to hold high value HDBT at risk.</li> <li>- Spiral develop unmanned kinetic weapon system for precision defeat of WMD platforms and infrastructure to deter WMD aggression in USINDOPACOM.</li> <li>- Test special purpose kinetics and other precision effects improved by additive manufacturing processes.</li> <li>- Test prototype that determines presence of WMD materials behind barriers to identify current and emerging WMD threats against combat forces in USINDOPACOM.</li> <li>- Test capability to bypass WMD mechanical security to support efforts to increase situational awareness of adversarial WMD activities in USINDOPACOM.</li> <li>- Conduct functional utility test of universal decoding prototypes for operational utility against USINDOPACOM threats.</li> <li>- Provide offensive, scalable, and flexible options for execution of overt and discreet Counter Proliferation (CP) &amp; CWMD operations to deny, delay, degrade, disrupt, defeat, or destroy facilities, critical nodes, and other WMD capabilities in support of USSOCOM and other CCMDs.</li> <li>- Development and transition of Kinetic Barrier Defeat Tools, Maritime System Defeat Tools, and Critical Node Defeat Tools for CCMD use.</li> <li>- Development of WMD Facility Defeat operational support technologies for CCMD use.</li> <li>- Transition next generation (NextGen) 6G/ &amp; "Next G" Radio Frequency (RF) threat countermeasures capability to USSOCOM, CCMDs, and other US government partners.</li> <li>- Provide diagnostic and defeat tools against emergent CWMD requirements for specific Explosive Ordnance Disposal (EOD) render safe operations.</li> <li>- Deliver capability integrating tools to create and modify buildings in a computer-based simulation/model to share targeting data with other targeting systems seamlessly; implement capability for cloud computing to accelerate targeting processing.</li> <li>- Release Integrated Munitions Effect Assessment (IMEA) V13.0 in new, modular architecture that enables greater sharing with key allies, cloud computing and supports seamless interoperability with targeting community.</li> <li>- Develop and integrate baseline mobile missile launcher models with WMD capabilities into IMEA to support rapid targeting and weapons effects predictions for pacing and acute threats.</li> </ul>			

PE 0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION  
ADVA...

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RG / CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> <li>- Integrate modules to simulate combined kinetic and non-kinetic (direct energy/cyber) effects.</li> <li>- Integrate hypersonic system characterization and weapons data in models to allow for dynamic targeting of WMD targets including delivery systems.</li> <li>- Integrate dynamic weapon capabilities (penetration, fracturing) for adversarial weapons systems into Vulnerability Assessment and Protection Option (VAPO).</li> <li>- Move VAPO to net-centric cloud-based solution, enabling broader accessibility to multiple user communities and allowing for faster delivery time on capability enhancements for improved bug fix capability and version control, enhanced security, and better control over user access and experience.</li> <li>- Provide Targeting Weaponing Assistance Cell (TWAC) weaponing Subject Matter Experts (SME) to deliver ~500 (estimated) Targeting Recommendation Packages and participate in Targeting Planning Conferences in support of USINDOPACOM and USEUCOM.</li> <li>- Support weapon development and weapon effects phenomenology programs such as the Legacy Weapons Test Program (LWTP) with test design, requirements, and execution support ensuring operational requirements are met and validated models are integrated into weaponing planning tools.</li> <li>- Mature Full Dimensional Defeat Enterprise (FDDE) organization and functionality featuring workshops, demonstrations and CCMD exercise support.</li> <li>- Enhance FFDE agent-based modeling approach to system of systems analysis of WMD targets, expanding functional agent libraries and facility templates, including larger system of facilities and cross-domain targeting.</li> <li>- Fully integrate Automated Advanced Target Development (A2TD) capability to produce automated Underground Targeting and Assessment System (UTAS) models on selected target sets to include automated procedures for feature extraction of observables, automated geology characterization, using Defense Intelligence Agency (DIA) Underground Facility Analysis Center (UFAC) approved layouts.</li> <li>- Coordinate with and receive certification from National Geospatial Intelligence Agency (NGA) for point positioning capability to allow direct aim point determination without the requirement for separate geo-recertification of the point in a separate system.</li> <li>- Initiate WMD Target Immersive Mission Planning (TIMP) project to leverage target models built through A2TD and FDDE to create a 3-D immersive virtual reality environment for iterative mission planning.</li> <li>- Develop Nuclear-Automated Advanced Target Development (N-A2TD) prototype ready for Verification and Validation (V&amp;V) which provides more realistic target input parameters by incorporating existing state of the art 3-D UFAC DIA models for the basis of calculation.</li> </ul> <p><b><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i></b></p>			

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RG / CWMD TECHNOLOGIES AND CAPABILITIES DEVELOPMENT
--	--	---

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
The decrease from FY 2024 to FY 2025 is due to decreased investment in CWMD hard target defeat, rapid capability delivery, counter emergent threat technologies, and CWMD target assessment technologies to fund higher priority Departmental requirements.			
<b>Accomplishments/Planned Programs Subtotals</b>	240.650	254.610	246.304

	<b>FY 2023</b>	<b>FY 2024</b>
<b>Congressional Add:</b> Detection and Tracking Technology	6.000	-
<b>FY 2023 Accomplishments:</b> - Developed a prototype system to Detect, Tag, and Track (DTT) mobile targets by placing a taggant on the mobile target to enable continuous tracking integrating unattended ground sensors (UGSs) that detect a target and subsequent intelligence, surveillance, reconnaissance (ISR) assets that attempt to find the target after a sensor detection report.		
<b>Congressional Add:</b> Advanced Manufacturing of Energetics	5.000	-
<b>FY 2023 Accomplishments:</b> - Designed and developed novel Energetic Materials (EM) using advanced manufacturing techniques, such as Additive Manufacturing (AM), to combine Reactive Materials (RM) and known energetics into new materials whose scalable productions can be demonstrated.		
<b>Congressional Adds Subtotals</b>	11.000	-

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

<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• BA2/24/0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	30.311	30.871	28.193	-	28.193	29.028	31.788	32.423	33.104	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

Assessment and selection of best performer for developmental requirements to meet specific military capability needs.



**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 0400 / 3					<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT					<b>Project (Number/Name)</b> RR / CWMD TEST AND EVALUATION		
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
RR: CWMD TEST AND EVALUATION	4.809	10.461	8.225	12.130	-	12.130	12.530	13.118	13.380	13.661	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The Countering Weapons of Mass Destruction (CWMD) Test and Evaluation project provides a unique national test capability for simulated WMD facilities and processes. This capability provides DTRA's structured and systematic end-to-end test event planning, preparation, management, execution, and data analysis. It also offers test instrumentation (data acquisition systems and optics), scientific analysis and predictions, test article construction, test article/test bed remediation, tunnel mining, architectural and engineering design, systems engineering and integration, and test data management. The project leverages 50 years of expertise in investigating weapons effects and target response across the spectrum of hostile environments that could be created by proliferative nations or terrorist organizations with access to advanced conventional weapons or WMD. Subject matter experts design full and sub-scale testing strategies focusing on weapon-target interaction with fixed soft and hardened facilities to include above ground facilities, cut-and-cover facilities, and deep underground tunnels.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> RR: CWMD Test and Evaluation	10.461	8.225	12.130
<b>Description:</b> This project employs technology development, modeling-and-simulation, and analysis support tools to meet Combatant Command requirements and anticipated threats. DTRA provides timely acquisition and delivery of solutions that respond to asymmetric threat requirements and gaps.			
<b>FY 2024 Plans:</b>			
- Develop intuitive, visual browser access to data and improve reliability of infrastructure services for assembly of large data sets for Artificial Intelligence/Machine Learning (AI/ML) development.			
- Generate data using software models to reduce cost and schedule of Test & Evaluation activities.			
- Provide end-to-end test event planning, management, execution, and analysis supporting DoD, federal agencies', and friendly nations' programs to counter proliferation and defeat WMD.			
<b>FY 2025 Plans:</b>			
- Finalize Data and Management Handling capability to manage two PetaBytes of historic test data and 200 TeraBytes per year of future data is archived and accessible in compliance with DoD Scientific and Technical Information Program.			
- Develop new data analysis and visualization tools. Expand access to various networks.			
- Instrument test ranges and conduct 100 individual test events in support of RDT&E programs.			
- Replace 20% of instrumentation and data acquisition equipment in accordance with 5-year life cycle management plan.			

PE 0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION  
ADVA...

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RR / CWMD TEST AND EVALUATION

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> <li>- Develop and replace obsolete and end of life data acquisition systems to ensure state-of-the-art testing capability for DTRA.</li> <li>- Enhance optics capabilities to enable testing at multiple locations simultaneously.</li> <li>- Provide test range support and DTRA facility support at Nevada National Security Site to enable end-to-end testing for four national-level CWMD tests (customers are expected to include 14 DoD and other USG Agencies).</li> <li>- Perform repairs and remediation of 1,000 feet of the DTRA-owned, deeply-buried underground tunnel test complex at Capitol Peak on White Sands Missile Range.</li> <li>- Develop, refine, and upgrade existing modeling and simulation tools, most notably the Tunnel Air Blast (TAB) model that incorporates the effects of debris on the resulting air blast in the tunnel, leading to a greatly improved capability to forecast air blast pressures resulting from in-tunnel detonations.</li> <li>- Integrate the results of the geotechnical characterization, the Z-model for penetration prediction, and geostatistical analysis into a fast-running tool that will provide accurate penetration predictions for selecting aim points and scoping penetration tests at the New Granite site. Includes 3D Rockworks model for visualization of site geologic variability.</li> <li>- Conduct 30 classified, independent operational assessments of new/novel kit/capabilities for Combatant Commands.</li> <li>- Produce 35 letters of observation and final reports.</li> <li>- Provide technical, instrumentation, and communications end-items and bench stock required to ensure the test division remains full mission capability, relevant to emerging test requirements, and updates items in accordance with service life plan.</li> <li>- Purchase various Radio-frequency equipment to update stock of cabling, omni-directional antennas, and measurement systems.</li> <li>- Purchase various monitoring and analysis tools to support susceptibility, new tool, and network effects assessments.</li> <li>- Purchase Electronic Warfare/Electronic Surveillance and general Radio-frequency collection, analysis, testing and measurements training for relevant capabilities to expand into the growing testing and evaluation support realm as services acquire more capabilities to execute in the mission space.</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The increase from FY 2024 to FY 2025 reflects the net impact of 1) the realignment of the National Assessment Group from Project RR in PE 0603176BR to this project to better integrate this activity administratively into the RDT&amp;E portfolio, and 2) decreased investment in testbed recapitalization, test diagnostics, and the National Assessment Group test assessments to fund higher priority Departmental requirements.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	10.461	8.225	12.130

