Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Chemical and Biological Defense Program	Date: April 2022
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	353.472	299.848	312.148	-	312.148	276.205	259.927	201.075	143.983	Continuing	Continuing
EN5: *Enabling Investments (SDD)*	-	0.000	0.000	13.392	-	13.392	13.984	14.037	14.341	13.728	Continuing	Continuing
MT5: *Mitigate (SDD)*	-	0.000	0.000	74.225	-	74.225	61.861	68.280	39.819	22.062	Continuing	Continuing
PT5: *Protect (SDD)*	-	0.000	0.000	96.860	-	96.860	98.427	78.868	48.793	35.494	Continuing	Continuing
UN5: *Understand (SDD)*	-	0.000	0.000	127.671	-	127.671	101.933	98.742	98.122	72.699	Continuing	Continuing
CA5: *Contamination Avoidance (SDD)*	-	129.914	82.295	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	212.209
CO5: *Collective Protection (SDD)*	-	7.688	3.028	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.716
DE5: *Decontamination (SDD)*	-	17.274	7.874	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	25.148
IP5: *Individual Protection (SDD)*	-	17.129	18.941	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.070
IS5: *Information Systems (SDD)*	-	5.810	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.810
MB5: *Medical Biological Defense (SDD)*	-	117.157	137.348	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	254.505
MC5: *Medical Chemical Defense (SDD)*	-	52.505	50.362	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	102.867
TE5: *Test & Evaluation (SDD)*	-	5.995	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.995

A. Mission Description and Budget Item Justification

This program element (PE) resources System Development & Demonstration across the Enabling Investments, Mitigate, Protect, and Understand portfolios. CBDP investments provide an integrated, layered capability to enable CWMD missions ranging from combat operations to DoD support to domestic incident prevention and response. The projects in this PE support the development, build, and test of products to verify that all operational and derived requirements have been met, and to support production or deployment decisions. The activities include mature system development, integration, and demonstration to support Milestone C decisions, and conducting operational test and evaluation of production representative articles. FY23 funding accelerates characterization and situational awareness of emerging biothreats and accelerates delivery of improved protection from and mitigation of biothreats, including rapid repurposing of available therapeutics and development of new vaccines.

Individual Projects include:

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Chemical and Biological Defense Program	Date: April 2022
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*

- Enabling Investments (EN5): Provides fundamental knowledge, and technology demonstrations as key portfolio enablers integral to responding to emerging threats. Dedicated funding in this Project supports National and Departmental incident response and preparedness regarding CB threats.

- Mitigate (MT5): Preserves combat power by mitigating exposure to CB hazards and restoring combat readiness of critical personnel and platforms. Enables Joint Force lethality by providing capabilities for Warfighters to rapidly respond to and mitigate the adverse effects of CB hazards. Fields mitigation capabilities against engineered biological agents, opioids and other Pharmaceutical-Based Agents, and Fourth Generation Agents (FGAs).

- Protect (PT5): Provides the Joint Force the ability to prevent the effects from exposure to chemical and biological hazards. Protects personnel against chemical, biological, and radiological (CBR) liquid, vapor, and aerosol hazards through next-generation prototypes of masks, filters, and ensembles to reduce physiological, psychological and logistical burdens to the Warfighter. Medical countermeasure efforts conducted during this phase include the development of a large scale manufacturing process and validation of that process, nonclinical studies, demonstration of manufacturing consistency, and expanded clinical human safety studies. Focuses on platform based approaches to accelerate development of prophylactic medical countermeasures that rapidly and durably protect against BWAs, toxins, non-traditional and emerging chemical threats with minimal doses. The results of these efforts will be used to submit a Biologics License Application (BLA) to the FDA for product licensure.

- Understand (UN5): Provides the Joint Force the ability to detect and identify hazards from traditional and emerging chemical and biological threats to improve the timeliness and confidence of information for decision makers. Supports freedom of maneuver and informs commanders' decisions by predicting, locating, identifying, analyzing, and warning of CB hazards.

- Contamination Avoidance (CA5), Collective Protection (CO5), Decontamination (DE5), Individual Protection (IP5), Information Systems (IS5), Medical Biological Defense (MB5) and Medical Chemical Defense (MC5) are no longer active FY23 Projects due to budget restructure.

- Test and Evaluation (TE5) Project concluded in FY21.

The projects in this PE support the engineering and manufacturing development phase of the Department of Defense (DoD) acquisition system and are therefore correctly placed in Budget Activity 5.

Middle Tier Acquisition programs:

The total cost of the Rapid Opioid Countermeasure System (ROCS) Middle Tier of Acquisition effort is $21.4 million, including RDT&E (Project MC5) and procurement of prototype units (CBDP BLIN Protection & Hazard Mitigation). The ROCS program is fully funded across the Future Years Defense Program.

The total cost of the Forward Area Mobility Spray System (FAMS-S) Middle Tier of Acquisition effort is $30.5 million, including RDT&E (Project MT5) and procurement of prototype units (CBDP BLIN Protection & Hazard Mitigation). The FAMS-S program is fully funded across the Future Years Defense Program.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Chemical and Biological Defense Program	Date: April 2022
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604384BP *I CHEMICAL/BIOLOGICAL DEFENSE (EMD)*

The total cost of the Uniform Integrated Protective Ensemble Family of Systems Gloves (UIPE FOS GLOVES) Middle Tier of Acquisition effort is $38.4 million, including RDT&E (Project PT5) and procurement of prototype units (CBDP BLIN Protection & Hazard Mitigation). The UIPE FOS GLOVES program is fully funded across the Future Years Defense Program.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	356.472	299.848	0.000	-	0.000
Current President's Budget	353.472	299.848	312.148	-	312.148
Total Adjustments	-3.000	0.000	312.148	-	312.148
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	0.000	-			
• Congressional Directed Transfers	0.000	-			
• Reprogrammings	8.351	-			
• SBIR/STTR Transfer	-11.351	-			
• Other Adjustments	0.000	-	312.148	-	312.148

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2021	FY 2022
Project: DE5: *Decontamination (SDD)*		
Congressional Add: *1) Decontamination Technologies - Development and Testing*	5.000	-
Congressional Add Subtotals for Project: DE5	5.000	-
Project: MB5: *Medical Biological Defense (SDD)*		
Congressional Add: *1) Antiviral Prophylaxis Studies*	4.500	-
Congressional Add: *2) Recombinant Botulinum and Plague Vaccines - Storage*	1.000	-
Congressional Add: *3) Adaptive Clinical Trial*	23.613	-
Congressional Add: *4) Recombinant Botulinum and Plague Vaccines - Stability Testing*	2.383	-
Congressional Add Subtotals for Project: MB5	31.496	-
Congressional Add Totals for all Projects	36.496	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Chemical and Biological Defense Program	Date: April 2022
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*

Change Summary Explanation

Funding: FY 2021 (+$8.351 Million): Below threshold reprogramming to increase advanced development programs for Joint Nuclear Biological Chemical Radiological System (JNBCRS) 1 CBRN sensor development and integration, Joint Biological Tactical Detection System (JBTDS) program test and evaluation, Man Portable Diagnostic System (MPDS) product development, and Special Purpose Unit Rapid Capability Development and Deployment (SPU RCDD) program development of specialized equipment for agent-specific threats.
FY 2021 (-$11.351 Million): Transfer of funding to support Small Business Innovative Research/Small Business Technology Transfer efforts.
FY 2021 (+$36.496 Million): Joint vaccine for botulinum and plague vaccines funding restoration (+$26.996 Million), Congressional Add for decontamination technologies (+$5.000 Million), and Congressional Add for smallpox antiviral (+$4.500 Million) are all reflected in the Current President's Budget amount.

FY 2023: Funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding. Funding includes specific increases for enhanced biodefense and pandemic preparedness investments (+$60.500 Million), Departmental inflation rate adjustments (+$8.958 Million), Aerosol Vapor Chemical Agent Detector (AVCAD) program network readiness and testing (+$6.456 Million), and the Mitigate portfolio medical countermeasures efforts and Understand portfolio emerging chemical threats efforts (+$27.157 Million).

Schedule: N/A

Technical: N/A

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) EN5 / *Enabling Investments (SDD)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EN5: *Enabling Investments (SDD)*	-	0.000	0.000	13.392	-	13.392	13.984	14.037	14.341	13.728	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Enabling Investments System Development & Demonstration (SDD) Project provides the capability to rapidly develop, manufacture, and approve medical countermeasures through sustaining the DoD advanced development manufacturing facility. Enabling efforts in this area support dedicated infrastructure capabilities, demonstrations, and overarching development support functions as portfolio enablers responding to emerging threats. Additional efforts facilitate incorporation of CB survivability equipment into Service major acquisition programs.

Efforts included in this Project are:

(1) Chem Bio Incident Preparedness and Response - Advanced Development and Manufacturing (CBIPR-ADM), and
(2) Major Defense Acquisition Program (MDAP)

The CBIPR-ADM program maintains the DoD-ADM facility in a state of operational readiness so that it can rapidly develop and manufacture medical countermeasures (MCMs) against current and emerging chemical and biological threats including pandemic response. Operational readiness is achieved by establishing and enhancing proven biopharmaceutical manufacturing platform technologies and infrastructure at the facility. By establishing and enhancing proven manufacturing platform technologies and infrastructure, the DoD-ADM facility will have the capability to accelerate development of MCMs at all stages of development, enhance preparedness for existing threats, and rapidly respond to emerging threats as part of a medical integrated layered defense. MCMs impacted by these efforts include: Vaccines for Viral Agents, Vaccines for Bacterial Agents and Toxins, monoclonal antibodies, antibody fragments and conjugates for therapeutic and prophylactic use across all agent classes. Funds to support the facility in a state of operational readiness were previously provided via individual product development and manufacturing funding lines. The Department is now providing dedicated funds. The CBIPR-ADM return on investment is an increased level of preparedness and responsiveness. In FY23, the CBIPR-ADM program continues to establish and enhance new manufacturing platform technologies that will enable the development of MCMs against chemical and biological threats.

The MDAP Chemical Biological Radiological and Nuclear (CBRN) Survivability Initiative ensures weapon system programs at all Acquisition Category (ACAT) levels, as well as non-DoD agency programs such as those at the Department of Homeland Security (DHS), meet their CBRN defense requirements. This effort facilitates and coordinates the research, development, test and evaluation, procurement, delivery, and life cycle sustainment of affordable CBRN defense materiel solutions for each program's documented CBRN requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Major Defense Acquisition Program (MDAP)	-	-	2.418

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** EN5 / *Enabling Investments (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: CBRN Survivability Support ***FY 2023 Plans:*** Continue to ensure CBRN survivability requirements are met for MDAP's by cross-walking requirements documents with program execution plans. Attend meetings to address integration needs and present CBRN system and hardware options. Provide subject matter expertise in the execution of CBRN survivability requirements for both materiel and non-material solutions. Review and assist in document preparation for milestones and programs reviews. Conduct CBRN survivability compliance reviews for Optionally Manned Fighting Vehicle, Robotic Combat Vehicle, Future Long Range Assault Aircraft, Future Attack Reconnaissance Aircraft, Synthetic Training Environment, Precision Navigation and Timing, multiple Soldier Lethality programs, and other CBRN survivability system integration in preparation for various program acquisition milestones, design reviews and low rate initial production reviews. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($2.291 Million) remains in DE5. Increase is due to additional prototyping efforts within the MDAP programs.			
Title: 2) Chem Bio Incident Preparedness and Response - Adv Dev Mfg (CBIPR - ADM) ***Description:*** ADM Infrastructure ***FY 2023 Plans:*** Continue activities to maintain the DoD ADM's capabilities in a state of readiness to support Medical Countermeasure (MCM) development and manufacturing. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($10.363 Million) remains in MB5.	-	-	10.974
Accomplishments/Planned Programs Subtotals	-	-	13.392

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• EN4: *Enabling Investments (ACD&P)*	0.000	0.000	8.781	-	8.781	9.172	9.179	9.392	9.440	Continuing	Continuing
• MB4: *Medical Biological Defense (ACD&P)*	42.993	47.351	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	90.344
• DE5: *Decontamination (SDD)*	17.274	7.874	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	25.148

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** EN5 / *Enabling Investments (SDD)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• MB5: *Medical Biological Defense (SDD)*	117.157	137.348	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	254.505

Remarks

D. Acquisition Strategy

MAJOR DEFENSE ACQUISITION PROGRAM (MDAP)

The MDAP program provides assistance to non-CBD programs with meeting and or optimizing their Chemical, Biological, Radiological, and Nuclear (CBRN) survivability and force protection capabilities. The MDAP also provides systems engineering analyses to develop CBRN specific operational and technical requirements, identifies performance gaps between existing materiel and technical requirements, develops cost and schedule estimates, conducts preliminary CBRN T&E and logistics planning, develops CBRN defense architectures products, and performs trade space analyses for a number of non-CBD programs.

CHEM BIO INCIDENT PREPAREDNESS AND RESPONSE - (CBIPR-ADM)

A contract was awarded to Ology Bioservices (then Nanotherapeutics, Inc.) on 20 March 2013 to establish a Department of Defense (DoD) Advanced Development and Manufacturing (ADM) capability that can rapidly develop and manufacture Medical Countermeasures (MCMs) from early stage development up through Food and Drug Administration (FDA) licensure. The establishment of this capability consisted of designing, commissioning, and validating a biopharmaceutical facility (both its infrastructure and equipment) that is equipped with two (2) advanced development and manufacturing suites, which utilize flexible, agile, single-use (disposable), modular, and multi-product technologies that comply with Good Manufacturing Practices (GMPs) and can operate at Biological Safety Level-3 (BSL-3). The capability was established on 31 March 2017.