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603160BR / COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	<b>Project (Number/Name)</b> RR / CWMD TEST AND EVALUATION

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

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• BA2/24/0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	17.718	21.111	18.200	-	18.200	20.939	19.786	20.210	20.663	Continuing	Continuing
• BA3/36/0603176BR/RR: ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT	6.343	7.990	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	14.495

**Remarks**

**D. Acquisition Strategy**

N/A

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603176BR / <i>ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT</i>
---	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	6.343	7.990	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	14.333
RR: <i>CWMD TEST AND EVALUATION</i>	0.000	6.343	7.990	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	14.333

**Note**

On November 9, 2020, the Deputy Secretary of Defense directed the programmatic transfer of the National Assessment Group (NAG) from the Office of the Under Secretary of Defense for Acquisition & Sustainment (OUSD(A&S)) to DTRA for a better alignment of similar missions. This Program Element (PE), established in the FY 2023 budget request includes the RDT&E funding associated with this transfer.

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

The NAG conducts rapid, secure, and independent assessments of critical and unique technologies to support the Military Services, other government agencies, and DTRA. This rapid assessment group provides independent assessments of critical and unique technologies and capabilities for customers in the areas of counter WMD and emerging threats. The NAG provides an independent review/analysis and reporting of operational assessments, capability demonstrations, and test events.

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	6.505	7.990	7.962	-	7.962
Current President's Budget	6.343	7.990	0.000	-	0.000
Total Adjustments	-0.162	0.000	-7.962	-	-7.962
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.162	0.000			
• Realignment	-	0.000	-7.962	-	-7.962

**Change Summary Explanation**

The decrease from the previous President's Budget reflects the realignment of the National Assessment Group from Project RR in this program element to Project RR in PE 0603160BR to better integrate this activity administratively into the RDT&E portfolio.

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603176BR / <i>ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT</i>	<b>Project (Number/Name)</b> RR / <i>CWMD TEST AND EVALUATION</i>
--	--	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
RR: <i>CWMD TEST AND EVALUATION</i>	0.000	6.343	7.990	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	14.333
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

**Note**

On November 9, 2020, the Deputy Secretary of Defense directed the programmatic transfer of the National Assessment Group (NAG) from the Office of the Under Secretary of Defense for Acquisition & Sustainment (OUSD(A&S)) to DTRA for a better alignment of similar missions. This PE, established in the FY 2023 budget request includes the RDT&E associated with this transfer.

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

The National Assessment Group (NAG) conducts rapid, secure, and independent assessments of critical and unique technologies to support the Military Services, other government agencies, and DTRA. This rapid assessment group provides independent assessments of critical and unique technologies and capabilities for customers in the areas of counter weapons of mass destruction (CWMD) and emerging threats. The NAG provides an independent review/analysis and reporting of operational assessments, capability demonstrations, and test events.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<b>Title:</b> Project RR: CWMD Test and Evaluation	6.343	7.990	0.000
<b>Description:</b> Project RR conducts independent assessments, analyses, reviews, capability demonstrations and test events.			
<b>FY 2024 Plans:</b>			
- Assess new/novel CWMD technology and capabilities to strengthen joint force ability to defeat adversary threats.			
- Conduct assessments to verify and validate system/capability communication detectability to exploit adversary WMD vulnerabilities.			
- Assess non-traditional planning solutions development efforts for emergent threats and emergent WMD problems.			
<b>FY 2025 Plans:</b>			
N/A			
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b>			
The decrease from FY 2024 to FY 2025 reflects the realignment of the National Assessment Group from Project RR in this PE to Project RR in PE 0603160BR to better integrate this activity administratively into the RDT&E portfolio.			
<b>Accomplishments/Planned Programs Subtotals</b>	6.343	7.990	0.000

PE 0603176BR: *ADVANCED CONCEPTS AND PERFORMANCE ASSESS...*

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency										<b>Date:</b> March 2024	
<b>Appropriation/Budget Activity</b> 0400 / 3				<b>R-1 Program Element (Number/Name)</b> PE 0603176BR / <i>ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT</i>				<b>Project (Number/Name)</b> RR / <i>CWMD TEST AND EVALUATION</i>			

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

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• BA2/24/0602718BR: <i>COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH</i>	17.718	21.111	18.200	-	18.200	20.939	19.786	20.210	20.663	Continuing	Continuing
• BA3/35/0603160BR: <i>COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT</i>	10.461	8.225	12.130	-	12.130	12.530	13.118	13.380	13.661	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

N/A

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED



**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603260BR / <i>INTELLIGENCE ADVANCED DEVELOPMENT</i>
---	---

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
RO: <i>CWMD EMERGING THREAT TECHNOLOGIES</i>	0.000	0.000	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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

Military intelligence provides timely, relevant, accurate, and synchronized intelligence and electronic warfare support to tactical, operational, and strategic-level commanders. It utilizes information collection and analysis approaches to provide guidance and direction to assist commander decision-making.

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	0.000	10.000	11.000	-	11.000
Current President's Budget	0.000	10.000	0.000	-	0.000
Total Adjustments	0.000	0.000	-11.000	-	-11.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Program Adjustment	-	0.000	-11.000	-	-11.000

**Change Summary Explanation**

DTRA has no requirements or authorities to execute these funds in FY 2025. Funds were realigned back to the Department in support of a multi-agency, classified initiative.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 0400 / 3				<b>R-1 Program Element (Number/Name)</b> PE 0603260BR / INTELLIGENCE ADVAN CED DEVELOPMENT				<b>Project (Number/Name)</b> RO / CWMD EMERGING THREAT TECHNOLOGIES				
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
RO: CWMD EMERGING THREAT TECHNOLOGIES	0.000	0.000	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

This was a newly established Military Intelligence Program (MIP) Program Element (PE) in FY 2024.

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

Military intelligence provides timely, relevant, accurate, and synchronized intelligence and electronic warfare support to tactical, operational, and strategic-level commanders. It utilizes information collection and analysis approaches to provide guidance and direction to assist commanders in their decisions.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> RO: CWMD Emerging Threat Technologies	0.000	10.000	0.000
<b>Description:</b> Project RO represents the RDT&E portion of DTRA's Military Intelligence Program.			
<b>FY 2024 Plans:</b> - Integrate DTRA capability development activities into Department of Defense global campaigns to counter Weapons of Mass Destruction (WMD) programs with focus on emerging threats from peer and near-peer adversaries and their proxies. - Support the Department of Defense community of interest that includes the Joint Staff and Combatant Commands and in collaboration with interagency and partner nations. - Enable Combatant Commanders and subordinate commands to integrate exquisite capabilities into global campaigns in order to hold the emerging technologies associated with WMD programs at risk. - Enable Combatant Commanders to deter and defeat devices, systems, networks and the associated tactics, techniques and procedures of those devices and systems that actors have designed, fielded or employed that may adversely impact U.S. forces and partners. - Integrate intelligence and operational requirements into the capability designs enabling globally integrated unified action to achieve specified effects in accordance with DoD strategic guidance from the Secretary of Defense, Joint Staff (JS) and Combatant Commands.			
<b>FY 2025 Plans:</b> N/A			
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b>			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603260BR / <i>INTELLIGENCE ADVAN CED DEVELOPMENT</i>	<b>Project (Number/Name)</b> RO / <i>CWMD EMERGING THREAT TECHNOLOGIES</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
DTRA has no requirements or authorities to execute these funds in FY 2025. Funds were realigned back to the Department in support of a multi-agency, classified initiative.			
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	10.000	0.000

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

N/A

**Remarks**

**D. Acquisition Strategy**

Assessment and selection of best performer for developmental requirements to meet specific military capability needs.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604551BR / CATAPULT INFORMATION SYSTEM
---	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	12.463	6.953	8.328	7.475	-	7.475	7.625	7.777	7.933	8.100	Continuing	Continuing
RA: <i>CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES</i>	12.463	6.953	8.328	7.475	-	7.475	7.625	7.777	7.933	8.100	Continuing	Continuing

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

Catapult is a private cloud technology-based data analytics platform that provides a continuously augmented, real-time repository of data ingested from a variety of sources including government agencies, combatant commands, intelligence reports and open sources. The Catapult data lake and Attack the Network Tools Suite (ANTS) are adaptable to any National Defense Strategy mission problem set and provide national-level capabilities for data and information discovery, access, aggregation, correlation, visualization, analysis, sharing, and distribution for users from the strategic level to the tactical edge.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	7.130	8.328	7.475	-	7.475
Current President's Budget	6.953	8.328	7.475	-	7.475
Total Adjustments	-0.177	0.000	0.000	-	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.177	0.000			

**Change Summary Explanation**

There is no change from the previous President's Budget.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 0400 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0604551BR / CATAPULT INFORMATION SYSTEM				<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
RA: CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES	12.463	6.953	8.328	7.475	-	7.475	7.625	7.777	7.933	8.100	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

Catapult is a private cloud technology-based data analytics platform that provides a continuously augmented, real-time repository of data ingested from a variety of sources including government agencies, combatant commands, intelligence reports and open sources. The Catapult data lake and Attack the Network Tools Suite (ANTS) are adaptable to any National Defense Strategy mission problem set and provide national-level capabilities for data and information discovery, access, aggregation, correlation, visualization, analysis, sharing, and distribution for users from the strategic level to the tactical edge.