Since its establishment, the DoD ADM has been sustained in a state of operational readiness so that it can continue to be an enduring domestic MCM manufacturing capability that provides the DoD with priority access. The original sustainment strategy consisted of directly funding all costs/activities (i.e. calibration, maintenance, etc.) via sustainment options on the original contract. The CBIPR funds requested support this critical DoD infrastructure. The CBIPR-ADM funding line supports the infrastructure by funding new capability-building efforts (such as manufacturing platforms using FDA known technologies) that will enable new additional MCM product development. This strategy will result in the self-sustainability of the DoD ADM by spreading the sustainment costs equally across all projects (including commercial clients), which mimics the standard practice across the Contract Development and Manufacturing Organization (CDMO) industry.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** EN5 / *Enabling Investments (SDD)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MDAP - TD/D SB - IPT and Technical Support	MIPR	Various : Various	0.000	0.000		0.000		2.081	Nov 2022	0.000		2.081	Continuing	Continuing	0.000
CBIPR-ADM - Infrastructure	C/CPFF	Ology : Alachua, FL	0.000	0.000		0.000		9.944	Dec 2022	0.000		9.944	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		12.025		0.000		12.025	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MDAP - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.000		0.000		0.337	Nov 2022	0.000		0.337	Continuing	Continuing	0.000
CBIPR-ADM - PM/MS C - Program Managment JPL EB	MIPR	JPL CBRN EB : Frederick, MD	0.000	0.000		0.000		0.348	Dec 2022	0.000		0.348	Continuing	Continuing	0.000
CBIPR-ADM - PM/MS C - Program Management Support (SETA)	Various	JPL CBRN EB : Frederick, MD	0.000	0.000		0.000		0.682	Dec 2022	0.000		0.682	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		1.367		0.000		1.367	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		13.392		0.000		13.392	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** EN5 / *Enabling Investments (SDD)*

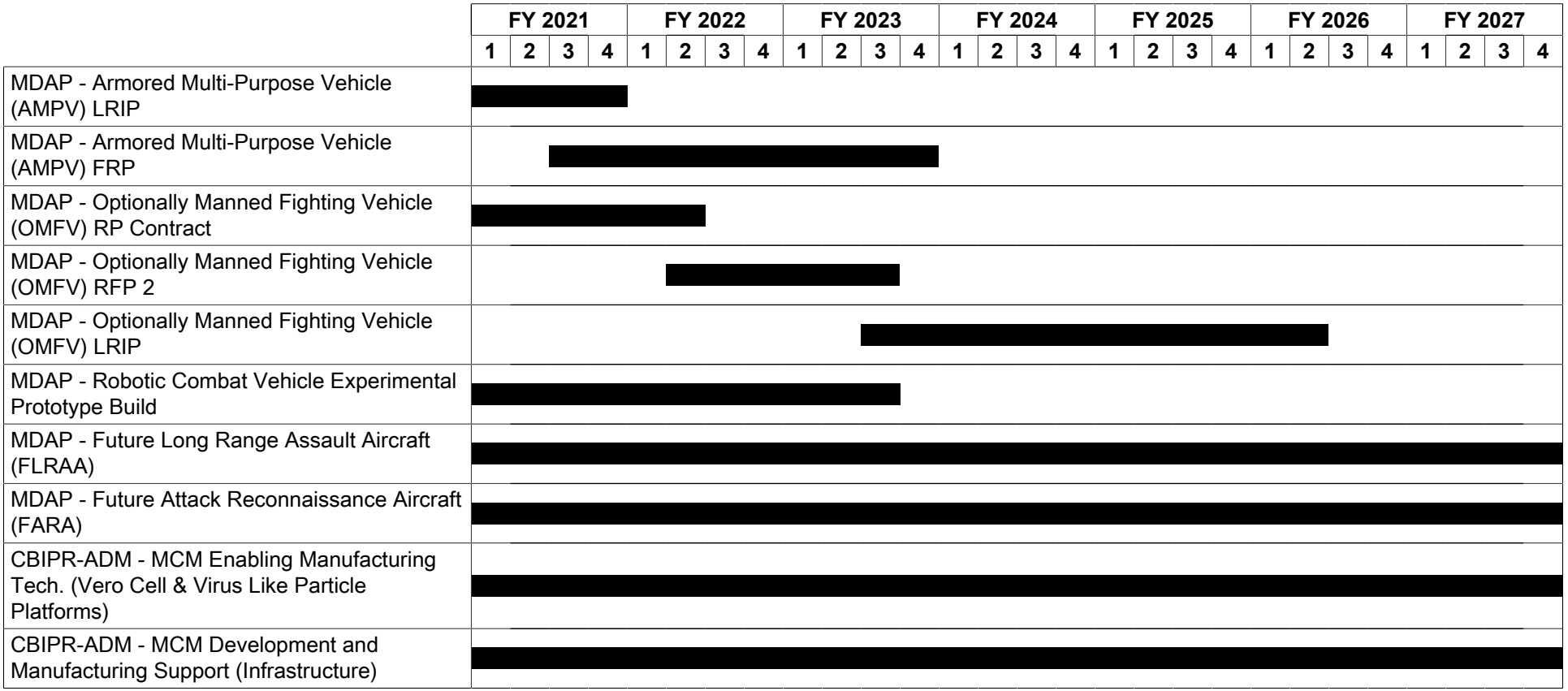

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** EN5 / *Enabling Investments (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MDAP - Armored Multi-Purpose Vehicle (AMPV) LRIP	1	2021	4	2021
MDAP - Armored Multi-Purpose Vehicle (AMPV) FRP	3	2021	4	2023
MDAP - Optionally Manned Fighting Vehicle (OMFV) RP Contract	1	2021	2	2022
MDAP - Optionally Manned Fighting Vehicle (OMFV) RFP 2	2	2022	3	2023
MDAP - Optionally Manned Fighting Vehicle (OMFV) LRIP	3	2023	2	2026
MDAP - Robotic Combat Vehicle Experimental Prototype Build	1	2021	3	2023
MDAP - Future Long Range Assault Aircraft (FLRAA)	1	2021	4	2027
MDAP - Future Attack Reconnaissance Aircraft (FARA)	1	2021	4	2027
CBIPR-ADM - MCM Enabling Manufacturing Tech. (Vero Cell & Virus Like Particle Platforms)	1	2021	4	2027
CBIPR-ADM - MCM Development and Manufacturing Support (Infrastructure)	1	2021	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program											Date: April 2022	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*				Project (Number/Name) MT5 / *Mitigate (SDD)*			
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
MT5: *Mitigate (SDD)*	-	0.000	0.000	74.225	-	74.225	61.861	68.280	39.819	22.062	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Mitigate System Development & Demonstration (SDD) Project provides the Joint Force the ability to recover from exposure to chemical and biological hazards and quickly return to the fight. Efforts include development of FDA approved medical countermeasures (MCMs) to protect the lives and maintain the battle readiness of the Warfighter. Efforts also provide safe, effective MCMs to enable Warfighter recovery and return to duty after exposure to chemical threat agents, and reduce logistics needs of decontamination methods with operationally-relevant test methods and allows personnel to reduce MOPP levels as rapidly as possible. Activities in this project realize considerable efficiencies through cost sharing agreements.

Efforts included in this Project are:

(1) Alternative Autoinjector Manufacturer Capability (AUTOINJ),
(2) Antiviral Therapeutics Program (AV TX),
(3) Countering Emerging Threats Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR),
(4) Countering Emerging Threats Rapid Acquisition and Investigation of Drugs for Repurposing-Enhanced Biodefense (CET RAIDR-ENBD),
(5) Decontamination Family of Systems Contamination Indicator Decontamination Assurance System (DFoS CIDAS BLISTER),
(6) Forward Area Mobility Spray - System (FAMS-S),
(7) Improved Nerve Agent Treatment System Centrally Acting (INATS CA), and
(8) Services Equipment Decontamination System (SEDS)

The AUTOINJ program provides for FDA approved alternative source(s) for autoinjectors that deliver DoD nerve agent antidote and treatment capabilities to the warfighter; thereby mitigating capability fielding and operational readiness risks. This program augments legacy autoinjectors, ATNAA, 2-PAM, and Convulsant Antidote for Nerve Agents (CANA) by providing alternative commercial sources which includes Dual Drug Delivery Device (D4), the Atropine Auto-Injector, and an anticonvulsant autoinjector. In FY23, AUTOINJ will submit to the FDA an Emergency Use Authorization package for D4, submit New Drug Application packages to the FDA for D4 and Alternative-Diazepam, initiate activities for a wet-dry atropine autoinjector that provides an extended shelf-life compared to the fielded FDA approved Atropine Auto-Injector, and initiate activities for an Alternative-Midazolam (anticonvulsant) autoinjector.

The AV TX program will develop and deliver FDA approved antiviral therapeutics for the warfighter. Based on the current gap in defense to the warfighter, the initial therapeutic candidate is now for a treatment against the Marburg virus in lieu of Ebola Zaire to follow for approval of a PanFilo therapeutic. Other pathogens on the biological warfare threat lists, including viruses of interest from Filoviridae, Arenaviridae, Bunyaviridae, and Flaviviridae, are targets of future interest. Developed broad spectrum antiviral therapeutics will be employed after suspected or confirmed exposure to the relevant threat agents and AVTX Medical Countermeasures (MCMs)

will ameliorate the effect of threat agents to the warfighter. In the event of a natural occurring outbreak, antiviral therapeutics can be provided to ensure freedom of operation. FY23 funding is required for completion of efficacy studies and to prepare Food and Drug Administration (FDA) approval package.

The CET RAIDR program will develop repurposed drugs as medical countermeasures towards known, potential, and unknown and emerging threats, bridging the gap from when a threat is identified until targeted countermeasures such as vaccines are available. CET RAIDR will leverage lessons learned in Coronavirus Aid, Relief, and Economic Security (CARES) Act funded efforts under Coronavirus Disease (COVID) Repurposed Therapeutics (CR TX) and address advanced development portion of Science and Technology (S&T) efforts from Development of Medical Countermeasures Against Novel Entities (DOMANE) program for new and emerging threats. FY23 CET RAIDR funding is required to ensure development of up to two FDA-approved or late-stage products for repurposing against chemical and biological medical indications. The FY23 CET RAIDR-ENBD funding enables the development of at least two FDA-approved or late stage products for repurposing against chemical and biological medical indications.

The DFoS CIDAS Blister program addresses traditional blister agents, two separate threat scenarios that require different materiel solutions, modernizing a key capability to help build a more lethal force, as outlined in the National Defense Strategy. In FY23, Program will award contract option with prime contractor to acquire 200 SSA Blister Kits and 45 LSA Blister Kits to complete DT, conduct System Verification Review (SVR), Production Readiness Review (PRR), Functional Configuration Audit (FCA) and Logistics Demonstration, as well as award Low-Rate Initial Production (LRIP) option for production representative kits for 25 SSA-B kits and 30 LSKB kits in support of Operational Test planned for 4QFY23.

The FAMS-S will provide Special Operations Forces (SOF) and SOF Task Forces (SOTFs) with transportable, rapidly-deployable decontamination systems in three variants: man-portable, small vehicle-mounted, and large vehicle-mounted systems to rapidly decontaminate chemical and biological (CB) agents from the exterior of vehicles and support equipment to a level that is clean enough for re-use during missions without the need for donning CB personal protective equipment. This will maximize tactical flexibility and fighting strength while minimizing the logistical burden and the cost of conducting Countering Weapons of Mass Destruction (CWMD) and CB operations. The FAMS-S will be developed using a Middle Tier Acquisition (MTA) approach. In FY23, FAMS-S completes prototype refinement and the developmental and operational testing phase.

The INATS CA program will develop the centrally-acting anticholinergic, scopolamine, to increase survivability and decrease morbidity following exposure to toxic nerve agents. When added to currently fielded nerve agent treatments, scopolamine will improve overall medical outcomes and will be available in both a vial for use at definitive care, and in an autoinjector for use in the field. INATS CA includes modernization of Soman Nerve Agent Pretreatment Pyridostigmine (SNAPP; pyridostigmine bromide [PB] tablets). In FY23, INATS CA will complete nonclinical work to refine the efficacious dose, complete functional and environmental testing for the autoinjector, and begin manufacture of cGMP registration lots. Interaction with the FDA under PL115-92 will occur during nonclinical testing and autoinjector development.

The SEDS program will develop reliable and modular hardware intended to decontaminate military equipment in operational environments including personal effects, and weapons to pre-contamination conditions. This capability is needed to sustain the Joint Force military by reducing logistical burden to increase tactical agility and sustain a resilient force posture, and align with the National Defense Strategy. SEDS will provide contamination mitigation capabilities for critical equipment that have been exposed to chemical and biological contamination and achieve efficacy levels that allow unprotected post-decontamination exposures for long periods with less

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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than negligible severity effects. In FY23, the Program will conduct MS B activities for Special Operation Forces (SOF) and Other Services, award contract to conduct EMD testing, conduct Preliminary Design Review (PDR) for SOF and prepare for Operational Assessment for SOF and EDT for Other Services.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) CET RAIDR ***Description:*** Pandemic Preparedness ***FY 2023 Plans:*** Continue advanced development of up to two (2) FDA-approved and late-stage products for repurposing against CBRN indications. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($8.000 Million) remains in MB5.	-	-	7.871
Title: 2) CET RAIDR - Enhanced Biodefense (ENBD) ***Description:*** This effort will focus on Advanced Development Host Response Study ***FY 2023 Plans:*** Initiate nonclinical studies to evaluate FDA-approved and/or late-stage products to repurpose as a CBRN Medical Countermeasure. Studies will generate safety and efficacy data to support the use of the tested product against a new CBRN threat. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	8.500
Title: 3) AUTOINJ ***Description:*** FDA Coordination ***FY 2023 Plans:*** Submit FDA application for D4 and ALT- Diazepam. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($1.000 Million) remains in MC5.	-	-	0.656
Title: 4) AUTOINJ ***Description:*** Wet/Dry Development ***FY 2023 Plans:***	-	-	3.766

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Initiate development of a Wet/Dry atropine autoinjector. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase due to change in program/project schedule. The Wet/Dry Atropine activity starts in FY23.			
Title: 5) AUTOINJ ***Description:*** Alt Midazolam Development ***FY 2023 Plans:*** Initiate development of a Alt Midazolam autoinjector. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase due to change in program/project schedule. The Alt Midazolam activity of AUTOINJ starts in FY23.	-	-	10.304
Title: 6) DFoS CIDAS BLISTER ***Description:*** Blister Indicator Kits and Large Scale Applicators ***FY 2023 Plans:*** Award contract option with prime contractor to acquire 200 SSA Blister Kits and 45 LSA Blister Kits to complete DT. Conduct System Verification Review (SVR), Production Readiness Review (PRR), Functional Configuration Audit (FCA) and Logistics Demonstration. Award Low-Rate Initial Production (LRIP) option for production representative kits for 25 SSA-B kits and 30 LSKB kits in support of Operational Test planned for 4QFY23. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($2.840 Million) remains in DE5.	-	-	3.681
Title: 7) Forward Area Mobility Spray - System ***Description:*** Prototype Development ***FY 2023 Plans:*** Complete engineering and manufacturability development for the man-portable FAMS-S variant; complete developmental and operational testing for the vehicle-mounted prototypes to include chemical and biological decontamination level assessment, systems engineering and integration with vehicle platforms, and operational suitability and safety testing. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	-	2.967

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred from another Project due to budget restructure. FY22 funding ($2.743 Million) remains in DE5. Increase due to change in program/project technical parameters. Program completing prototype refinement and completing developmental and operational testing phase in FY23.			
Title: 8) Improved Nerve Agent Treatment System Centrally Acting (INATS CA) ***Description:*** Clinical ***FY 2023 Plans:*** Complete drug/drug interaction clinical safety study. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY22 funding remains in MC5. Phase 2 study initiates in FY22.	-	-	5.101
Title: 9) Improved Nerve Agent Treatment System Centrally Acting (INATS CA) ***Description:*** Manufacturing/Auto-Injector ***FY 2023 Plans:*** Continue Auto-Injector Development and manufacturing activities of the drug product and autoinjector device. Initiate manufacture of GMP registration lots. Initiate stability studies. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($5.423 Million) remains in MC5.	-	-	14.815
Title: 10) Improved Nerve Agent Treatment System Centrally Acting (INATS CA) ***Description:*** Non-Clinical ***FY 2023 Plans:*** Complete Non-Clinical Animal Studies. Complete Pivotal Animal Efficacy Studies. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($20.142 Million) remains in MC5. Decrease due to completion of Animal Studies and Efficacy Studies.	-	-	3.063
Title: 11) Service Equipment Decontamination System (SEDS)	-	-	2.995

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: Engineering, Manufacturing and Development (EMD) activities and Product Development ***FY 2023 Plans:*** Conduct MS B activities for Special Operation Forces (SOF) and Other Services. Award contract to conduct EMD testing. Conduct Preliminary Design Review (PDR) for SOF. Prepare for Operational Assessment for SOF and EDT for Other Services. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project transitioned to Engineering and Manufacturing Development Phase. FY23 is the first year of budget activity 5 funding.			
Title: 12) Antiviral Therapeutics Program (AV TX) ***Description:*** Enabling Technologies ***FY 2023 Plans:*** Complete efficacy studies and prepare Food and Drug Administration (FDA) approval package. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($14.476 Million) remains in MB5. Decrease in costs of efficacy studies.	-	-	10.506
Accomplishments/Planned Programs Subtotals	-	-	74.225

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• MT4: *Mitigate (ACD&P)*	0.000	0.000	20.986	-	20.986	13.556	12.702	20.846	18.167	Continuing	Continuing
• DE5: *Decontamination (SDD)*	17.274	7.874	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	25.148
• MB5: *Medical Biological Defense (SDD)*	117.157	137.348	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	254.505
• MC5: *Medical Chemical Defense (SDD)*	52.505	50.362	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	102.867
• MC7: *Medical Chemical Defense (Op Sys Dev)*	1.754	1.336	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	3.090
• MT7: *Mitigate (Op Sys Dev)*	0.000	0.000	5.098	-	5.098	3.879	6.747	4.360	3.419	Continuing	Continuing
• JD0050: *DECONTAMINATION FAMILY OF SYSTEMS (DFoS)*	11.474	4.166	5.795	-	5.795	8.562	8.673	8.820	18.518	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PHM007: *SERVICE EQUIPMENT DECONTAMINATION SYSTEM (SEDS)*	0.000	0.000	0.000	-	0.000	5.451	6.483	8.483	10.931	Continuing	Continuing
• PHM025: *FORWARD AIR MOBILITY SPRAY SYSTEM (FAMS-S)*	0.000	0.000	4.607	-	4.607	4.824	4.724	4.724	4.724	Continuing	Continuing
• PHM040: *IMPROVED NERVE AGENT TREATMENT CENTRALLY ACTING (INATS CA)*	0.000	0.000	0.000	-	0.000	0.000	0.000	31.888	33.051	Continuing	Continuing

Remarks

D. Acquisition Strategy

COUNTERING EMERGING THREATS RAPID ACQUISITION AND INVESTIGATION OF DRUGS FOR REPURPOSING (CET RAIDR)

The Countering Emerging Threats - Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR) program will leverage lessons learned from the COVID-19 response to conduct nonclinical studies and/or clinical trials to evaluate FDA-approved and late-stage development products against CBRN threats. Data generated from these efforts will be used to support a future interim capability, such as repurposing reports to inform Clinical Practice Guidelines (CPGs), pre-Emergency Use Authorizations (pre-EUAs) to stage products in preparation for emergencies, EUAs to rapidly treat warfighters once an emergency is declared, and data for potential new approved FDA indications. This program is funded under both CET RAIDR and CET RAIDR-ENBD.

ALTERNATE AUTOINJECTOR MANUFACTURER CAPABILITY (AUTOINJ)

The Alternative Autoinjector Manufacturer Capability (AUTOINJ) will identify an alternative source(s) to develop and provide required FDA-approved autoinjector-delivered nerve agent antidote and treatment capabilities to the DoD. The AUTOINJ effort leverages novel technologies and industrial base expansion in order to develop the autoinjector products. AUTOINJ uses contracts and Other Transactional Agreements (OTAs) in which the performer shall be responsible for conducting development and testing activities consistent with current Food and Drug Administration (FDA) regulations. The contractor shall sponsor the combination product to the FDA and hold all approvals and/or licenses. Upon FDA approval, purchases for product sustainment will be made by the Defense Logistics Agency.

DFoS CONTAMINATION INDICATOR DECON ASSURANCE SPRAY BLISTER (DFoS CIDAS BLISTER)

The DFoS CIDAS Blister program will follow an evolutionary acquisition strategy. The program office coordinated with Science and Technology efforts to identify blister technologies that met Service requirements. After further development, in 4QFY19 a sole-source performance based indefinite delivery indefinite quantity contract was

awarded to develop blister indicator and small scale applicator systems with options for production. The program will leverage the contract to procure blister indicator kits and conduct test and evaluation events for the EMD phase in preparation of MS C/FRP.

FORWARD AREA MOBILITY SPRAY SYSTEM (FAMS-S)

The FAMS-S will be developed using Middle Tier Acquisition (MTA) to advance decontamination technology and capability for Special Operations Forces (SOF) and Special Operations Task Forces (SOTF) application to tactical and strategic platforms in accordance with MTA authorities and regulations and the Capability Development Document (CDD). FAMS-S will reduce technological risk by reviewing existing materials and technologies as well as designs, configurations, and test data from mature legacy and commercial decontamination systems. The program will utilize the CWMD Other Transaction Authority (OTA) agreement to competitively award projects to three vendors for the man-portable and three vendors for the vehicle-mounted variants followed by a prototype down-select. The program will perform technical evaluations, undergo developmental and operational testing, and early user assessments to inform the final prototype design across each variant in preparation for the man-portable variant production decision in FY23.

IMPROVED NERVE AGENT TREATMENT CENTRALLY ACTING (INATS CA)

In the Technology Maturation and Risk Reduction (TM&RR) phase, close collaborations will occur with the science and technology (S&T) and user communities to assess technical viability, capability delivery options, and to refine operational concepts; the Government will be the systems integrator overseeing the conduct of centrally acting formulation development efforts, nonclinical toxicology and efficacy studies and clinical safety studies. In the Engineering and Manufacturing Development (EMD) phase, the Government will engage with commercial partner(s) to ensure that development and manufacture is in accordance with Food and Drug Administration (FDA) regulations.

For scopolamine autoinjector development INATS CA uses contracts and Other Transactional Agreements (OTAs) in which the performer shall be responsible for conducting development and testing activities consistent with current FDA regulations. The contractor shall sponsor the combination product to the FDA and hold all approvals and/or licenses. Upon FDA approval, a follow-on procurement agreement will be used to procure initial operational capability (IOC) / full operational capability (FOC).

The Soman Nerve Agent Pre-Treatment Pyridostigmine (SNAPP) effort under INATS CA is a modernization effort for pyridostigmine bromide (PB) tablet requirements from the joint service users for the FDA approved SNAPP product. The effort uses OTAs for conducting development and testing activities consistent with current FDA regulations.

SERVICE EQUIPMENT DECONTAMINATION SYSTEM (SEDS)

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The SEDS program will utilize the Countering Weapons of Mass Destruction Other Transaction Authority (CWMD OTA) to design and develop state of the art equipment using competitive and iterative prototyping. The program will test prototypes against live chemical warfare agents and biological warfare agents, conduct reliability, availability, and maintainability testing, conduct regular user evaluations to identify human system integration issues, and will conduct testing to ensure the system meets military standards. The program achieved a Milestone A decision in 4QFY21. The OTA vehicle will be used to request prototype development. Completed Request for Prototype Proposals (RPP) followed by award of Prototype Agreement. Started Developmental Testing (DT), and have a planned Milestone B approval in FY23 for the United States Special Operations Command (SOCOM) and Joint Service variant.

ANTI-VIRAL THERAPEUTICS (AV TX)

The Anti-viral Therapeutics (AVTX) program acquisition strategy supports the development of therapeutics through the Engineering, Manufacturing and Development (EMD) phase against the Ebola (Zaire), Marburg and Sudan bio warfare threats. The initial therapeutic candidate is now for a treatment against the Marburg virus in lieu of Ebola Zaire based on the current gap in defense to the warfighter. The overall regulatory approach of the program remains to pursue development of products to Food and Drug Administration (FDA) approval under the Animal Rule that was approved as the path, by the FDA in 1QFY19. The program completed a dose ranging study for the Ebola Zaire indication and initiated a Natural History Study for Marburg that is part of the holistic FDA regulatory approach for a final indication of a broad spectrum antiviral pan filo drug product. A natural history study for Marburg and Sudan and 3 pivotal animal studies per indication are required as part of the animal rule requirements for the FDA) approved plan. The acquisition strategy for Marburg and Sudan indications will have the performer submitting amended New Drug applications for the therapeutics during the EMD phase.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CET RAIDR-ENBD - Nonclinical Studies	Various	Various : Various	0.000	0.000		0.000		7.268	Dec 2022	0.000		7.268	Continuing	Continuing	0.000
AUTOINJ - Midazolam Autoinjector	Various	TBD : N/A	0.000	0.000		0.000		7.994	Jan 2023	0.000		7.994	Continuing	Continuing	0.000
AUTOINJ - Wet/Dry Atropine Autoinjector	Various	TBD : N/A	0.000	0.000		0.000		2.362	Jan 2023	0.000		2.362	Continuing	Continuing	0.000
AUTOINJ - AUTOINJ Product Development	Various	Various : Various	0.000	0.000		0.000		1.405	Dec 2022	0.000		1.405	Continuing	Continuing	0.000
DFoS CIDAS BLISTER - HW S - Small and Large Scale Applicators/Kits	SS/FPIF	FLIR Systems : Inc., Stillwater, OK	0.000	0.000		0.000		0.992	Dec 2022	0.000		0.992	Continuing	Continuing	0.000
FAMS-S - HW S - System Development and Prototype Refinement	C/CPIF	ATI Solutions : Inc., Tysons Corner, VA	0.000	0.000		0.000		1.500	May 2023	0.000		1.500	Continuing	Continuing	0.000
INATS CA - INATS CA Product Development	Various	Various : Various	0.000	0.000		0.000		1.329	Dec 2022	0.000		1.329	Continuing	Continuing	0.000
INATS CA - HW C - Clinical	C/CPFF	Battelle Memorial Institute : Columbus, OH	0.000	0.000		0.000		2.143	Dec 2022	0.000		2.143	Continuing	Continuing	0.000
INATS CA - HW C - Manufacturing	C/FFP	Aktivax : Boulder, CO	0.000	0.000		0.000		11.008	Dec 2022	0.000		11.008	Continuing	Continuing	0.000
INATS CA - HW C - Non-Clinical	C/CPFF	Battelle Memorial Institute : Columbus, OH	0.000	0.000		0.000		3.904	Nov 2022	0.000		3.904	Continuing	Continuing	0.000
SEDS - HW C - SEDS Prototypes	C/FFP	TBD : N/A	0.000	0.000		0.000		1.450	May 2023	0.000		1.450	Continuing	Continuing	0.000
AV TX - Nonclinical Trials - OTA	C/FP	Gilead Sciences : San Francisco, CA	0.000	0.000		0.000		10.506	Dec 2022	0.000		10.506	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		51.861		0.000		51.861	Continuing	Continuing	N/A