Catapult uses its RDT&E funding to meet user needs using tools and services that reside in Catapult, a cloud technology-based data analytics platform developed and delivered by DTRA that provides an extensible, continuously augmented, real-time repository of data on emerging threats and worldwide threat actors. Catapult is fully operational and accredited on the Secret Internet Protocol Router Network (SIPRNet) and Joint Worldwide Intelligence Communications System (JWICS). Catapult uses ANTS tools and services to provide national-level capabilities for data and information capture, discovery, access, aggregation, correlation, visualization, analysis, sharing, and distribution for users from the strategic level to the tactical edge.

This project achieves transformational mission capabilities and postures the Agency to meet emerging mission requirements through innovative technology solutions and service upgrades.

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

This project enables DTRA's Catapult Information System Program to design, develop, test and deliver mission capabilities that support the ability to aggregate and analyze data on global emerging threats, threat actors and threat networks. Catapult allows DTRA to rapidly develop, engineer, test and deploy analytical tools, data science methodologies and software applications in support of the warfighter. Catapult and its associated Attack the Network Tool Suite (ANTS) integrates data sources that support the detection and identification of emerging threats, threat networks and actors, command and control, operations, intelligence, and engagement for neutralizing, attacking and defeating both current and emerging threats and threat networks.

Catapult uses its RDT&E funding to meet user needs using tools and services that reside in Catapult, a cloud technology-based data analytics platform developed and delivered by DTRA that provides an extensible, continuously augmented, real-time repository of data on emerging threats and worldwide threat actors. Catapult is fully operational and accredited on the Secret Internet Protocol Router Network (SIPRNet) and Joint Worldwide Intelligence Communications System (JWICS). The Catapult architecture pulls from more than 850 data sources on SIPRNet and more than 170 data sources on JWICS. Catapult uses ANTS tools and services to provide

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency	<b>Date:</b> March 2024
---	-------------------------

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604551BR / CATAPULT INFORMATION SYSTEM	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES
--	--	--

national-level capabilities for data and information capture, discovery, access, aggregation, correlation, visualization, analysis, sharing, and distribution for users from the strategic level to the tactical edge.

This project achieves transformational mission capabilities and postures the Agency to meet emerging mission requirements through innovative technology solutions and service upgrades.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<p><b>Title:</b> RA: CWMD Cross-Cutting Technical and Information Sciences</p> <p><b>Description:</b> This project enables DTRA's Catapult Information System Program to design, develop, test, and deliver mission capabilities that support the ability to aggregate and analyze data on global emerging threats. Catapult allows DTRA to rapidly develop, engineer, test and deploy analytical tools, data science methodologies and software applications in support of the warfighter. The project achieves transformational mission capabilities and postures the Agency to meet emerging mission requirements through innovative technology solutions and service.</p> <p><b>FY 2024 Plans:</b></p> <ul style="list-style-type: none"> <li>- Develop predictive Data Science models through supervised and unsupervised Machine Learning (ML) against current and emerging threats; including fusion of multi-INT data across unclassified and classified data sets to identify networks and locations of interest to DTRA and its mission partners.</li> <li>- Continue the modernization of Catapult's data model using JADC2-recognized formats, such as National Information Exchange Model (NIEM), or other open and recognized data model standards to improve the cross-compatibility of the Catapult corpus with other data repositories in the DoD.</li> <li>- Continue to standardize open API services to adhere to JADC2 recommendations to improve data accessibility by using familiar lexicon, formats and techniques for retrieving data by data-as-a-service subscribers and citizen data scientists.</li> <li>- Develop the Next Generation of the Catapult Information System to align to the Joint All Domain Command and Control and Joint Warfighting Concept.</li> <li>- Design and implement a cross domain solution to enable data sharing across enclaves.</li> </ul> <p><b>FY 2025 Plans:</b></p> <ul style="list-style-type: none"> <li>- Conduct a cloud migration effort to transition Catapult "on-premise" components to a public cloud service provider according to plan approved during the Cloud Readiness Assessment.</li> <li>- Assess architecture, processes, and approaches to implement Catapult capabilities required to satisfy Zero Trust Architecture (ZTA) requirements.</li> <li>- Develop and implement prioritized work streams to enable mission specific use cases in isolated, secure Data Zones for exploration and analysis.</li> </ul>	6.953	8.328	7.475

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604551BR / CATAPULT INFORMATION SYSTEM	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
- Plan, develop, build, and deploy an unclassified Catapult data lake for use with unclassified versions of ANTS applications and tools.			
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The decrease from FY 2024 to FY 2025 is due to a non-recurring increase in FY 2024 in response to emerging threats.			
<b>Accomplishments/Planned Programs Subtotals</b>	6.953	8.328	7.475

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• BA2/24/0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	29.047	37.218	21.986	-	21.986	22.538	26.949	23.627	24.113	Continuing	Continuing
• BA3/35/0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	70.234	86.415	82.711	-	82.711	76.041	76.146	86.289	88.165	Continuing	Continuing

**Remarks**  
N/A

**D. Acquisition Strategy**  
Assessment and selection of best performers to provide contractual services to develop and operationalize requirements through the IMAX contract to minimize cost and technical risk. Performer base selection includes research developers across DoD and other Government agency laboratories, academia, and industry.



**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2025 Defense Threat Reduction Agency</b>											<b>Date: March 2024</b>				
<b>Appropriation/Budget Activity</b> 0400 / 4				<b>R-1 Program Element (Number/Name)</b> PE 0604551BR / CATAPULT INFORMATION SYSTEM				<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES							

<b>Product Development (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Catapult Information System	C/CPAF	Booz Allen Hamilton : Reston, VA	11.000	5.160	Jul 2023	7.328	Jul 2024	6.577	Jul 2025	0.000		6.577	Continuing	Continuing	31.045
<b>Subtotal</b>			11.000	5.160		7.328		6.577		0.000		6.577	Continuing	Continuing	N/A

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Catapult Information System	C/CPAF	Booz Allen Hamilton : Reston, VA	1.463	1.793	Jun 2023	1.000	Jul 2024	0.898	Jul 2025	0.000		0.898	Continuing	Continuing	4.351
<b>Subtotal</b>			1.463	1.793		1.000		0.898		0.000		0.898	Continuing	Continuing	N/A

<b>Project Cost Totals</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
	12.463	6.953	8.328	7.475	0.000	7.475	Continuing	Continuing	N/A

**Remarks**

**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604551BR / CATAPULT INFORMATION SYSTEM	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<b>Catapult and Technology Analysis</b>	
Catapult Information System Development	
Catapult Information System Test & Evaluation	

**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604551BR / CATAPULT INFORMATION SYSTEM	<b>Project (Number/Name)</b> RA / CWMD CROSS-CUTTING TECHNICAL AND INFORMATION SCIENCES

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Catapult and Technology Analysis</i></b>				
Catapult Information System Development	1	2023	4	2029
Catapult Information System Test & Evaluation	1	2023	4	2029

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / <i>COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT</i>
--	---

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	38.815	14.044	14.414	14.841	-	14.841	15.069	17.522	17.860	18.323	Continuing	Continuing
RD: <i>NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT</i>	38.815	14.044	14.414	14.841	-	14.841	15.069	17.522	17.860	18.323	Continuing	Continuing

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

The Counter Weapons of Mass Destruction (CWMD) Systems Development program element supports the development and demonstration of technologies and systems for the CWMD mission, including modeling and simulation (M&S) capabilities, verification and monitoring technologies, and decision support systems.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	14.403	14.414	14.341	-	14.341
Current President's Budget	14.044	14.414	14.841	-	14.841
Total Adjustments	-0.359	0.000	0.500	-	0.500
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.359	0.000			
• Realignment	-	0.000	0.500	0.000	0.500

**Change Summary Explanation**

The increase from the previous President's Budget reflects realignments from Project RD in Program Element (PE) 0603160BR to Project RD in this PE for the transition of Nuclear, Chemical, Biological, Radiological, and high Explosive Analysis Toolsets to the systems demonstration phase.

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT
--	--	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
RD: NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT	38.815	14.044	14.414	14.841	-	14.841	15.069	17.522	17.860	18.323	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

This project supports the development of capabilities for the Defense Threat Reduction Agency (DTRA) to counter proliferation and weapons of mass destruction (WMD) and to model the consequences of the use of nuclear weapons and integrate these capabilities for Combatant Command use. This project encompasses the following related areas.

DTRA's Enhanced Consequence Analysis (ECA) program performs research and development to improve the reliability and effectiveness of capabilities related to the consequence of execution of a nuclear weapon. This program delivers nuclear weapon effects (NWE) decision support tools for use during strategic and operational planning. The ECA program directly supports U.S. and allied warfighter planning requirements, including the Integrated Strategic Planning and Analysis Network Increment 5 (ISPAN Increment 5), an acquisition category (ACAT) 1A Major Automated Information System (MAIS) that supports developing nuclear and conventional force application plans.

DTRA's Nuclear Arms Control Technologies (NACT) program performs research and development to improve the sustainability, reliability, and effectiveness of capabilities related to its operational mission to install, operate, maintain, and sustain the waveform and radionuclide nuclear detonation detection stations and a radionuclide analysis laboratory comprising the majority of the U.S. portion of the International Monitoring System (IMS). This system delivers data continuously to the U.S. monitoring and verification community supporting warfighter and interagency nuclear-event response in support of the United States and Department of Defense (DoD). The NACT program directly supports U.S. and allied warfighter and national technical monitoring requirements and provides vital data used by the treaty monitoring community, warfighter planners, DoD, other U.S. Government agencies, and international agencies.