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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS CIDAS BLISTER - TD/D S - IPT and Technical Support	MIPR	Various : Various	0.000	0.000		0.000		0.656	Dec 2022	0.000		0.656	Continuing	Continuing	0.000
FAMS-S - ES S - Systems Engineer/Technical SME Support	MIPR	Various : Various	0.000	0.000		0.000		0.750	Dec 2022	0.000		0.750	Continuing	Continuing	0.000
SEDS - ES SB - Logistics, Engineering and IPT Support	MIPR	Various : Various	0.000	0.000		0.000		0.900	Mar 2023	0.000		0.900	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		2.306		0.000		2.306	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CET RAIDR - DTE C - Non-Clinical and Clinical Studies	Various	Various : Various	0.000	0.000		0.000		6.964	Dec 2022	0.000		6.964	Continuing	Continuing	0.000
DFoS CIDAS BLISTER - DFoS CIDAS BLISTER - OTHT S - DT/OT	MIPR	Various : Various	0.000	0.000		0.000		1.750	Dec 2022	0.000		1.750	Continuing	Continuing	0.000
FAMS-S - DTE SB - Decon Solution Analysis	Various	TBD : N/A	0.000	0.000		0.000		0.288	Jan 2023	0.000		0.288	Continuing	Continuing	0.000
SEDS - DTE C - SEDS - OTHT S - SEDS T&E IPR Test Planning	MIPR	Various : Various	0.000	0.000		0.000		0.425	Mar 2023	0.000		0.425	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		9.427		0.000		9.427	Continuing	Continuing	N/A

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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CET RAIDR - PM/MS SB - Program Management	Various	Various : Various	0.000	0.000		0.000		0.907	Dec 2022	0.000		0.907	Continuing	Continuing	0.000
CET RAIDR-ENBD - PM - Program Management	Various	Various : Various	0.000	0.000		0.000		1.232	Dec 2022	0.000		1.232	Continuing	Continuing	0.000
AUTOINJ - JPM/JPEO Management Services	Various	Various : Various	0.000	0.000		0.000		2.965	Dec 2022	0.000		2.965	Continuing	Continuing	0.000
DFoS CIDAS BLISTER - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.000		0.000		0.283	Dec 2022	0.000		0.283	Continuing	Continuing	0.000
FAMS-S - PM/MS S - Indirect Program Management	MIPR	Various : Various	0.000	0.000		0.000		0.429	Dec 2022	0.000		0.429	Continuing	Continuing	0.000
INATS CA - JPM/JPEO Management Services	Various	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	0.000		0.000		4.595	Dec 2022	0.000		4.595	Continuing	Continuing	0.000
SEDS - PM/MS C - SEDS - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.000		0.000		0.220	Mar 2023	0.000		0.220	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		10.631		0.000		10.631	Continuing	Continuing	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		74.225		0.000		74.225	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