The Nuclear Capabilities Services (NuCS) program performs RDT&E to improve capabilities to model nuclear weapon effects (NWE) environments and simulate the response of systems and networks to these effects. Starting with NWE modeling & simulation (M&S) capabilities rooted in the DoD nuclear testing program, NuCS augments these legacy codes through integration of higher-fidelity reduced-order models built by DTRA applied research efforts that combine first-principle science & technology M&S and experimental research. Through technology updates to legacy codes and integration of new models, NuCS provide a standard source of NWE M&S capabilities for all DoD users. The ECA program integrates NuCS capabilities and these M&S capabilities with operational databases and systems and works with end-users to provide a user experience specifically designed for nuclear planning. Together, these programs support United States and allied planning and decision making in the event of nuclear weapon use.

PE 0605000BR: COUNTER WEAPONS OF MASS DESTRUCTION SYST..

Defense Threat Reduction Agency

**UNCLASSIFIED**

Page 2 of 14

R-1 Line #139

**Volume 5 - 62**

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p><b>Title:</b> RD - Nuclear Technologies and Capabilities Development</p> <p><b>Description:</b> Project RD supports the NuCS, NACT, and ECA programs, conducting RDT&amp;E to support U.S. and allied nuclear planning and decision-making requirements.</p> <p><b>FY 2024 Plans:</b></p> <ul style="list-style-type: none"> <li>- Integrate nuclear weapon effects software capabilities prioritized by ECA users in a cloud-ready architecture that has been tested and evaluated to function under expected operational conditions.</li> <li>- Integrate new and requested capabilities into cloud-ready USSTRATCOM, UK/Ministry of Defense and North Atlantic Treaty Organization (NATO)/Supreme Headquarters Allied Powers Europe (SHAPE) nuclear planning tools.</li> <li>- Develop algorithms to enable transition of infrasound propagation models to DoD systems and develop prototype of next generation International Monitoring System (IMS) radionuclide lab analysis capability.</li> <li>- Deliver improved "state of health" IMS performance and predictive algorithms and monitoring arrays using artificial intelligence/machine learning (AI/ML) techniques from legacy U.S. IMS data.</li> <li>- Demonstrate an emerging-threat monitoring capability that leverages current systems and complete comprehensive analyses of sensor data from DTRA/Department of State/National Nuclear Security Administration (NNSA) high-explosive experiments.</li> </ul> <p><b>FY 2025 Plans:</b></p> <ul style="list-style-type: none"> <li>- Integrate impacts to infrastructure capabilities into cloud-ready nuclear planning tools for USSTRATCOM, UK/Ministry of Defense, and North Atlantic Treaty Organization (NATO)/ Supreme Headquarters Allied Powers Europe (SHAPE).</li> <li>- Implement algorithms to enable transition of infrasound propagation models to DoD systems and complete Operational Test and Evaluation (OT&amp;E) of next generation International Monitoring System (IMS) radionuclide lab analysis capability.</li> <li>- Complete installation of 32nd IMS station and deliver improved "state of health" IMS performance and predictive algorithms for monitoring arrays using artificial intelligence/machine learning (AI/ML) techniques.</li> <li>- Demonstrate emerging-threat monitoring capability that leverages current systems and extend comprehensive analyses of sensor data from DTRA/Department of State (DOS)/National Nuclear Security Administration (NNSA) (high-explosive experiments by leveraging machine learning techniques.</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The increase from FY 2024 to FY 2025 reflects realignments from Project RD in Program Element (PE) 0603160BR to this project for the transition of Nuclear, Chemical, Biological, Radiological, and high Explosive Analysis Toolsets (NATs) to the systems demonstration phase.</p>	14.044	14.414	14.841
<b>Accomplishments/Planned Programs Subtotals</b>	14.044	14.414	14.841

PE 0605000BR: COUNTER WEAPONS OF MASS DESTRUCTION SYST...

Defense Threat Reduction Agency

**UNCLASSIFIED**

Page 3 of 14

R-1 Line #139

<b>Volume 5 - 63</b>
----------------------

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

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

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• BA2/24/0602718BR: COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	109.737	119.670	106.576	0.000	106.576	107.899	107.340	109.484	111.675	Continuing	Continuing
• BA3/35/0603160BR: COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	64.264	51.697	76.899	0.000	76.899	75.475	74.596	72.108	73.717	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

Assess government, academic, and industrial performers and make selections based upon a "best fit for task" criteria. Common government awardees include DoD Service Laboratories and the Department of Energy National Laboratories.



**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2025 Defense Threat Reduction Agency</b>											<b>Date: March 2024</b>				
<b>Appropriation/Budget Activity</b> 0400 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT				<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT							

<b>Product Development (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Enhanced Consequence Analysis (ECA) capability development	C/CPFF	Booz Allen Hamilton : McLean, VA	4.655	1.970	Mar 2023	1.861	Nov 2023	3.400	Nov 2024	0.000		3.400	Continuing	Continuing	0.000
Nuclear Capabilities Service (NuCS) nuclear weapon effects models and integration development	C/CPFF	Applied Research Associates : Raleigh, NC	1.400	1.535	Mar 2023	2.403	Dec 2023	3.487	Dec 2024	0.000		3.487	Continuing	Continuing	0.000
Nuclear, Chemical, Biological, Radiological and high-Explosive (NCBRE) Analysis Toolset (NATs) development	C/CPFF	Leidos : San Diego, CA	0.000	0.000		0.000		0.500	Dec 2024	0.000		0.500	Continuing	Continuing	0.000
<b>Subtotal</b>			6.055	3.505		4.264		7.387		0.000		7.387	Continuing	Continuing	N/A

<b>Support (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Radionuclide sensor, station, laboratory and network improvements	FFRDC	Pacific Northwest National Laboratory : Richland, WA	3.998	1.785	Jan 2023	1.084	Dec 2023	0.919	Dec 2024	0.000		0.919	Continuing	Continuing	0.000
Seismic and Infrasound sensor, station, and network Improvements; validation and verification testing	FFRDC	Sandia National Laboratory : Albuquerque, NM	4.471	1.589	Jan 2023	0.900	Dec 2023	1.043	Dec 2024	0.000		1.043	Continuing	Continuing	0.000
Radionuclide sensor, station, and network Improvements	MIPR	Air Force Technical Application Center : Patrick AFB, FL	1.288	0.350	Jan 2023	0.000		0.000		0.000		0.000	Continuing	Continuing	0.000
Radionuclide sensor, station, laboratory and network improvements	C/CPFF	General Dynamics Mission Systems, Inc. : Fairfax, VA	1.336	0.750	Nov 2022	0.788	Nov 2023	0.788	Jan 2025	0.000		0.788	Continuing	Continuing	0.000

PE 0605000BR: COUNTER WEAPONS OF MASS DESTRUCTION SYST..

Defense Threat Reduction Agency

**UNCLASSIFIED**

Page 5 of 14

R-1 Line #139

**Volume 5 - 65**

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Defense Threat Reduction Agency** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT
--	--	--

<b>Support (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Station, and network Improvements	C/CPFF	Leidos Innovations Corp : Alexandria, VA	0.685	0.250	Mar 2023	0.750	Mar 2024	0.403	Nov 2024	0.000		0.403	Continuing	Continuing	0.000
Seismic and Infrasound sensor, station, and network Improvements	C/CPFF	Pennsylvania State University : State College, PA	1.309	0.275	Feb 2023	0.300	Feb 2024	0.400	Jan 2025	0.000		0.400	Continuing	Continuing	0.000
Seismic and Infrasound sensor, station, and network Improvements; validation and verification testing	C/CPFF	University of Alaska Fairbanks : Fairbanks, AK	0.143	0.395	Mar 2023	0.411	Mar 2024	0.411	Mar 2025	0.000		0.411	Continuing	Continuing	0.000
Integrated Munitions Effects Assessment Software Development	C/CPFF	Applied Research Associates, Inc : Alexandria, VA	0.604	0.000		0.000		0.000		0.000		0.000	0.000	0.604	0.604
Radionuclide sensor, station, laboratory and network improvements	FFRDC	Argonne National Laboratory : Argonne, IL	0.200	0.602	Mar 2023	0.400	Mar 2024	0.400	Mar 2025	0.000		0.400	Continuing	Continuing	0.000
Seismic and Infrasound sensor, station, and network Improvements; validation and verification testing	MIPR	University Affiliated Research Center, University of Alaska : Fairbanks, AK	1.170	0.695	Feb 2023	0.650	Jan 2024	0.760	Jan 2025	0.000		0.760	Continuing	Continuing	0.000
Seismic and Infrasound sensor, station, and network Improvements	MIPR	U.S. Army Corps of Engineers : Vicksburg, MS	0.706	0.000		0.000		0.000		0.000		0.000	0.000	0.706	0.706
Seismic and Infrasound sensor, station, and network Improvements	MIPR	Missile Defense Agency : Fort Belvoir, VA	0.650	0.000		0.000		0.000		0.000		0.000	0.000	0.650	0.650
Seismic and Infrasound sensor, station, and network Improvements	MIPR	Geophysical Detection for Non-Proliferation University Affiliated Research Center,	1.216	0.000		0.000		0.000		0.000		0.000	0.000	1.216	1.216

PE 0605000BR: COUNTER WEAPONS OF MASS DESTRUCTION SYST..

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Defense Threat Reduction Agency** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT
--	--	--

<b>Support (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		University of Alaska : Fairbanks, AK													
Radionuclide sensor, station, and network Improvements	FFRDC	Savannah River National Laboratory : Savannah River Site Aiken, SC	1.919	0.300	Mar 2023	0.000		0.000		0.000		0.000	Continuing	Continuing	0.000
Seismic and Infrasound sensor, station, and network Improvements	MIPR	DIA/MSIC : Huntsville, AL	0.505	0.000		0.000		0.000		0.000		0.000	0.000	0.505	0.505
Seismic and Infrasound sensor, station, and network Improvements; validation and verification testing	FFRDC	Lawrence Livermore National Laboratory : Livermore, CA	1.919	0.000		0.000		0.000		0.000		0.000	0.000	1.919	1.919
Radionuclide sensor, station, and network Improvements	C/CPFF	Draper : Cambridge, MA	3.000	0.300	Jan 2023	0.250	Feb 2024	0.224	Feb 2025	0.000		0.224	Continuing	Continuing	0.000
Enhanced consequence analysis initial capability	C/CPFF	TBD : TBD	5.000	0.000		0.000		0.000		0.000		0.000	0.000	5.000	5.000
Seismic and Infrasound sensor, station, and network Improvements; validation and verification testing	C/CPFF	National Nuclear Center of Kazakhstan : Kazakhstan	0.000	0.550	Dec 2022	0.000		0.000		0.000		0.000	Continuing	Continuing	0.000
Applied Research Associates : Albuquerque, NM	C/CPFF	Applied Research Associates : Albuquerque, NM	0.000	0.450	Dec 2022	0.000		0.000		0.000		0.000	Continuing	Continuing	0.000
Seismic and Infrasound sensor, station, and network Improvements; comprehensive analysis of high explosive experiments	FFRDC	Lawrence Livermore National Laboratory : Livermore, CA	0.000	0.000		0.450	Dec 2023	0.275	Dec 2024	0.000		0.275	Continuing	Continuing	0.000

PE 0605000BR: COUNTER WEAPONS OF MASS DESTRUCTION SYST..

Defense Threat Reduction Agency

**UNCLASSIFIED**

Page 7 of 14

R-1 Line #139

**Volume 5 - 67**

**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2025 Defense Threat Reduction Agency</b>											<b>Date: March 2024</b>				
<b>Appropriation/Budget Activity</b> 0400 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT				<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT							

<b>Support (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Seismic and Infrasound sensor, station, and network Improvements; comprehensive analysis of high explosive experiments	C/CPFF	Applied Research Associates : Arlington, VA	0.000	0.000		0.350	Feb 2024	0.111	Nov 2024	0.000		0.111	Continuing	Continuing	0.000
Seismic and Infrasound sensor, station, and network improvements; new station development and installation	C/CPFF	University of Alaska Fairbanks : Fairbanks, AK	0.000	0.000		0.000		1.048	Mar 2025	0.000		1.048	Continuing	Continuing	0.000
<b>Subtotal</b>			30.119	8.291		6.333		6.782		0.000		6.782	Continuing	Continuing	N/A

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Enhanced Consequence Analysis (ECA) T&E	C/CPFF	Booz Allen Hamilton : McLean, VA	1.200	1.020	Mar 2023	1.982	Nov 2023	0.000		0.000		0.000	Continuing	Continuing	0.000
NuCS T&E	C/CPFF	Applied Research Associates : Raleigh, NC	1.192	1.116	Sep 2023	1.754	Sep 2024	0.589	Sep 2025	0.000		0.589	Continuing	Continuing	0.000
<b>Subtotal</b>			2.392	2.136		3.736		0.589		0.000		0.589	Continuing	Continuing	N/A

<b>Management Services (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Travel	Reqn	Various : Various	0.249	0.112	Nov 2022	0.081	Nov 2023	0.083	Nov 2024	0.000		0.083	Continuing	Continuing	0.000
<b>Subtotal</b>			0.249	0.112		0.081		0.083		0.000		0.083	Continuing	Continuing	N/A

PE 0605000BR: COUNTER WEAPONS OF MASS DESTRUCTION SYST..

Defense Threat Reduction Agency

**UNCLASSIFIED**



**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<b>Enhanced Consequence Analysis (ECA)</b>																											
Test and evaluation of ECA integrated nuclear weapon effects models in preparation for deployment on strategic and operational planning networks																											
Deployment of ECA decision support tools on DoD and Allied strategic and operational planning networks																											
Update ECA decision support tools and integrate new nuclear weapon effects models once mature and available to meet DoD and Allied planning requirements																											
Train users on the employment, assumptions, and limitations of ECA nuclear weapon decision support tools																											
<b>Nuclear Capabilities Services (NuCS)</b>																											
Develop and deliver initial release of NuCS version 2024 (NuCS 2024)																											
Demonstrate NuCS 2024 M&S capabilities; Conduct ongoing V&V of NuCS 202 production release; conduct early user assessment for initial release																											
Develop NuCS Demonstration Environment for Model Outputs (NuCS DEMO) application and establish initial capability for early user assessment engagements on DoD networks																											



**UNCLASSIFIED**

**Exhibit R-4, RDT&E Schedule Profile:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT
--	--	--

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Optimize and improve IMS station performance: validation and verification testing of RDTE concepts to enable operational implementation																												
Optimize and improve IMS seismic, infrasound, and radionuclide sensors: testing and evaluation of next generation systems																												
Optimize and improve IMS seismic, infrasound, and radionuclide sensors: support of DoD and Interagency nuclear-event response missions to enhance nuclear-event response capabilities																												
Optimize and improve IMS seismic, infrasound, and radionuclide sensors: comprehensive analysis of high explosive experiments																												
<b>Nuclear, Chemical, Biological, Radiological and high-Explosive (NCBRE) Analysis Toolset (NATs)</b>																												
Demonstrate NATs decision support tool capabilities; Conduct ongoing V&V of NATs for production release; conduct early user assessment for initial release																												
Conduct review of training materials for users, develop or revise training materials based on changes made to releases, and support training classes																												



**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Enhanced Consequence Analysis (ECA)</b>				
Test and evaluation of ECA integrated nuclear weapon effects models in preparation for deployment on strategic and operational planning networks	1	2023	4	2029
Deployment of ECA decision support tools on DoD and Allied strategic and operational planning networks	1	2023	4	2024
Update ECA decision support tools and integrate new nuclear weapon effects models once mature and available to meet DoD and Allied planning requirements	1	2023	4	2029
Train users on the employment, assumptions, and limitations of ECA nuclear weapon decision support tools	1	2023	4	2029
<b>Nuclear Capabilities Services (NuCS)</b>				
Develop and deliver initial release of NuCS version 2024 (NuCS 2024)	1	2023	2	2024
Demonstrate NuCS 2024 M&S capabilities; Conduct ongoing V&V of NuCS 202 production release; conduct early user assessment for initial release	1	2023	2	2024
Develop NuCS Demonstration Environment for Model Outputs (NuCS DEMO) application and establish initial capability for early user assessment engagements on DoD networks	1	2023	1	2024
Develop initial training materials for NuCS 2023 production release; release training materials	1	2023	4	2023
Conduct annual user review; implement changes to NuCS products; release NuCS 2025	1	2023	2	2025
Conduct annual user review; implement changes to NuCS products; release NuCS 2026	1	2024	2	2026
Conduct annual user review; implement changes to NuCS products; release NuCS 2027	1	2025	2	2027

**UNCLASSIFIED**

**Exhibit R-4A, RDT&E Schedule Details:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605000BR / COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	<b>Project (Number/Name)</b> RD / NUCLEAR TECHNOLOGIES AND CAPABILITIES DEVELOPMENT
--	--	--

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Conduct annual user review; implement changes to NuCS products; release NuCS 2028	1	2026	2	2028
Conduct annual user review; implement changes to NuCS products; release NuCS 2029	1	2027	2	2029
Conduct annual user review; implement changes to NuCS products; release NuCS 2030	1	2028	2	2030
Conduct annual training review of training materials for users, develop new training materials based on changes made to annual release as required	1	2023	4	2029
<b><i>Nuclear Arms Control Technology</i></b>				
Optimize and improve IMS seismic, infrasound, and radionuclide sensors	1	2023	4	2025
Optimize and improve IMS station performance: validation and verification testing of RDTE concepts to enable operational implementation	1	2023	4	2029
Optimize and improve IMS seismic, infrasound, and radionuclide sensors: testing and evaluation of next generation systems	1	2023	4	2029
Optimize and improve IMS seismic, infrasound, and radionuclide sensors: support of DoD and Interagency nuclear-event response missions to enhance nuclear-event response capabilities	1	2023	4	2027
Optimize and improve IMS seismic, infrasound, and radionuclide sensors: comprehensive analysis of high explosive experiments	1	2023	4	2026
<b><i>Nuclear, Chemical, Biological, Radiological and high-Explosive (NCBRE) Analysis Toolset (NATs)</i></b>				
Demonstrate NATs decision support tool capabilities; Conduct ongoing V&V of NATs for production release; conduct early user assessment for initial release	1	2025	4	2029
Conduct review of training materials for users, develop or revise training materials based on changes made to releases, and support training classes	1	2025	4	2029

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0605141BR / MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS)
--	---

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	10.856	13.743	9.316	9.440	-	9.440	9.573	9.702	9.896	10.104	Continuing	Continuing
MA: MARMS	10.856	13.743	9.316	9.440	-	9.440	9.573	9.702	9.896	10.104	Continuing	Continuing

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

The Mission Assurance Risk Management System (MARMS) is a Department of Defense (DoD) risk management system that directly supports the Secretary of Defense Mission Assurance (MA) responsibilities as defined in the DoD Directive (DoDD) 3020.40, Mission Assurance, with the objectives of creating resilience and supporting critical processes to enable the protection of assets and ensuring defense critical missions across 17 Mission Assurance Related Programs and Activities (MARPA). MARMS functions as an integration framework spanning multiple security domains that will support risk-informed decision-making, resource investment, and improved synchronization at different levels within DoD. MARMS supports multiple Joint Capability Areas (JCA): Command and Control, Logistics, and Protection. MARMS is a joint program and an acquisition category (ACAT) III software-intensive and situational awareness program in the agile-based Adaptive Acquisition Framework – Software Pathway (AAF-SWP).