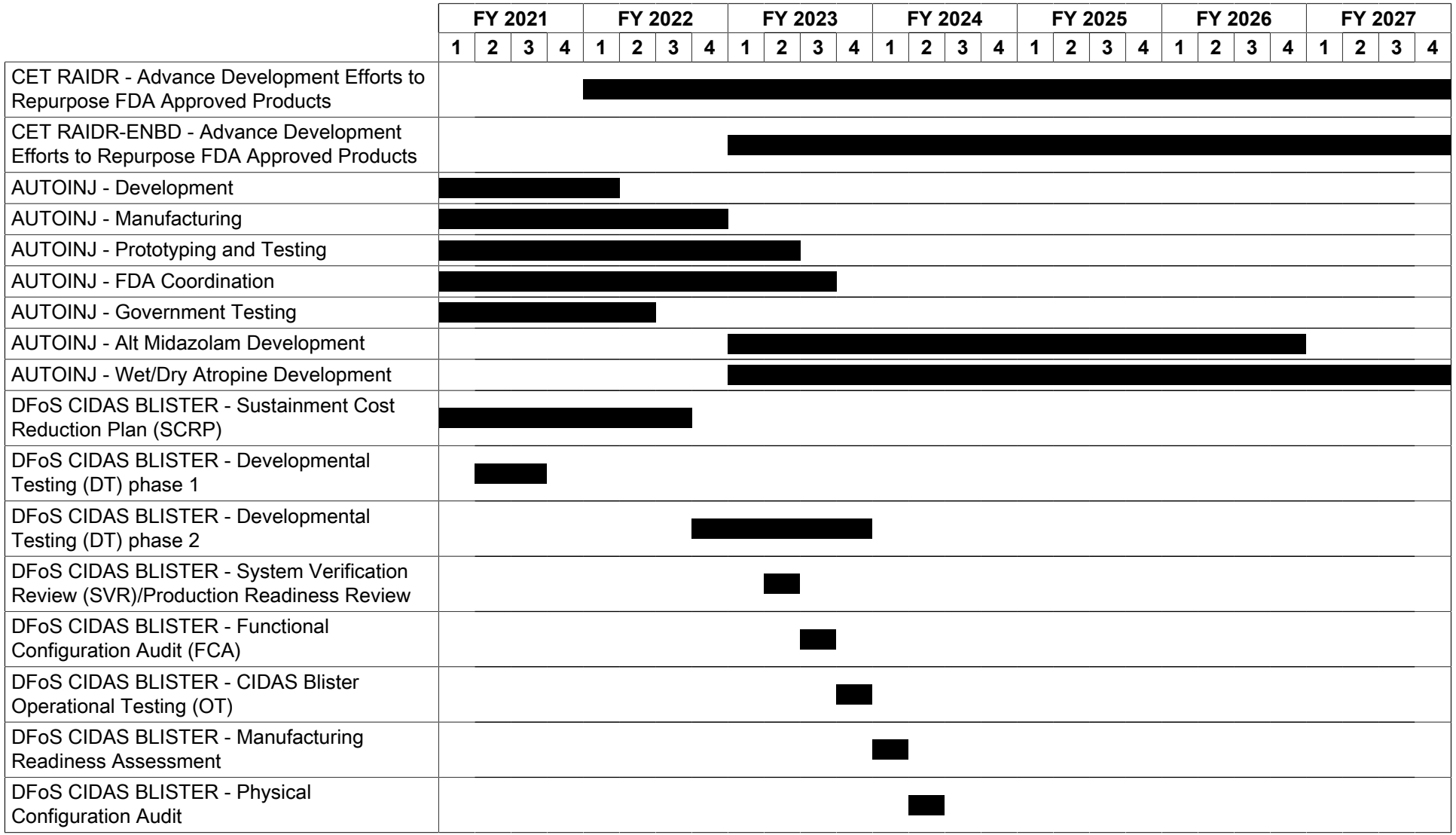

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

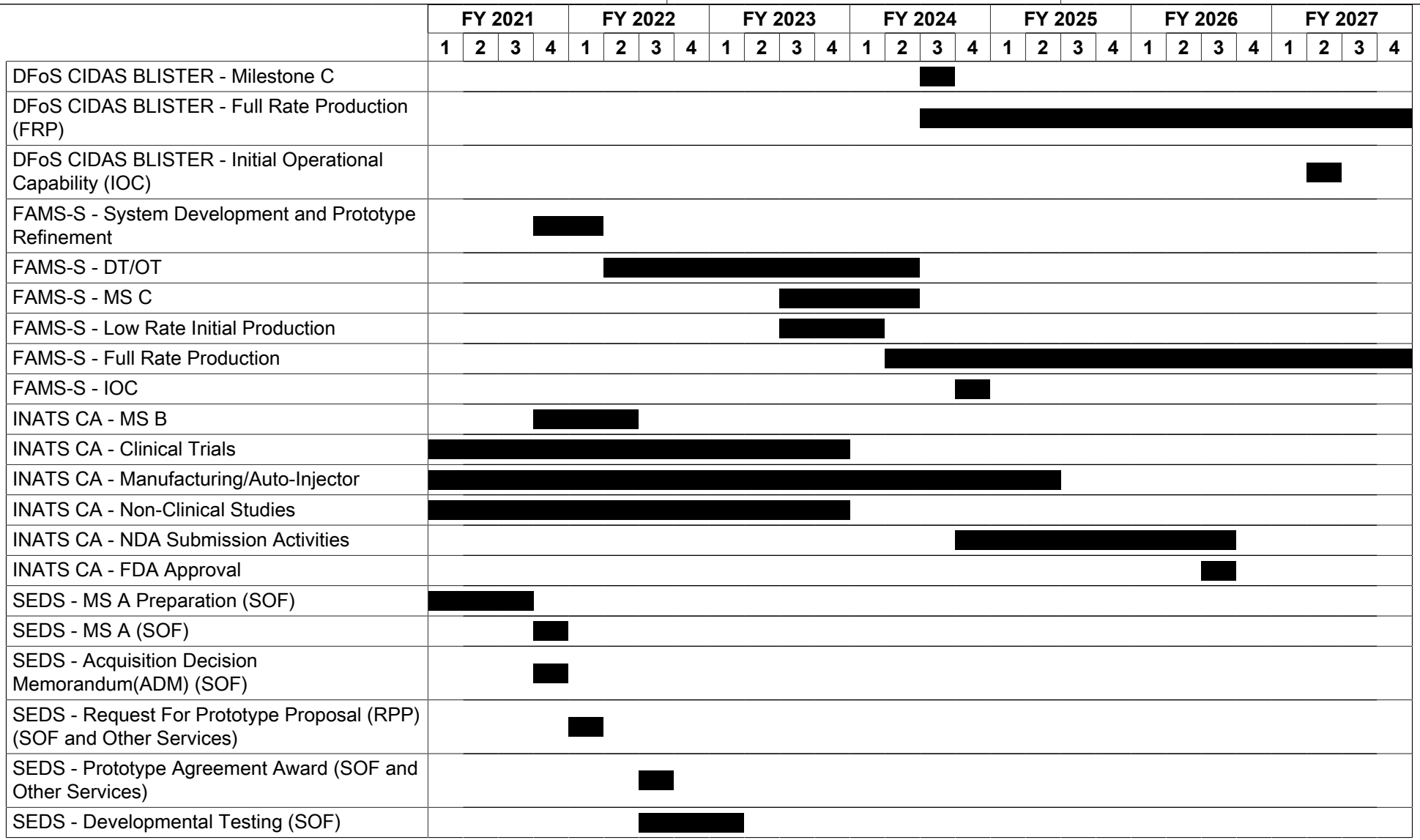

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

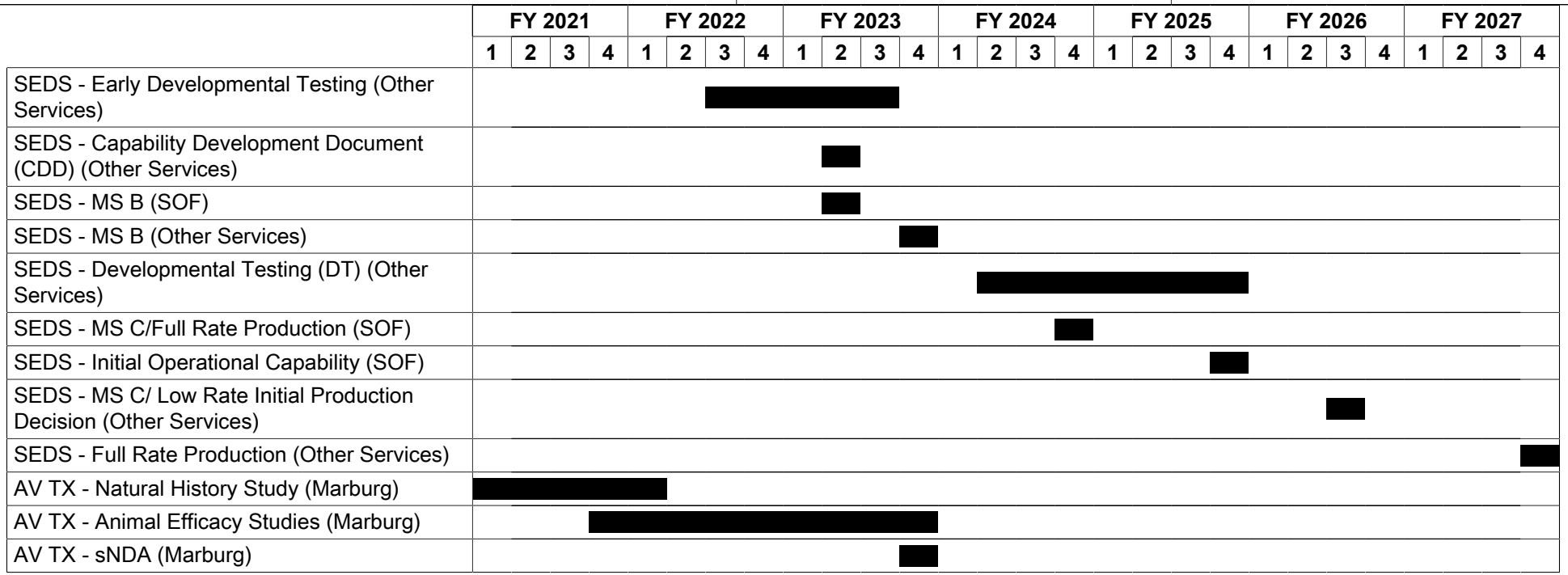

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CET RAIDR - Advance Development Efforts to Repurpose FDA Approved Products	1	2022	4	2027
CET RAIDR-ENBD - Advance Development Efforts to Repurpose FDA Approved Products	1	2023	4	2027
AUTOINJ - Development	1	2021	1	2022
AUTOINJ - Manufacturing	1	2021	4	2022
AUTOINJ - Prototyping and Testing	1	2021	2	2023
AUTOINJ - FDA Coordination	1	2021	3	2023
AUTOINJ - Government Testing	1	2021	2	2022
AUTOINJ - Alt Midazolam Development	1	2023	4	2026
AUTOINJ - Wet/Dry Atropine Development	1	2023	4	2027
DFoS CIDAS BLISTER - Sustainment Cost Reduction Plan (SCRP)	1	2021	3	2022
DFoS CIDAS BLISTER - Developmental Testing (DT) phase 1	2	2021	3	2021
DFoS CIDAS BLISTER - Developmental Testing (DT) phase 2	4	2022	4	2023
DFoS CIDAS BLISTER - System Verification Review (SVR)/Production Readiness Review	2	2023	2	2023
DFoS CIDAS BLISTER - Functional Configuration Audit (FCA)	3	2023	3	2023
DFoS CIDAS BLISTER - CIDAS Blister Operational Testing (OT)	4	2023	4	2023
DFoS CIDAS BLISTER - Manufacturing Readiness Assessment	1	2024	1	2024
DFoS CIDAS BLISTER - Physical Configuration Audit	2	2024	2	2024
DFoS CIDAS BLISTER - Milestone C	3	2024	3	2024
DFoS CIDAS BLISTER - Full Rate Production (FRP)	3	2024	4	2027
DFoS CIDAS BLISTER - Initial Operational Capability (IOC)	2	2027	2	2027
FAMS-S - System Development and Prototype Refinement	4	2021	1	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FAMS-S - DT/OT	2	2022	2	2024
FAMS-S - MS C	3	2023	2	2024
FAMS-S - Low Rate Initial Production	3	2023	1	2024
FAMS-S - Full Rate Production	2	2024	4	2027
FAMS-S - IOC	4	2024	4	2024
INATS CA - MS B	4	2021	2	2022
INATS CA - Clinical Trials	1	2021	4	2023
INATS CA - Manufacturing/Auto-Injector	1	2021	2	2025
INATS CA - Non-Clinical Studies	1	2021	4	2023
INATS CA - NDA Submission Activities	4	2024	3	2026
INATS CA - FDA Approval	3	2026	3	2026
SEDS - MS A Preparation (SOF)	1	2021	3	2021
SEDS - MS A (SOF)	4	2021	4	2021
SEDS - Acquisition Decision Memorandum(ADM) (SOF)	4	2021	4	2021
SEDS - Request For Prototype Proposal (RPP) (SOF and Other Services)	1	2022	1	2022
SEDS - Prototype Agreement Award (SOF and Other Services)	3	2022	3	2022
SEDS - Developmental Testing (SOF)	3	2022	1	2023
SEDS - Early Developmental Testing (Other Services)	3	2022	3	2023
SEDS - Capability Development Document (CDD) (Other Services)	2	2023	2	2023
SEDS - MS B (SOF)	2	2023	2	2023
SEDS - MS B (Other Services)	4	2023	4	2023
SEDS - Developmental Testing (DT) (Other Services)	2	2024	4	2025
SEDS - MS C/Full Rate Production (SOF)	4	2024	4	2024
SEDS - Initial Operational Capability (SOF)	4	2025	4	2025
SEDS - MS C/ Low Rate Initial Production Decision (Other Services)	3	2026	3	2026

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SEDS - Full Rate Production (Other Services)	4	2027	4	2027
AV TX - Natural History Study (Marburg)	1	2021	1	2022
AV TX - Animal Efficacy Studies (Marburg)	4	2021	4	2023
AV TX - sNDA (Marburg)	4	2023	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) PT5 / *Protect (SDD)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
PT5: *Protect (SDD)*	-	0.000	0.000	96.860	-	96.860	98.427	78.868	48.793	35.494	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Protect System Development & Demonstration (SDD) Project enhances mission performance and provides effective protection against current and emerging threats by rapidly developing and fielding modernized protection capabilities. Developmental efforts focus on advances in materials and systems engineering to enhance protective properties against a broader array of hazards, while reducing CWMD operational challenges and logistical burdens. Developmental efforts focus on advanced medical countermeasures that provide safe and effective medical defenses against biological agents (bacteria, toxins, and viruses), emerging infectious diseases, and chemical agents.

Efforts included in this Project are:

(1) Botulinum Monoclonal Antibodies (BOT MAB),
(2) Uniform Integrated Protection Ensemble Family of Systems Air (UIPE FOS AIR),
(3) UIPE FOS General Purpose (UIPE FOS GP),
(4) UIPE FOS Gloves (UIPE FOS GLOVES),
(5) Special Immunizations Program (VAC SIP) ,
(6) Advanced System for Protection and Integrated Reduction of Encumbrances-Enhanced Biodefense (ASPIRE-ENBD) ,
(7) Collective Protection Conex-Enhanced Biodefense (COL PRO CONEX-ENBD), and
(8) Portable Biocontainment Patient Transport System-Enhanced Biodefense (PPTS-ENBD)

The BOT MAB program was initiated by the Medical Countermeasure Platform Technologies (MCMPT). The goal of BOT MAB advanced development effort is to counter exposure to BOT A & B toxins. The program is leveraging the advanced platform technology developed within the DoD's Advanced Development Manufacturing (ADM) facility that was initiated by the MCMPT. The BOT MAB will be a monoclonal antibody cocktail that protects the warfighter against exposure to BOT A&B serotypes. FY23 funding is required to ensure large scale Good Manufacturing Practices (GMP) and execution product/process characterization /validation meets schedule.

The UIPE FoS Air program will provide the Warfighter percutaneous protection from operationally relevant traditional and non-traditional Chemical, Biological, Radiological, Nuclear (CBRN) threats. UIPE FoS Air will improve aircrew performance and survivability under CBRN conditions by reducing thermal burden and bulk, while increasing mobility and resulting in an increase operational effectiveness. The UIPE FoS Air is composed of two variants. The UIPE FoS Air Chemical, Biological, Radiological Layer (CBRL) to address the specific requirements of the United States Air Force (USAF) tactical/ejection fixed wing platforms and the Two Piece Undergarment (2PUG) to address the remaining USAF and United States Navy / United States Marine Corps tactical/ejection seat (rotary wing) and non-ejection

(fixed wing) platforms. In FY23, UIPE FoS Air will finalize EMD testing and conduct integration testing on 40+ USAF, USN, and USMC platforms for airworthiness, safe to fly and final flight clearance.

UIPE FoS GP is part of a family of systems that will give the Warfighter percutaneous protection from operationally relevant traditional, non-traditional, and advanced CBRN/Toxic Industrial Material (TIM) threats likely to be encountered during joint force operations. The legacy chemical biological garment is nearing the end of its service life and does not meet updated requirements such as emerging threats, aerosol protection, and flame resistance. The UIPE FoS GP is a two-piece lightweight (compared to the legacy system) duty uniform replacement that has an aerosol liner, is flame resistant, and does not reduce Warfighter effectiveness in the areas of mobility and thermal burden. In FY23, UIPE FoS GP will conduct System Verification Review, complete MOT&E, award production contract, and conduct Production Verification Testing (PVT). In FY23, UIPE FoS GP program will obtain a MS C Low Rate Initial Production decision and conduct a Multi-Service Operational Test and Evaluation.

UIPE FoS Gloves provides percutaneous protection to the hand and wrist interface of the warfighter against traditional and non-traditional CBRN threats. UIPE FoS Gloves will provide improved comfort, tactility and dexterity and for certain mission profiles enhanced touch screen and flame resistant capability. The UIPE FoS Gloves will be developed using a Middle Tier Acquisition (MTA) approach. In FY23 the UIPE FoS Gloves program will continue to conduct prototype development on multiple prototypes for multiple mission profiles (General Purpose, Aviation Heavy and Aviation Light).

The SIP continually manages, updates, and executes the Investigational New Drugs (INDs) of selected prophylaxis, treatments and diagnostics development products which provide additional protection to individuals that are at high risk of exposure to CBRN agents. These vaccines will be used to provide additional levels of protection to laboratory workers conducting research. DoD has the mission to maintain IND vaccines in Good Manufacturing Practice (GMP) storage and to conduct the periodic potency and stability testing of these materials to support submissions to the FDA. In FY23 SIP continues storage, distribution, potency testing, and biosurety compliance activities.

ASPIRE-ENBD, a new start program in FY23, supports unencumbering warfighters and revolutionizing respiratory and ocular protection against CBRN threats, including protection from biological, toxic industrial chemicals, and other emerging threats. ASPIRE provides a revolutionary new capability to address interface issues with new and emerging equipment. ASPIRE will unencumber the warfighter while still providing respiratory and ocular protection against CBRN agents, provide durable and extended wear capability, and incorporate anti-microbial materials to develop a reusable respirator. The solution will be optimized to minimize impact on the wearer's performance to continue lethality in CB environment by reducing burden, improving filtration capability, utilizing powered and supplied air systems as required, and integrate with existing and future equipment that cannot be integrated with current mask systems. ASPIRE will provide a revolutionized capability to the Services for the next generation of respiratory and ocular protection. The ASPIRE Enhanced Biodefense effort will develop half masks / bio-masks that are low-burden, provide protection against bio threats, and are designed as a reusable system with modularity and/or scalability for additional ocular protection.

COL PRO CONEX-ENBD, a new start program in FY23, will provide rest and relief for aircrew in a Chemical, Biological, Radiological, and Nuclear (CBRN) environment. The CPC CBRN defense system provides an isolation area to treat infectious personnel and protecting embarked crew from infection. It is a modified container/Conex box that can be transported to host platform with minimal setup.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

The PPTS-ENBD, a new start program in FY23, is a patient transport system that enables safe transport of asymptomatic, symptomatic, or infected patients while ensuring that the medical attending personnel and platform crew members are protected from exposure.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) ASPIRE - Enhanced Biodefense (ENBD) ***Description:*** This effort will focus on Low Burden Half Mask ***FY 2023 Plans:*** Award CWMD OTA task for development of biodefense half-masks and start first round of prototype evaluations. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	1.600
Title: 2) COL PRO CONEX - Enhanced Biodefense (ENBD) ***Description:*** This effort will focus on Collective Protection CONEX (CPC) which is a Chemical, Biological, Radiological, and Nuclear (CBRN) defense system that provides an isolation area to treat infectious personnel and protecting embarked crew from infection. It is a modified container/Conex box that can be transported to host platform with minimal setup. ***FY 2023 Plans:*** Complete concept design, system planning and conduct an initial concept demonstration. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	1.900
Title: 3) PPTS - Enhanced Biodefense (ENBD) ***Description:*** This effort will focus on Portable Biocontainment Patient Transport System (PPTS) which is a patient transport system that enables safe transport of asymptomatic, symptomatic, or infected patients while ensuring that the medical attending personnel and platform crew members are protected from exposure. ***FY 2023 Plans:*** Complete concept design and test strategy development. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	4.200
Title: 4) Botulinum Monoclonal Antibodies (BOT MAB) ***Description:*** Manufacturing	-	-	37.741

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY 2023 Plans: Continue large scale Good Manufacturing Practices (GMP) and execute product/process characterization and validation required. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($33.000 Million) remains in MB5. Increase is due to cost increase in the production of manufacturing runs.			
Title: 5) Botulinum Monoclonal Antibodies (BOT MAB) ***Description:*** Clinical and Nonclinical Studies ***FY 2023 Plans:*** Obtain results from the Phase 2 clinical trial and along with the pivotal animal studies and initiate Phase 3 clinical study, and continue manufacturing for PPQ lots to support clinical study and IOC. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($27.723 Million) remains in MB5.	-	-	27.000
Title: 6) UIPE FoS General Purpose (GP) ***Description:*** Development of the next generation protective ensembles. ***FY 2023 Plans:*** Conduct System Verification Review, complete MOT&E, award production contract, and conduct Production Verification Testing (PVT). ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($8.167M) remains in IP5. Increase due to funding needed for Multi-Service Operational Test and Evaluation.	-	-	9.640
Title: 7) UIPE FoS Air ***Description:*** Design, Test, and Integration of the 2PUG ***FY 2023 Plans:*** Finalize EMD testing and conduct integration testing on 40+ USAF, USN, and USMC platforms for airworthiness, safe to fly and final flight clearance. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	-	5.132

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred from another Project due to budget restructure. FY22 funding ($3.858 Million) remains in IP5. Increase due to expansion of integration, flight clearance, and airworthiness testing.			
Title: 8) UIPE FoS Gloves ***Description:*** Development of the Next Generation Protective Glove ***FY 2023 Plans:*** Continue to conduct prototype development on multiple prototypes for multiple mission profiles (General Purpose, Aviation Heavy and Aviation Light). Conduct testing such as tactility, dexterity, chemical protection, flame resistance, wear trials, and interoperability will be conducted as well as analytical framework analysis and down-selects. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($1.182M) remains in IP5. Program/project transitioned to Engineering and Manufacturing Development Phase.	-	-	2.699
Title: 9) VAC SIP ***Description:*** Storage, Distribution, Potency Testing ***FY 2023 Plans:*** Continue storage, distribution, potency testing, and biosurety compliance activities in support of the Special Immunization Program. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($6.631 Million) remains in MB5. Increase due to change in program/project technical parameters.	-	-	6.948
Accomplishments/Planned Programs Subtotals	-	-	96.860

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• IP4: *Individual Protection (ACD&P)*	3.448	3.968	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.416
• PT4: *Protect (ACD&P)*	0.000	0.000	203.689	-	203.689	183.220	139.375	113.754	105.176	Continuing	Continuing
• IP5: *Individual Protection (SDD)*	17.129	18.941	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.070
• MB5: *Medical Biological Defense (SDD)*	117.157	137.348	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	254.505

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PHM032: *UNIFORM INTEGRATED PROTECTIVE ENSEMBLE FOS GLOVES (UIPE FOS GLOVES)*	0.000	0.000	0.000	-	0.000	7.478	7.974	7.974	8.328	Continuing	Continuing
• PHM033: *UNIFORM INTEGRATED PROTECTIVE ENSEMBLE GENERAL PURPOSE (UIPE FOS GP)*	0.000	17.686	51.130	-	51.130	101.486	174.124	194.691	264.433	Continuing	Continuing
• PHM034: *UNIFORM INTEGRATED PROTECTION ENSEMBLE FOS AIR (UIPE FOS AIR)*	4.786	34.568	23.407	-	23.407	25.794	26.195	26.403	17.586	Continuing	Continuing
• PHM039: *BOTULINUM MONOCLONAL ANTIBODIES (BOT MAB)*	0.000	0.000	0.000	-	0.000	0.000	0.000	20.157	21.299	Continuing	Continuing

Remarks

D. Acquisition Strategy

ADVANCED SYSTEM FOR PROTECTION AND INTEGRATED REDUCTION OF ENCUMBRANCES-ENHANCED BIODEFENSE (ASPIRE-ENBD)

Efforts will be accomplished by awarding an agreement through the Countering Weapons of Mass Destruction Other Transaction Authority (CWMD OTA) to develop multiple prototypes for further development and evaluation to select down to a final solution.