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	14.093	9.316	9.440	-	9.440
Current President's Budget	13.743	9.316	9.440	-	9.440
Total Adjustments	-0.350	0.000	0.000	-	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.350	0.000			

**Change Summary Explanation**

There is no change from the previous President's Budget.

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605141BR / MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS)	<b>Project (Number/Name)</b> MA / MARMS
--	---	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
MA: MARMS	10.856	13.743	9.316	9.440	-	9.440	9.573	9.702	9.896	10.104	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The Mission Assurance Risk Management System (MARMS) is a Department of Defense (DoD) risk management system that directly supports the Secretary of Defense's Mission Assurance (MA) responsibilities as defined in the DoD Directive (DoDD) 3020.40, Mission Assurance, with the objectives of creating resilience and supporting critical processes to enable the protection of assets and ensuring defense critical missions. MARMS will function as an integration framework spanning multiple security domains that will support risk-informed decision-making, resource investment, and improved synchronization at different levels within DoD. MARMS supports multiple Joint Capability Areas (JCA): Command and Control, Logistics, and Protection.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<b>Title:</b> MA - Mission Assurance Risk Management System (MARMS)	13.743	9.316	9.440
<p><b>Description:</b> MARMS is a multi-year enduring program that will federate a family of MA systems to be integrated as an enterprise solution defined in the MARMS Information System Initial Capabilities Document (IS-ICD) and Requirements Definition Package (RDP) for Increment 1. The RDP-1 defines multiple spirals of major technological improvements. Each spiral is comprised of multiple Capability Drops (CD) that define specific capabilities. RDP-1 defines seven capability drops focusing on the collection, analysis, warehousing, sharing, protection, and accessing of Defense Critical Infrastructure (DCI) and Anti-Terrorism (AT) data to support risk-informed decision making, resource investment and improve synchronization across Mission Assurance-related programs for Increment 1.</p> <p><b>FY 2024 Plans:</b></p> <ul style="list-style-type: none"> <li>- Improve the core DTRA capabilities of the Information Sharing Registry (CD1) and the Mission Assurance Viewer and Analysis Portal on Secret Internet Protocol Router Network (SIPR) to continue to enhance the capability and improve data management for the Antiterrorism (AT) and MA/DCI risk data.</li> <li>- Build out and populate data for the new instance of the Mission Assurance Viewer and Analysis Portal on Joint Worldwide Intelligence Communications System (JWICS) (CD5).</li> <li>- Build out the Mission Assurance Assessment Module for the Service-level Mission Assurance Assessments in the Assessment Module (CD2) and new modules for other Increment 2 validated joint requirements.</li> <li>- Develop and populate data within base capability [Data Registry, Enterprise Viewer, Cross Domain] for Unclassified MARMS Architecture to support Increment 2 Mission Assurance Related Programs and Activities (MARPA).</li> </ul> <p><b>FY 2025 Plans:</b></p>			

PE 0605141BR: MISSION ASSURANCE RISK MANAGEMENT SYSTEM...

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605141BR / <i>MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS)</i>	<b>Project (Number/Name)</b> MA / <i>MARMS</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<ul style="list-style-type: none"> <li>- Improve the core DTRA capabilities of the Information Sharing Registry (CD1) and the Mission Assurance Viewer and Analysis Portal on Non-classified Internet Protocol Router Network (NIPR)/Secret Internet Protocol Router Network (SIPR)/Joint Worldwide Intelligence Communications System (JWICS) to continue to enhance the capability and improve data management for the Increment 2 risk data.</li> <li>- Continue to enhance the data integration and collection capabilities for the new instance of the Mission Assurance Viewer and Analysis Portal on JWICS (CD5).</li> <li>- Continue to build out the capabilities of the Assessment Modules (CD2) to allow for assessment data collection across multiple Mission Assurance Related Program Areas (MARPAs) as per Increment 2 validated joint requirements.</li> <li>- Continue to develop and populate data within base capability [Data Registry, Enterprise Viewer, Cross Domain] for Unclassified MARMS Architecture to support Increment 2 MARPAs.</li> </ul> <p><b><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i></b> The increase from FY 2024 to FY 2025 is due to inflation.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	13.743	9.316	9.440

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

N/A

**Remarks**

**D. Acquisition Strategy**

The acquisition strategy for MARMS is based on its designation as a joint DoD program and being a software-intensive and situational awareness program. Therefore, it is aligned to follow the acquisition construct defined by the agile-based DoDI 5000.87 Adaptive Acquisition Framework – Software Pathway (AAF-SWP). In order to accomplish the Mission Assurance Strategy and Policy of aligning and integrating the risk based data for the 17 Mission Assurance Related Programs and Activities (MARPAs), the MARMS Program Management Office (PMO) will build on the initial foundational/baseline information technology capabilities and data integration investments for Increments 1 and 2 for the remaining MARPAs per the guidance of the Deputy Assistant Secretary of Defense for Defense Continuity and Mission Assurance (DASD-DC&MA) and the Joint Staff J36 Mission Assurance Branch.

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Defense Threat Reduction Agency** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605141BR / MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS)	<b>Project (Number/Name)</b> MA / MARMS
--	---	--

<b>Product Development (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Assurance and Risk Management System (MARMS) Secret Internet Protocol Router (SIPR) Hosting	MIPR	U.S. Army PD ALTESS : Radford, VA	0.126	0.173	Mar 2023	0.175	Oct 2023	0.175	Oct 2024	0.000		0.175	Continuing	Continuing	0.000
MARMS Unclassified Hosting & DevSecOps	MIPR	NGA : Springfield, VA	0.000	0.504	Jul 2023	0.600	Feb 2024	0.600	Feb 2025	0.000		0.600	Continuing	Continuing	0.000
MARMS SIPR Hosting - Cross Domain Solutions Continuity of Operations	C/CPFF	Amazon Web Services : Seattle, WA	0.000	0.227	Feb 2023	0.100	Jul 2024	0.100	Jul 2025	0.000		0.100	Continuing	Continuing	0.000
MARMS Joint Worldwide Intelligence Communications System (JWICS) Hosting	MIPR	Defense Intelligence Agency : Washington D.C.	0.000	0.100	Jul 2023	0.100	Dec 2023	0.100	Dec 2024	0.000		0.100	Continuing	Continuing	0.000
Capability Drop (CD) 1 - Information Sharing	MIPR	U.S. Army Futures Command (AFC) : Picatinny Arsenal, NJ	5.499	2.300	Dec 2022	2.000	Nov 2023	2.000	Nov 2024	0.000		2.000	Continuing	Continuing	0.000
CD2 - Assessment Capability	MIPR	USAF : Washington, DC	0.772	1.579	Mar 2023	2.000	Feb 2024	2.000	Feb 2025	0.000		2.000	Continuing	Continuing	0.000
CD3 - Existing System Upgrades	MIPR	Naval Surface Warfare Center (NSWC) : Dahlgren	1.410	0.839	Mar 2023	0.900	Feb 2024	0.900	Feb 2025	0.000		0.900	Continuing	Continuing	0.000
CD3 - Existing System Upgrades	IA	GSA-SAIC via USSTRATCOM : Omaha, NE	0.440	0.549	Mar 2023	0.500	Dec 2023	0.500	Dec 2024	0.000		0.500	Continuing	Continuing	0.000
CD4 - Workspace/Viewer on Secret Internet Protocol Router Network (SIPR)	C/CPFF	Appdiction Studio, LLC : Fort Belvoir, VA	1.225	0.515	Dec 2022	0.500	Apr 2024	0.500	Apr 2025	0.000		0.500	Continuing	Continuing	0.000
CD5 - Workspace/Viewer on Joint Worldwide Intelligence Communications System (JWICS)	C/CPFF	Appdiction Studio, LLC : Fort Belvoir, VA	0.420	1.285	Apr 2023	0.500	Apr 2024	0.624	Apr 2025	0.000		0.624	Continuing	Continuing	0.000

PE 0605141BR: MISSION ASSURANCE RISK MANAGEMENT SYSTEM...

Defense Threat Reduction Agency

**UNCLASSIFIED**

Page 4 of 10

R-1 Line #145

**Volume 5 - 78**

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Defense Threat Reduction Agency** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605141BR / MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS)	<b>Project (Number/Name)</b> MA / MARMS
--	---	--

<b>Product Development (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
CD6 - Cross Domain Solution SIPR to JWICS	C/CPFF	Amazon Web Services : Seattle, WA	0.397	0.047	Feb 2023	0.000		0.000		0.000		0.000	0.000	0.444	0.497
CD7 - CD6 - Cross Domain Solution JWICS to SIPR	MIPR	U.S. Army Future Command (AFC) : Picatinny Arsenal, NJ	0.125	0.000		0.500	Jan 2024	0.500	Jun 2025	0.000		0.500	Continuing	Continuing	0.000
CD8 - Registry & Workspace/Viewer on Unclassified Internet Protocol Router Network (NIPR)	MIPR	U.S. Army Future Command (AFC) : Picatinny Arsenal, NJ	0.000	1.256	May 2023	0.441	Apr 2024	0.441	Apr 2025	0.000		0.441	Continuing	Continuing	0.000
CD9 - Unclassified Data Management & Cross Domain Solution NIPR to Higher Domains	MIPR	U.S. Army Future Command (AFC) : Picatinny Arsenal, NJ	0.000	0.850	Aug 2023	0.500	Apr 2024	0.500	Apr 2025	0.000		0.500	Continuing	Continuing	0.000
CD1 - Government Lead Integrator	MIPR	US Army Futures Command (AFC) : Picatinny Arsenal, NJ	0.000	2.700	Dec 2023	-		-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			10.414	12.924		8.816		8.940		0.000		8.940	Continuing	Continuing	N/A

<b>Support (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Office Subject Matter Expertise Support	FFRDC	Institute for Defense Analysis : Ft. Belvoir, VA	0.250	0.417	May 2023	0.250	Nov 2023	0.250	Nov 2024	0.000		0.250	Continuing	Continuing	0.000
Program Management Office Subject Matter Expertise Support	C/CPFF	Nakupuna Solutions, LLC : Ft. Belvoir, VA	0.192	0.402	May 2023	0.250	May 2024	0.250	May 2025	0.000		0.250	Continuing	Continuing	0.000
<b>Subtotal</b>			0.442	0.819		0.500		0.500		0.000		0.500	Continuing	Continuing	N/A

PE 0605141BR: MISSION ASSURANCE RISK MANAGEMENT SYSTEM...

Defense Threat Reduction Agency

**UNCLASSIFIED**

Page 5 of 10

R-1 Line #145

**Volume 5 - 79**





**UNCLASSIFIED**

**Exhibit R-4, RDT&E Schedule Profile:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605141BR / <i>MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS)</i>	<b>Project (Number/Name)</b> MA / MARMS
--	--	--

FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<b><i>Mission Assurance and Risk Management (MARMS)</i></b>	
Hosting for MARMS (Consolidated)	
Capability Drop (CD) 1: Information Sharing Registry	
CD 2: Assessment Capability – Enterprise Protection Risk Management System (EPRM) (to include new engineering task)	
CD 3: System Upgrades – Mission Decomposition and Asset Dependency Module –Mission Assurance Decision Support System (MADSS)	
CD 3: System Upgrades - Asset Management Module – Strategic Mission Assurance Database System (SMADS)	
CD 4: Workspace/Viewer on Secret Internet Protocol Router Network (SIPR)	
CD 5: Workspace/Viewer on Joint Worldwide Intelligence Communications System (JWICS)	
CD 6: Cross Domain Solution - SIPR to JWICS	
CD 7: Cross Domain Solution - JWICS to SIPR	
CD 8: Registry & Workspace/Viewer on Non-classified Internet Protocol Router Network (NIPR)	

**UNCLASSIFIED**

**Exhibit R-4, RDT&E Schedule Profile:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605141BR / <i>MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS)</i>	<b>Project (Number/Name)</b> MA / MARMS
--	--	--

FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

CD 9: Unclassified Data Management & Cross Domain Solution NIPR to Higher Domains	
Program Management Office (PMO) Subject Matter Expert (SME) Support	

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<b><i>Mission Assurance and Risk Management (MARMS)</i></b>	
Hosting for MARMS (Consolidated)	
Capability Drop (CD) 1: Information Sharing Registry	
CD 2: Assessment Capability – Enterprise Protection Risk Management System (EPRM) (to include new engineering task)	
CD 3: System Upgrades – Mission Decomposition and Asset Dependency Module –Mission Assurance Decision Support System (MADSS)	
CD 3: System Upgrades - Asset Management Module – Strategic Mission Assurance Database System (SMADS)	
CD 4: Workspace/Viewer on Secret Internet Protocol Router Network (SIPR)	
CD 5: Workspace/Viewer on Joint Worldwide Intelligence Communications System (JWICS)	

**UNCLASSIFIED**

**Exhibit R-4, RDT&E Schedule Profile:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605141BR / <i>MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS)</i>	<b>Project (Number/Name)</b> MA / MARMS
--	--	--

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

CD 6: Cross Domain Solution - SIPR to JWICS																												
CD 7: Cross Domain Solution - JWICS to SIPR																												
CD 8: Registry & Workspace/Viewer on Non-classified Internet Protocol Router Network (NIPR)																												
CD 9: Unclassified Data Management & Cross Domain Solution NIPR to Higher Domains																												
Program Management Office (PMO) Subject Matter Expert (SME) Support																												

**UNCLASSIFIED**

**Exhibit R-4A, RDT&E Schedule Details:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605141BR / MISSION ASSURANCE RISK MANAGEMENT SYSTEM (MARMS)	<b>Project (Number/Name)</b> MA / MARMS
--	---	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Mission Assurance and Risk Management (MARMS)</i></b>				
Hosting for MARMS (Consolidated)	1	2023	4	2029
Capability Drop (CD) 1: Information Sharing Registry	1	2023	4	2029
CD 2: Assessment Capability – Enterprise Protection Risk Management System (EPRM) (to include new engineering task)	1	2023	4	2029
CD 3: System Upgrades – Mission Decomposition and Asset Dependency Module – Mission Assurance Decision Support System (MADSS)	1	2023	4	2029
CD 3: System Upgrades - Asset Management Module – Strategic Mission Assurance Database System (SMADS)	1	2021	4	2028
CD 4: Workspace/Viewer on Secret Internet Protocol Router Network (SIPR)	1	2023	4	2029
CD 5: Workspace/Viewer on Joint Worldwide Intelligence Communications System (JWICS)	1	2023	4	2029
CD 6: Cross Domain Solution - SIPR to JWICS	1	2023	4	2029
CD 7: Cross Domain Solution - JWICS to SIPR	3	2024	4	2029
CD 8: Registry & Workspace/Viewer on Non-classified Internet Protocol Router Network (NIPR)	1	2024	4	2029
CD 9: Unclassified Data Management & Cross Domain Solution NIPR to Higher Domains	1	2024	4	2029
Program Management Office (PMO) Subject Matter Expert (SME) Support	1	2023	4	2029

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b>					<b>R-1 Program Element (Number/Name)</b>							
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 6: RDT&amp;E Management Support</i>					PE 0605502BR / <i>SMALL BUSINESS INNOVATION RESEARCH</i>							
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	126.607	16.591	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
RA: <i>Information Sciences and Applications</i>	126.607	16.591	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**Note**  
Funding for the SBIR Program is consolidated in this program element during the year of execution.

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

The Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) programs provide the means for stimulating technological innovation in the private sector, strengthens the role of small business in meeting the Department of Defense (DoD) research and development needs; fosters and encourages participation of minority and disadvantaged businesses in technological innovation; and increases the commercial application of the DoD supported research and development results. These efforts are responsive to Public Law 106-554 and the SBIR and STTR Extension Act of 2022 (Public Law 117-183).

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	16.591	0.000	0.000	-	0.000
Total Adjustments	16.591	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	16.591	-			

**Change Summary Explanation**

Funding for the SBIR program is consolidated in this program element during the year of execution.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 0400 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605502BR / <i>SMALL BUSINESS INN</i> <i>OVATION RESEARCH</i>				<b>Project (Number/Name)</b> RA / <i>Information Sciences and Applications</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
RA: <i>Information Sciences and Applications</i>	126.607	16.591	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

Funding for the SBIR Program is consolidated in this program element during the year of execution. Funding is not allocated until the year-of-execution. Program Element 0605502BR “Small Business Innovation Research (SBIR)” is used to report year-end execution. FY 2024 and FY 2025 Plans are provided based on estimated SBIR/STTR funding levels to be determined in accordance with the law and relative to final Agency RDT&E portfolio appropriations.

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

The Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) programs provide the means for stimulating technological innovation in the private sector, strengthens the role of small business in meeting the Department of Defense (DoD) research and development needs; fosters and encourages participation of minority and disadvantaged businesses in technological innovation; and increases the commercial application of the DoD supported research and development results. These efforts are responsive to Public Law 106-554 and the SBIR and STTR Extension Act of 2022 (Public Law 117-183).

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> RA: Information Sciences and Applications	16.591	0.000	0.000
<b>Description:</b> This project provides the means for stimulating technological innovation in the private sector; strengthens the role of small business in meeting the DoD research and development needs; fosters and encourages participation of minority and disadvantaged businesses in technological innovation; and increases the commercial application of the DoD supported research and development results. These efforts are responsive to Public Law 106-554.			
<b>FY 2024 Plans:</b> Counter Weapons of Mass Destruction (CWMD) (\$17.380M).			
- The radiation dose advisor project will develop a simple electronic application that is able to run on a handheld electronic device in conjunction take real time radiation sensor data (to include the dose rate and accumulated dose), any optional user input such as any dose restrictions for the responders, and then rapidly run calculations to compare against a set of safety guidelines to then display a recommended stay time limits in the area and display any applicable health warnings based on the dose accumulated.			
- A pedigree reconstruction for identifying terrorist networks project will be developed a new software platform for pedigree reconstruction that can use DNA profiles from challenging forensic samples to establish familial relationships between individuals and within groups of interest. This included a graphical user interface to provide statistically relevant interpretation of results. This would allow agencies such as intelligence, law enforcement and defense to generate connections among individuals from DNA.			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605502BR / <i>SMALL BUSINESS INN OVATION RESEARCH</i>	<b>Project (Number/Name)</b> RA / <i>Information Sciences and Applications</i>