COLLECTIVE PROTECTION CONEX-ENHANCED BIODEFENSE (COL PRO CONEX-ENBD)

Resource prototype system design and development through the CWMD OTA contract.

PORTABLE PATIENT TRANSPORT SYSTEM-ENHANCED BIODEFENSE (PPTS-ENBD)

Resource prototype system design and development through the Countering Weapons of Mass Destruction (CWMD) Other Transactional Authority (OTA) contract. Leverage lessons learned from previous efforts to optimize performance and minimize total ownership cost.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

BOTULINUM MONOCLONAL ANTIBODIES (BOT MAB)

The BOT MAB program was initiated by the Medical Countermeasure Platform Technologies (MCMPT). The regulatory approach of the program is to pursue development of products for FDA approval. The program will conduct clinical and non-clinical studies to confirm duration of protection and on-set of protection. The performer will complete small model development and procure long lead items during the Technology Maturation and Risk Reduction (TMRR) phase in order to mitigate risk and accelerate the schedule activities for BLA submission during the Product &Development (P&D) phase. The performer will continue large scale manufacturing during the Engineering and Manufacturing Development (EMD) phase in order to accelerate the schedule activities for the prophylactic indication.

UNIFORM INTEGRATED PROTECTIVE ENSEMBLE GENERAL PURPOSE (UIPE FOS GP)

UIPE FoS GP used an Other Transaction Authority (OTA) and Government designed prototypes produced in conjunction with an Industry Partner to acquire prototypes for early user testing. Warfighter feedback, trade space analysis, and chemical testing resulted in three government designed candidates being down selected in 3QFY20. These three candidates are designed to minimize operational burden and provide improved form, fit, function, and integration with the current Warfighter kits compared to legacy systems. Additional testing, review of the results, stakeholder guidance, and a risk analysis led to the selection of one candidate in FY21 - the Integrated Chemical Biological Lightweight Improved Thermal Ensemble Flame Resistant (ICBLITE FR). UIPE FoS GP will be executing multiple awards in the next 3 years, where production occurring before the milestone to allow for completion of UIPE evaluation (effectiveness, suitability and survivability) prior to award of a high ceiling production contract. This will allow the vendor to better estimate pricing (labor and material) with an initial production ramp up; and Mitigates schedule risk for award of a high ceiling production contract.

UNIFORM INTEGRATED PROTECTION ENSEMBLE FOS AIR (UIPE FOS AIR)

The UIPE FoS Air utilizes a streamlined acquisition strategy that identifies mature technology and capitalizes on work accomplished by the USAF IAE and UIPE FoS General Purpose programs. The UIPE FoS Air will utilize an Milestone A-C acquisition strategy that will accelerate fielding to the Warfighter. The contract strategy leverages the USAF Integrated Aircrew Ensemble (IAE) SBIR Phase III contract to procure UIPE Air CBRL. The UIPE FoS Air 2PUG will be procured utilizing a Government design on a separate contract.

UNIFORM INTEGRATED PROTECTIVE ENSEMBLE FOS GLOVES (UIPE FOS GLOVES)

The UIPE FoS Glove program conducted market research through both Requests For Information (RFIs) and a call for White Papers through an Other Transaction Authority (OTA) contracting approach. Eight white papers were deemed acceptable and will be pursued through a Mid-Tier Acquisition Rapid Prototyping strategy. Candidate technologies will undergo Early User Tests/Wear events and material and system level testing to identify available capabilities as well as Analytical framework analyses to determine the most suitable solution(s) per mission profile.

SPECIAL IMMUNIZATION PROGRAM (VAC SIP)

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

The SIP effort continually manages, updates, and executes the Investigational New Drugs (INDs) of selected prophylaxis, treatments and diagnostics development products which provide additional protection to individuals that are at high risk of exposure to CBRN agents. Efforts span Good Manufacturing Practices (GMP), Good Laboratory Practices guidelines necessary to conduct storage and periodic potency testing, as well as clinical administration of products in accordance with the FDA regulated Investigational New Drug requirements. This Department of Defense program supports the Federal interagency with this effort, as well as academic and industry partners.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASPIRE-ENBD - HW C - Bio half-mask Prototype Development	Various	Various : Various	0.000	0.000		0.000		1.127	Dec 2022	0.000		1.127	Continuing	Continuing	0.000
COL PRO CONEX-ENBD - HW S - Concept Design	Various	TBD : N/A	0.000	0.000		0.000		0.761	Dec 2022	0.000		0.761	Continuing	Continuing	0.000
PPTS-ENBD - HW S - Prototyping Contract	Various	TBD : N/A	0.000	0.000		0.000		2.048	Dec 2022	0.000		2.048	Continuing	Continuing	0.000
UIPE FOS GP - HW C - Prototype Development	MIPR	TBD : N/A	0.000	0.000		0.000		0.839	Nov 2022	0.000		0.839	Continuing	Continuing	0.000
UIPE FOS AIR - HW C - Prototype Development (2PUG)	Various	Various : Various	0.000	0.000		0.000		0.330	Nov 2022	0.000		0.330	Continuing	Continuing	0.000
UIPE FOS GLOVES - HW C - Prototype Manufacturing, Demonstration and Down-select	MIPR	Various : Various	0.000	0.000		0.000		0.562	Nov 2022	0.000		0.562	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		5.667		0.000		5.667	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASPIRE-ENBD - ES S - Engineering and Technical Support	Various	Various : Various	0.000	0.000		0.000		0.286	Dec 2022	0.000		0.286	Continuing	Continuing	0.000
COL PRO CONEX-ENBD - ES S - Engineering, Logistics, Technical, IPT Support	MIPR	Various : Various	0.000	0.000		0.000		0.745	Dec 2022	0.000		0.745	Continuing	Continuing	0.000
PPTS-ENBD - ES S - Engineering, Logistics, Techinical, IPT Support	MIPR	Various : Various	0.000	0.000		0.000		1.504	Dec 2022	0.000		1.504	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UIPE FOS GP - ES C - Engineering & Technical IPT Support / SME Support	Various	Various : Various	0.000	0.000		0.000		2.477	Nov 2022	0.000		2.477	Continuing	Continuing	0.000
UIPE FOS GP - ILS S - Integrated Log Support-System	Various	Various : Various	0.000	0.000		0.000		0.608	Nov 2022	0.000		0.608	Continuing	Continuing	0.000
UIPE FOS AIR - ES C - Engineering and IPT Support	Various	Various : Various	0.000	0.000		0.000		1.821	Nov 2022	0.000		1.821	Continuing	Continuing	0.000
UIPE FOS GLOVES - ES C - Engineering, Logistics, Technical, IPT Support	MIPR	Various : Various	0.000	0.000		0.000		0.812	Nov 2022	0.000		0.812	Continuing	Continuing	0.000
VAC SIP - Storage and Distribution of Vaccines	SS/FP	Fisher BioServices : Rockville, MD	0.000	0.000		0.000		1.365	Mar 2023	0.000		1.365	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		9.618		0.000		9.618	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASPIRE-ENBD - OTHT C - Prototype Evaluation	Various	Various : Various	0.000	0.000		0.000		0.075	Dec 2022	0.000		0.075	Continuing	Continuing	0.000
COL PRO CONEX-ENBD - DTE C - T&E Support	MIPR	Various : Various	0.000	0.000		0.000		0.271	Dec 2022	0.000		0.271	Continuing	Continuing	0.000
PPTS-ENBD - DTE S - T&E Support	MIPR	Various : Various	0.000	0.000		0.000		0.376	Dec 2022	0.000		0.376	Continuing	Continuing	0.000
BOT MAB - DTE C - BOT MONO	C/CPFF	Ology Bioservices : Inc., Alachua, FL	0.000	0.000		0.000		59.164	Dec 2022	0.000		59.164	Continuing	Continuing	0.000
UIPE FOS GP - DTE C - DT/OT	Various	Various : Various	0.000	0.000		0.000		5.022	Nov 2022	0.000		5.022	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UIPE FOS AIR - DTE C - System Level Testing	Various	Various : Various	0.000	0.000		0.000		2.587	Nov 2022	0.000		2.587	Continuing	Continuing	0.000
UIPE FOS GLOVES - DTE C - Early User Testing, Developmental Testing	MIPR	Various : Various	0.000	0.000		0.000		1.153	Nov 2022	0.000		1.153	Continuing	Continuing	0.000
VAC SIP - OTHT C - Potency Testing of Vaccines	C/CPFF	Battelle Memorial Institute : Columbus, OH	0.000	0.000		0.000		1.642	Jan 2023	0.000		1.642	Continuing	Continuing	0.000
VAC SIP - OTHT C - BOT & PLG Stability	C/CPFF	TBD : N/A	0.000	0.000		0.000		2.080	Jan 2023	0.000		2.080	Continuing	Continuing	0.000
VAC SIP - OTHT C - Potency Testing of Vaccines #2	MIPR	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	0.000	0.000		0.000		1.196	Mar 2023	0.000		1.196	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		73.566		0.000		73.566	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASPIRE-ENBD - PM/MS C - Program Management Support	Various	Various : Various	0.000	0.000		0.000		0.112	Dec 2022	0.000		0.112	Continuing	Continuing	0.000
COL PRO CONEX-ENBD - PM/MS S - Program Management	MIPR	Various : Various	0.000	0.000		0.000		0.123	Dec 2022	0.000		0.123	Continuing	Continuing	0.000
PPTS-ENBD - PM/MS S - Program Management	MIPR	Various : Various	0.000	0.000		0.000		0.272	Dec 2022	0.000		0.272	Continuing	Continuing	0.000
BOT MAB - PM/MS C - BOT MONO	Various	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	0.000		0.000		5.577	Dec 2022	0.000		5.577	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UIPE FOS GP - PM/MS C - Program Management Support	Various	Various : Various	0.000	0.000		0.000		0.694	Nov 2022	0.000		0.694	Continuing	Continuing	0.000
UIPE FOS AIR - PM/MS C - Program Management Services	MIPR	Various : Various	0.000	0.000		0.000		0.394	Nov 2022	0.000		0.394	Continuing	Continuing	0.000
UIPE FOS GLOVES - PM/MS C - Program Management Support	Various	Various : Various	0.000	0.000		0.000		0.172	Dec 2022	0.000		0.172	Continuing	Continuing	0.000
VAC SIP - PM Support	Various	JPL CBRN EB : Frederick, MD	0.000	0.000		0.000		0.665	Jan 2023	0.000		0.665	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		8.009		0.000		8.009	Continuing	Continuing	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		96.860		0.000		96.860	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

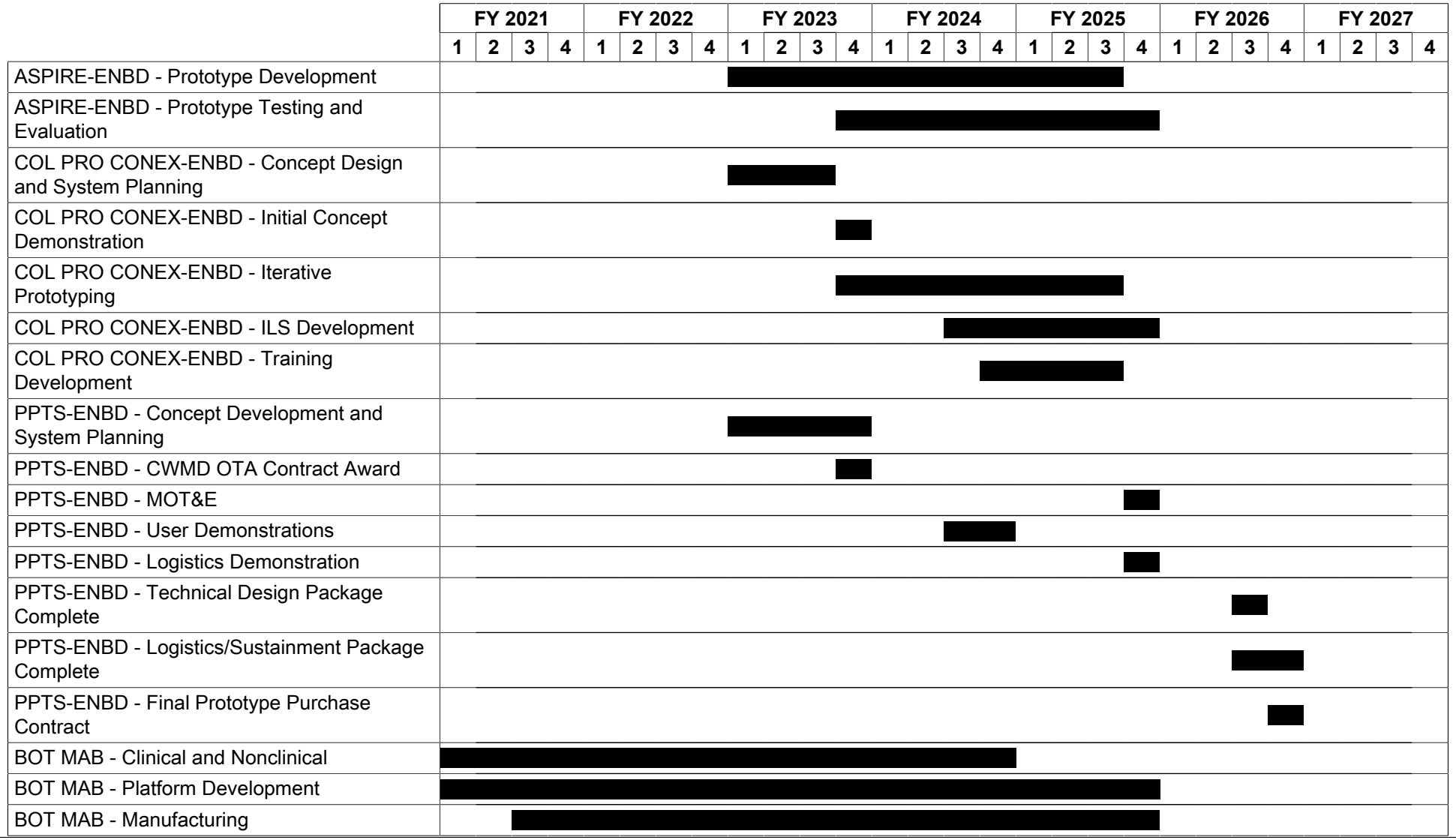

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

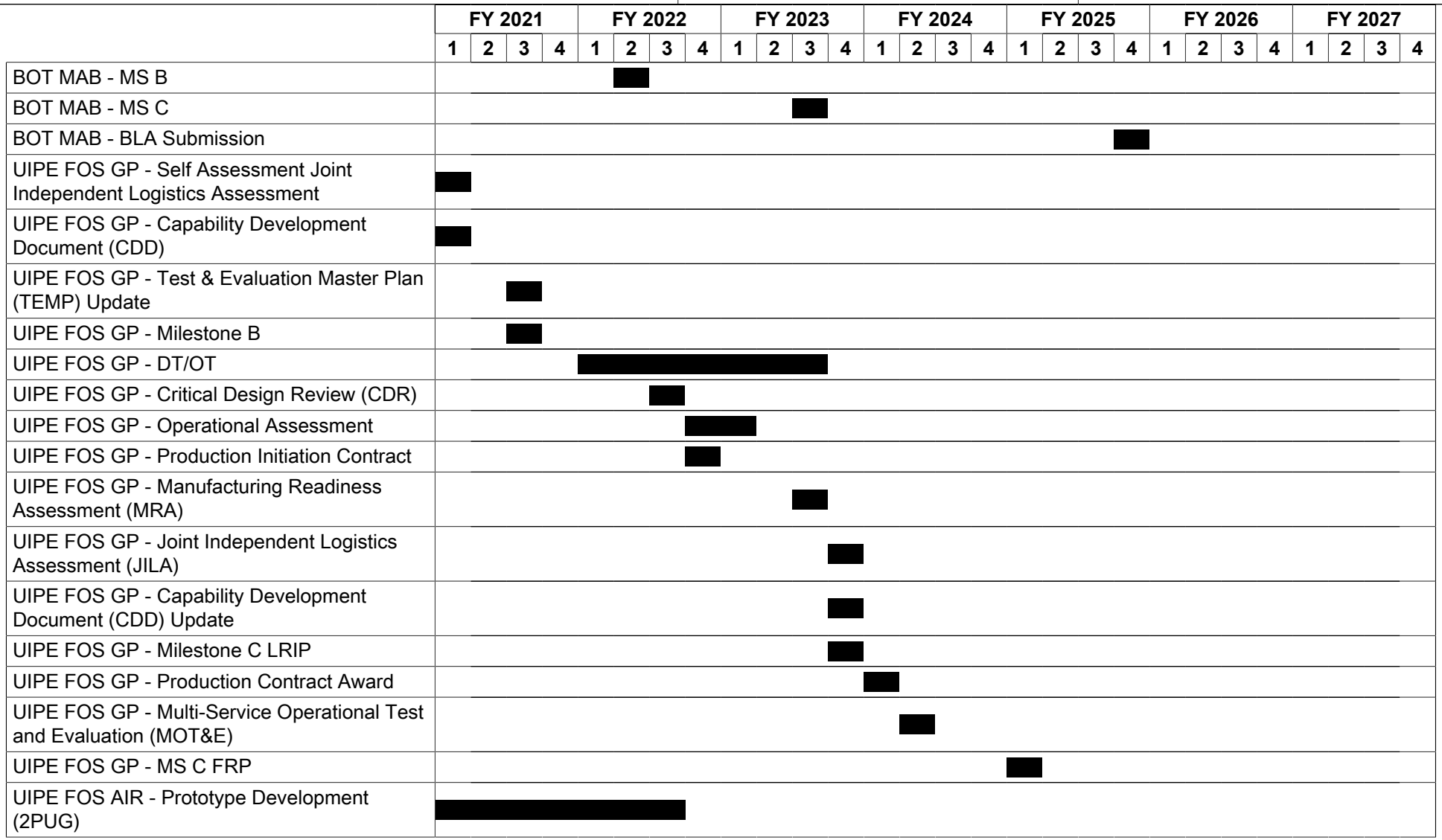

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

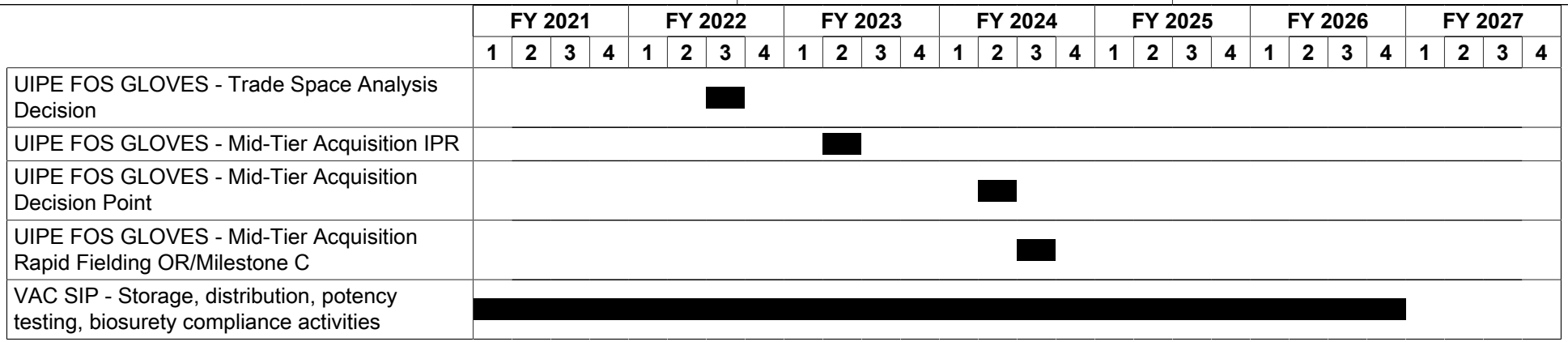

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ASPIRE-ENBD - Prototype Development	1	2023	3	2025
ASPIRE-ENBD - Prototype Testing and Evaluation	4	2023	4	2025
COL PRO CONEX-ENBD - Concept Design and System Planning	1	2023	3	2023
COL PRO CONEX-ENBD - Initial Concept Demonstration	4	2023	4	2023
COL PRO CONEX-ENBD - Iterative Prototyping	4	2023	3	2025
COL PRO CONEX-ENBD - ILS Development	3	2024	4	2025
COL PRO CONEX-ENBD - Training Development	4	2024	3	2025
PPTS-ENBD - Concept Development and System Planning	1	2023	4	2023
PPTS-ENBD - CWMD OTA Contract Award	4	2023	4	2023
PPTS-ENBD - MOT&E	4	2025	4	2025
PPTS-ENBD - User Demonstrations	3	2024	4	2024
PPTS-ENBD - Logistics Demonstration	4	2025	4	2025
PPTS-ENBD - Technical Design Package Complete	3	2026	3	2026
PPTS-ENBD - Logistics/Sustainment Package Complete	3	2026	4	2026
PPTS-ENBD - Final Prototype Purchase Contract	4	2026	4	2026
BOT MAB - Clinical and Nonclinical	1	2021	4	2024
BOT MAB - Platform Development	1	2021	4	2025
BOT MAB - Manufacturing	3	2021	4	2025
BOT MAB - MS B	2	2022	2	2022
BOT MAB - MS C	3	2023	3	2023
BOT MAB - BLA Submission	4	2025	4	2025
UIPE FOS GP - Self Assessment Joint Independent Logistics Assessment	1	2021	1	2021

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
UIPE FOS GP - Capability Development Document (CDD)	1	2021	1	2021
UIPE FOS GP - Test & Evaluation Master Plan (TEMP) Update	3	2021	3	2021
UIPE FOS GP - Milestone B	3	2021	3	2021
UIPE FOS GP - DT/OT	1	2022	3	2023
UIPE FOS GP - Critical Design Review (CDR)	3	2022	3	2022
UIPE FOS GP - Operational Assessment	4	2022	1	2023
UIPE FOS GP - Production Initiation Contract	4	2022	4	2022
UIPE FOS GP - Manufacturing Readiness Assessment (MRA)	3	2023	3	2023
UIPE FOS GP - Joint Independent Logistics Assessment (JILA)	4	2023	4	2023
UIPE FOS GP - Capability Development Document (CDD) Update	4	2023	4	2023
UIPE FOS GP - Milestone C LRIP	4	2023	4	2023
UIPE FOS GP - Production Contract Award	1	2024	1	2024
UIPE FOS GP - Multi-Service Operational Test and Evaluation (MOT&E)	2	2024	2	2024
UIPE FOS GP - MS C FRP	1	2025	1	2025
UIPE FOS AIR - Prototype Development (2PUG)	1	2021	3	2022
UIPE FOS AIR - Swatch and System Level Testing	2	2021	3	2022
UIPE FOS AIR - Aircraft Integration Testing	3	2021	3	2022
UIPE FOS AIR - Human Factors Testing	3	2021	3	2022
UIPE FOS AIR - Fixed Wing Ejection Aircraft Integration Testing	3	2021	3	2023
UIPE FOS AIR - Fixed Wing Non-Ejection Aircraft Testing	3	2021	3	2023
UIPE FOS AIR - Rotary Wing Aircraft Integration Testing	3	2021	3	2023
UIPE FOS AIR - Developmental/Operational Testing (DT/OT)	1	2022	3	2022
UIPE FOS AIR - Safe-to-Fly and Airworthiness Testing	1	2022	3	2023
UIPE FOS AIR - 2PUG Full Rate Production (FRP)	4	2022	4	2022
UIPE FOS AIR - Capability Development Document (CDD) Update	4	2022	4	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** PT5 / *Protect (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
UIPE FOS AIR - Safe to Fly Certification	4	2023	4	2023
UIPE FOS AIR - 2 PUG Initial Operational Capability (IOC)	2	2024	2	2024
UIPE FOS GLOVES - Early User, material and system level testing	2	2021	2	2024
UIPE FOS GLOVES - Draft CDD	3	2021	3	2021
UIPE FOS GLOVES - Mid-Tier Acquistion Rapid Prototype Initiation	4	2021	1	2022
UIPE FOS GLOVES - Mid-Tier Acquisition DT/OT	2	2022	3	2023
UIPE FOS GLOVES - Trade Space Analysis Decision	3	2022	3	2022
UIPE FOS GLOVES - Mid-Tier Acquisition IPR	2	2023	2	2023
UIPE FOS GLOVES - Mid-Tier Acquisition Decision Point	2	2024	2	2024
UIPE FOS GLOVES - Mid-Tier Acquisition Rapid Fielding OR/Milestone C	3	2024	3	2024
VAC SIP - Storage, distribution, potency testing, biosurety compliance activities	1	2021	4	2026

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) UN5 / *Understand (SDD)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
UN5: *Understand (SDD)*	-	0.000	0.000	127.671	-	127.671	101.933	98.742	98.122	72.699	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Understand System Development & Demonstration (SDD) Project provides the Joint Force the ability to continually receive information about the CBRN situation at a desired time and place by detecting, identifying, and quantifying CBRN hazards in air, water, or on land, and on personnel, equipment or facilities. These efforts support the ability to conduct early warning (informing protective posture) and employment of rapid detection, identification, and analysis tools needed to address emerging biological threats. Efforts also keep the Joint Force ahead of emerging chemical threats with portable, reduced size, weight, and power, cost detectors to protect general and specialized forces and to enhance operations on the battlefield by providing early warning and field analytics. Medical diagnostic activities develop FDA approved products for the Warfighter at the point of care to inform far-forward medical and protection decisions.