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>- The project to develop use of diagnostics of transient electric fields will advance the state of the art of using transient electric field measurements as a test diagnostics tool, specifically for conventional explosive tests. This includes developing a better understanding of the generation of electric and electromagnetic phenomena from high explosive tests. This also includes determining what the measured signal content represents and the best method to conduct these measurements.</p> <p>- The Nuclear Scintillation Mitigation by Matched Channel Filtering project will develop a new method to mitigate digital communications message errors resulting from communication over nuclear-disturbed RF propagation channels. Such errors can occur on SATCOM links which must pass through magneto-ionic media generated by nuclear weapons detonation in the high atmosphere. This new method defines a “Matched Channel Filter” (MCF)—matched to the then current scintillated communication channel filter function which offers mitigation of communication message errors.</p> <p>- The Radiation-Resistant and Temperature-Insensitive Solid State Photomultipliers project will develop silicon-based photomultipliers that are radiation resistant and insensitive to variations in environmental temperature, suitable to be used in equipment for warfighting missions under nuclear battlefield environments. The new Silicon-based Photomultiplier (SiPM) provides orders of magnitude higher radiation tolerance for both below and above the breakdown voltage over the commercial state-of-the-art SiPMs. The new SiPM demonstrates orders of magnitude reduction in gain sensitivity to the environmental temperature and allows gamma-ray isotope identification without external temperature compensation.</p> <p>- Field Detection of Trace Elements and Chemicals project will develop a capability to collect and provide immediate analysis of trace radiological/nuclear samples of concern in field environments. The developed prototype device will demonstrate reliable gamma-ray (and/or neutron) detection and identification under both low dose rate and fallout conditions. Selected scintillation materials will be optimized for detector use. The detectors will demonstrate improved radioisotope identification capabilities.</p> <p><b>FY 2025 Plans:</b> FY 2025 Program plans may include the following Counter Weapons of Mass Destruction (CWMD) projects (\$16.511M).</p> <p>- The radiation-resistant and temperature-insensitive solid-state photomultipliers for radiation project will improve or develop silicon photomultipliers (SiPM) for characterizing radiation that are radiation resistant and insensitive to variations in environmental temperature, suitable to be used in equipment for warfighting missions under nuclear battlefield environments. Another objective to achieve gamma-ray isotope identification without external temperature compensation.</p> <p>- The framework for application lifecycle management and continuous integration for pre-exascale high performance computing architectures is to develop a secure Application Lifecycle Management (ALM) and Continuous Integration / Continuous Delivery (CI/CD) framework for legacy computer codes. This capability would integrate existing tools. Once built and tested, the application code will be deployed on multiple physical systems, and eventually in a “cloud”.</p> <p>- An algorithm that can locally link radiation detectors (of different resolutions) to enhance identification/ localization capability is being developed for network hosted algorithms to link multiple and varied battlefield nuclear and radiation detectors to enable the fusing and processing of raw detector outputs into usable information.</p>			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605502BR / <i>SMALL BUSINESS INN OVATION RESEARCH</i>	<b>Project (Number/Name)</b> <i>RA / Information Sciences and Applications</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>- An augmented reality and virtual reality evaluation tool is being developed that allows operators to simulate a walk through challenging life-like nuclear response scenarios (includes anomalies like shadowing, spotlighting, and attenuation effects) with radiation detectors.</p> <p>- A cyclone particulate/aerosol concentrator for radionuclides nuclear weapons test detection and monitoring systems effort adapts single-stage or multi-stage cyclone concentrator(s) used in industrial dust collection and household vacuum cleaning applications to concentrate radioactive particulates for further collection and analysis.</p> <p>- Investigate and develop fast scintillation materials that can be operated under nuclear battlefields for nuclear search, identification, and dose rate estimation. The new scintillators must have ultra-fast decay time, with very limited to no slower decay components, good luminosity, and capable of radioisotope identification. The effort will include development of a cost model and commercial production path.</p> <p>- Develop a capability for field detection of trace elements and chemicals that will collect and provide immediate presumptive analysis of radiological/nuclear samples of concern in field environments.</p> <p>- Develop a method to produce Synthetic Aperture Radar (SAR) data for augmentation into Artificial Intelligence (AI) Automatic Target Recognition (ATR) algorithms and assess improvement compared to current methods. Leverage existing radiative transfer models (RTMs) within the research community to create phased history as well as radar images from which specific features can be exploited for use in current ATR algorithms. Explore the use of state-of-the-art AI methods such as the Generative Adversarial Network (GAN) in producing realizable synthetic SAR data in conjunction with RTM results to further improve ATR training.</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> N/A</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	16.591	0.000	0.000

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• BA2/24/0602718BR: <i>COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH</i>	29.047	37.218	21.986	-	21.986	22.538	26.949	23.627	24.113	Continuing	Continuing
• BA3/35/0603160BR: <i>COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT</i>	70.234	86.415	82.711	-	82.711	76.041	76.146	86.289	88.165	Continuing	Continuing



**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605502BR / <i>SMALL BUSINESS INNOVATION RESEARCH</i>	<b>Project (Number/Name)</b> RA / <i>Information Sciences and Applications</i>

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

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• BA4/107/0604551BR: <i>ATAPULT INFORMATION SYSTEM</i>	6.953	8.328	7.475	-	7.475	7.625	7.777	7.933	8.100	Continuing	Continuing

**Remarks**

N/A

**D. Acquisition Strategy**

N/A

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support	<b>R-1 Program Element (Number/Name)</b> PE 0606853BR / MANAGEMENT TECHNICAL AND INTERNATIONAL SUPPORT
--	---

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	10.039	11.919	12.115	-	12.115	12.358	12.605	12.857	13.127	Continuing	Continuing
MN: DEFENSE CRITICAL INFRASTRUCTURE - MISSION ASSURANCE	0.000	10.039	11.919	12.115	-	12.115	12.358	12.605	12.857	13.127	Continuing	Continuing

**Note**

This program element supports the development of a series of advanced analytic efforts to more effectively identify risks and threats to Surge Layer Defense and, more broadly, DoD's Mission Assurance (MA) as identified in the current National Defense Strategy.

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

The Defense Threat Reduction Agency (DTRA), as the DoD Center of Excellence for Mission Assurance Assessments, has been tasked by Deputy Assistant Secretary of Defense for Defense Continuity and Mission Assurance (DASD (DC&MA)) with leading change within the MA community on behalf of OSD to ensure best practices are documented during the Joint Mission Assurance Assessments (JMAA), Balanced Survivability Assessments (BSA), and Red Team Assessments. Including but not limited to dependency analysis, asymmetric threats, cyber operations, general engineering, security operations, and emergency management.

In partnership with the Critical Infrastructure Defense Analysis Center (CIDAC) and the U.S. Department of the Navy's Defense Critical Infrastructure - Mission Assurance program, DTRA's Mission Assurance program will perform mission analysis; engineering and commercial infrastructure network interdependency analysis; MA assessments; information enterprise design, implementation, and support; and defense industrial base supply chain network and related analysis. Efforts provide broad leadership, best practices, research, development, coordination, and support to DoD Components around specific focus areas to drive solution-oriented efficiencies, collaboration, and results that benefit the entire DoD MA enterprise.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	10.295	11.919	12.115	-	12.115
Current President's Budget	10.039	11.919	12.115	-	12.115
Total Adjustments	-0.256	0.000	0.000	-	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.256	0.000			

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

**Appropriation/Budget Activity**  
0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 6:  
*RDT&E Management Support*

**R-1 Program Element (Number/Name)**  
PE 0606853BR / *MANAGEMENT TECHNICAL AND INTERNATIONAL SUPPORT*

**Change Summary Explanation**

There is no change from the previous President's Budget.

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Defense Threat Reduction Agency **Date:** March 2024

<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0606853BR / MANAGEMENT TECHNICAL AND INTERNATIONAL SUPPORT	<b>Project (Number/Name)</b> MN / DEFENSE CRITICAL INFRASTRUCTURE - MISSION ASSURANCE
--	---	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
MN: DEFENSE CRITICAL INFRASTRUCTURE - MISSION ASSURANCE	0.000	10.039	11.919	12.115	-	12.115	12.358	12.605	12.857	13.127	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

This project supports the development of a series of advanced analytic efforts to more effectively identify risks and threats to Surge-Layer Defense and, more broadly, DoD's Mission Assurance (MA) as identified in the current National Defense Strategy.

The Defense Threat Reduction Agency (DTRA) as the DoD Center of Excellence for Mission Assurance Assessments has been tasked by Deputy Assistant Secretary of Defense for Defense Continuity and Mission Assurance (DASD (DC&MA)) with leading change within the MA community on behalf of OSD to ensure best practices are documented during Joint Mission Assurance Assessments, Balanced Survivability Assessments, and Red Team Assessments. Including but not limited to dependency analysis, asymmetric threats, cyber operations, general engineering, security operations, and emergency management.

In partnership with the Critical Infrastructure Defense Analysis Center (CIDAC) and the U.S. Department of the Navy's Defense Critical Infrastructure - Mission Assurance program, DTRA's Mission Assurance program will perform mission analyses; engineering, and commercial infrastructure network interdependency analyses; MA assessments; information enterprise design, implementation, and support; and defense industrial base supply chain network and related analysis. Efforts provide broad leadership, best practices, research, development, coordination, and support to DoD Components around specific focus areas to drive solution-oriented efficiencies, collaboration, and results that benefit the entire DoD MA enterprise.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2023	FY 2024	FY 2025
<b>Title:</b> MN - Defense Critical Infrastructure - Mission Assurance	10.039	11.919	12.115
<b>Description:</b> This program establishes an integrated and comprehensive approach to deliver vastly improved threat data and operational support to the DoD mission assurance enterprise.			
<b>FY 2024 Plans:</b>			
- Provide oversight and program management of the CIDAC (formerly Homeland Advanced Analytic Capability (HAAC)) program in coordination with the Office of the Under Secretary of Defense for Policy (OUSDP), the U.S. Navy, and the U.S. Air Force.			
- Provide CIDAC products to facilitate DoD dependency analysis, vulnerability, and risk assessments.			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Defense Threat Reduction Agency		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0606853BR / <i>MANAGEMENT TECHNICAL AND INTERNATIONAL SUPPORT</i>	<b>Project (Number/Name)</b> MN / <i>DEFENSE CRITICAL INFRASTRUCTURE - MISSION ASSURANCE</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>- Develop innovative infrastructure network interdependency analysis while identifying and prioritizing threats and risks to DoD's critical infrastructure.</p> <p><b>FY 2025 Plans:</b></p> <ul style="list-style-type: none"> <li>- Provide oversight and program management of the CIDAC program in coordination with the Office of the Under Secretary of Defense for Policy (OUSD(P)), the U.S. Navy, and the U.S. Air Force.</li> <li>- Provide DoD products to facilitate DoD dependency analysis, vulnerability, and risk assessments.</li> <li>- Development of an enterprise knowledge platform to perform "outside the wire" threat analysis (J2) and build and maintain the CIDAC's Threats Information Technology Environment (J6) driving transformational threat analysis and advanced analytics for CIDAC.</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The increase from FY 2024 to FY 2025 is due to inflation.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	10.039	11.919	12.115

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A