Efforts included in this Project are:

(1) Advanced Emerging Threat Defense (AET DEFENSE),
(2) Aerosol & Vapor Chemical Agent Detector (AVCAD),
(3) Compact Vapor Chemical Agent Detector (CVCAD),
(4) Multi-Phase Chemical Agent Detector (MPCAD),
(5) Chemical Biological Radiological and Nuclear (CBRN) Sensor Integration on Robotics Platforms (CSIRP), **Progressed from CA5 in FY2022**
(6) Defense Biological Products Assurance Program (DBPAP),
(7) Defense Biological Products Assurance Program-Enhanced Biodefense (DBPAP-ENBD),
(8) Joint Biological Tactical Detection System (JBTDS),
(9) Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU),
(10) Next Generation Diagnostic System Increment 2 Chemical Diagnostic (NGDS 2 CHEMDX),
(11) NGDS 2 Man Portable Diagnostic System (NGDS 2 MPDS),
(12) Special Purpose Unit Rapid Capability Development and Deployment (SPU RCDD),
(13) Surveillance and Pathogen Characterization - Enhanced BioDefense (SPCHAR-ENBD), and
(14) Chemical and Biological Wearables - Enhanced Biodefense (CB Wearables - ENBD)

The AET DEFENSE program continues to address the highest priority CBRN gaps and supports the Chemical Biological Defense Program (CBDP) Strategic Line of Effort to meet current and emerging threats by anticipating CB hazards and developing capabilities to counter emerging and future threats. The AET Defense program collaborates with the Joint Services, interagency, and international partners to align RDT&E resources to determine readiness against emerging threats, to include NTAs, such as Novichoks and Pharmaceutical-Based Agents (PBA) (e.g. synthetic opioids), emerging biological threats, and other advanced and emerging threats as

they are identified across the entire CBDP enterprise portfolio. In FY23, AET Defense continues to broaden data set for emerging biological threats and PBAs to better assess detection and decontamination capabilities.

The AVCAD is a man portable system to detect aerosol and vapor chemical agents. AVCAD fills critical gaps in current Joint Force chemical sensor capabilities, in the areas of liquid, solid and dusty aerosol Chemical Warfare Agent detection, and detection of specific advanced threats/Non-Traditional Agents. The AVCAD will also detect low-level off-gassing, or residual vapors, to prevent/mitigate health effects associated with low concentration exposures, and perform remote alarm warning and reporting. AVCAD will support chemical and biological defense missions, including monitoring, collective protection, base defense, decontamination, unmasking, reconnaissance, and shipboard and aviation platform chemical detection. In FY23, AVCAD will award the LRIP option and start P&D Testing.

CVCAD is designed to be an unobtrusive, low-profile chemical detection capability that will continuously, and autonomously, monitor and alert general and specialized units to an unsafe environment without further burdening the warfighters payload or interfering with the primary mission. The small form factor (less than 2 lbs) is amenable to both man-worn and unmanned aerial or ground system operations to enable timely personnel protective action and other force protection decisions. In FY23 the four competing prototypes will undergo down selects based on performance. CVCAD will brief Acquisition Steering Panel (ASP) in 2QFY23 to inform milestone decision and prepare for next milestone, Milestone B or Middle Tier Acquisition (MTA).

The MPCAD is a two-man portable system that will conduct near real-time, near-laboratory grade analysis of solid, liquid, and vapor samples collected by the operator in a presumptively contaminated area. The MPCAD results will support the Commander's tactical and operational decisions regarding maneuver, protection, decontamination, and treatment measures. The Army and Marine Corps will employ MPCAD in Dismounted Reconnaissance and Site Assessment missions to substantiate presumptive detector results. The Air Force will employ the MPCAD to support Post-Event Reconnaissance in support of Reconnaissance and Surveillance missions by monitoring the environment at airbases after a chemical release. The Air Force will continuously monitor contaminated areas for chronic health effects levels through analysis of samples from collectors deployed at the contamination site and brought back to the analyzer for identification and quantification. This information will support commander decisions to determine Mission Oriented Protective Posture (MOPP) levels and eventual termination of cordon restrictions. In FY23, MPCAD will complete the LRIP contracts, systems engineering support, and complete operational testing.

CSIRP is a prototyping and fielding effort that will focus on repackaging and integrating modular CBRN sensor solutions to enhance Unmanned Aircraft Systems (UAS) and Unmanned Ground Vehicles (UGV) to provide situational awareness across the echelons of command in order to enable freedom of maneuver and action on the battlefield. An integrated CSIRP capability will exploit advances in artificial intelligence, machine learning and autonomy, sensing and communication capabilities that enable timely and accurate detection, warning and reporting of CBRN hazards. This reduces risk at tactical and operational echelons in mounted and dismounted configurations. CSIRP gives the Joint Force an opportunity to enhance capabilities and maintain operational advantage in a lethal and sophisticated operating environment. In FY23, CSIRP will integrate a chemical sensor on a UAS to support NBCRV SSU program and continue user evaluation for other robotic platforms.

The DBPAP program facilitates new technology transition to advanced development, efficient production, and timely distribution. The DBPAP serves as the principal resource for critical biological assays and reagents. The DBPAP also resources the Targeted Acquisition of Reference Materials Augmenting Capabilities (TARMAC), which generates data on biodefense pathogens to inform product development. The DBPAP establishes a core research and development capability by developing biological threat agent reference materials (strains, antigens, antibodies and nucleic acids) and detection/diagnostic assays for biothreat agent detection. These

reagents/assays are leveraged across multiple programs to meet the requirements of the Warfighter and Joint biological defense systems and support the biological defense community. Through the TARMAC initiative, the DBPAP will use a systematic approach to the introduction of new materials and information into medical countermeasure development. This includes advanced platform technologies within the DoD's Advanced Development and manufacturing facility. In FY23 the DBPAP continues development/expansion of biological threat agent reference materials to known and emerging threats. The DBPAP Enhanced Biodefense effort will increase capabilities supporting biothreat identification and data information collection and management. The rapid detection and assessment of environmental biothreats and indicators of population-level exposure to enable and enhance force protection decisions and maintain lethality and Force operations tempo (OPTEMPO).

The JBTDS is the first tactical lightweight, low-cost biological surveillance system to detect, collect, and identify Biological Warfare Agent (BWA) aerosols. JBTDS components are man-portable, battery operable and easy to employ by any military user. JBTDS provides notification of a hazard and enhances battle-space awareness to protect and preserve the forces and can archive a sample for follow up analysis. When networked, JBTDS augments existing biological detection systems providing a theater-wide array capable of biological detection, identification and warning to support time sensitive force protection decisions. The JBTDS provides surface sampling capability which interfaces with the JBTDS identifier to support sensitive site exploitation missions. In FY23, JBTDS will conduct LRIP T&E.

The NBCRV SSU provides maneuver formations with the ability to conduct mounted reconnaissance and surveillance missions of CBRN named areas of interest (NAIs). The NBCRV SSU will answer the commanders' priority intelligence requirements (PIR) and facilitate proactive risk-based decisions to ensure freedom of action and survivability. A modern and capable NBCRV SSU is a critical component for Joint Force success when operating in the complex CBRN environment. Operating with combat vehicles fighting against increasingly capable and determined enemies requires like capability in protection, mobility, and lethality. The NBCRV SSU will accomplish this by integrating the capability for command and control of unmanned systems with CBRN payload. The NBCRV SSU will provide a CBRN detection, tipping and queuing system to accomplish desired standoff distances to keep the warfighter out of harm's way and reduce sustainment costs over the current system. In FY23 the NBCRV SSU will complete Government Developmental and Operational Test to support a future Materiel Release decision.

The NGDS 2 ChemDx program will provide a rapid, hand-held, point-of-care device, for the quantitative detection of acetyl cholinesterase (AChE) activity in finger stick and venous whole blood samples of individuals suspected of being exposed to cholinesterase inhibiting substances, such as chemical nerve agents. NGDS 2 ChemDx will be employed by the Army, Air Force, Navy, Marines and SOCOM at multiple echelons of healthcare. NGDS 2 ChemDx test results are to be used to aid in the diagnosis and treatment of individuals suspected of having exposure to chemical nerve agents. In FY23, NGDS 2 ChemDx continues Engineering & Manufacturing Development.

The NGDS 2 MPDS program will provide a simple-to-use, portable diagnostic device capability that can be used in austere battlefield environments to assist in the diagnosis of infectious diseases and biological warfare agents. The MPDS will enable earlier patient diagnosis improve decision support for treatment, evacuation and command situational awareness, and mitigate the effects of exposure to unknown infectious disease and biological agents. In FY23, NGDS 2 MPDS concludes hardware, software, assay design, including planning for Initial Operational Test and Evaluation (IOT&E) and completion of two clinical trials, for the device and two assay panels, and continues development of third assay panel.

SPU RCDD facilitates Joint Special Operations Command (JSOC) rapid response requirements to near-term and emergent chemical-biological defensive capabilities. This includes select elements from across the Special Operations Force (SOF) Enterprise such as Combatant Commanders Response Forces (CRFs) and other Joint

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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Force enabling units such as the 20th Chemical, Biological, Radiological, Nuclear and Explosives Command. SPU RCDD mitigates risk across the Chemical Biological Defense Program (CBDP) by creating a portfolio of operationally-relevant CB capabilities that can be quickly transitioned in response to the articulated, emergent capability needs of the geographic combatant commanders. These objectives are met by the early transitioning of promising science and technologies (S&T); the focused conduct of combat evaluations and mission-oriented operational assessments to assess technological and mission suitability; and the active leveraging of existing Commercial-Off-The-Shelf (COTS) and Government-Off-The-Shelf (GOTS) products along with novel redesign approaches to optimize existing solutions to new challenges supported by "buy-try-decide-acquire" acquisition strategies. SPU RCDD initiates efforts such as respiratory breathing systems, biological identification, unmanned aerial and ground platform sensor integration, development of enhanced and augmented reality systems, and modernization of protective Chemical and Biological ensembles that have gone through requirements validation, and continues product enhancement development and technology upgrades on currently fielded SOF equipment to counter emerging threats, conduct limited user evaluations and operational assessment.

The SPCHAR-ENBD (contact tracing) integrates innovative and emerging contact tracing capabilities into the pre-symptomatic exposure wearable system outlined in CB WEARABLES-ENBD. This effort will leverage on-going COVID-19 investments in contact tracing stemming from the joint service response to Joint Emergent Operational Needs Statement (JEONS) JS-0003. It will include person-worn digital proximity tools for logging close contacts with the infected. SPCHAR-ENBD directly supports the strategic goals of the Chemical Biological Defense Program's (CBDP's) Enhanced Biodefense effort.

CB Wearables - ENBD will develop an integrated physiological monitoring and surveillance capability that leverages Artificial Intelligence / Machine Learning (AI/ML) analytics to detect and alert anomalies that may indicate exposure to Biological Warfare Agents (BWA) or other emerging threats. Directly interface and integrate with existing Joint Force computing environments to provide surveillance, detection, and situational understanding, and response planning of potential emerging threat outbreaks within the force. CB WEARABLES-ENBD directly supports the strategic goals of the CBDP's Enhanced Biodefense effort.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Aerosol & Vapor Chemical Agent Detector (AVCAD) ***Description:*** Product Development/Testing ***FY 2023 Plans:*** Complete Low Rate Initial Production (LRIP) contract activities and Pharmaceutical Based Agents (PBA) algorithm development to support the Full Rate Production decision. Continue Systems Engineering and other IPTs for product development and materiel release. Complete Multi-Service Operational Test and Evaluation (MOT&E) in support of a Full Rate Production decision. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($17.878 Million) remains in CA5. Product Development and Testing bullets in CA5 were merged into one bullet under UN5. Funding decrease due to Program transitions to Production/Deployment Phase in FY23.	-	-	12.972
Title: 2) Aerosol & Vapor Chemical Agent Detector (AVCAD) ***Description:*** Support Costs/Program Management	-	-	3.972

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY 2023 Plans: Continue Program management and administration processes to include but not limited to program oversight, resource justification, budgeting and programming, milestone and schedule tracking. Continue OGA Support for logistics and test evaluation results in support of a Full Rate Production decision. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($4.691 Million) remains in CA5. Minor change due to routine program adjustments.			
Title: 3) Compact Vapor Chemical Agent Detector (CVCAD) ***Description:*** Product Development and Program Management Support ***FY 2023 Plans:*** Initiate award Phase III engineering and development tasks following Milestone decision and programmatic activities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding remains in Project Contamination Avoidance (CA). Budget Activity 4 (BA4) funding ends in FY22 and BA5 funding line begins in FY23 to initiate Milestone B or Middle Tier Acquisition activities.	-	-	3.606
Title: 4) Special Purpose Unit Rapid Capability Development & Deployment (SPU RCDD) ***Description:*** Development of specialized equipment for agent-specific threats. ***FY 2023 Plans:*** Continue developing, prototyping, and maturing CBRND technologies to rapidly equip users with capabilities in response to new and emerging threats and opportunities. Continue developing SOCOM-specific Unmanned Ground Vehicle (UGV) and Unmanned Aerial Vehicle (UAV) sensor integration and closing JSOC capability gaps. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($4.581 Million) remains in IP5. Increase is to address additional JSOC-validated requirements in FY23.	-	-	6.863
Title: 5) Multi-Phase Chemical Agent Detector (MPCAD) ***Description:*** Product Development, Testing & Program Management ***FY 2023 Plans:***	-	-	2.103

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Complete two Low Rate Initial Procurement (LRIP) contracts, Government and contracted Integrated Product Development team, systems engineering and IPT Support. Complete operational testing, OGA support of development and testing of MPCAD systems including development of logistics products, test plans, and reports. No additional LRIP test articles will be items purchased in FY23. Complete program management efforts including Government system engineering, program/financial management, costing, personnel support and travel. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($10.754 Million) remains in CA5. Funding decrease due to Program/project transitioned to Production and Deployment Phase. Bullets under CA5 moved to one bullet under UN5.			
Title: 6) CBRN Sensor Integration onto Robotic Platforms (CSIRP) ***Description:*** Product Development, Program Management, Test and Evaluation and Support. ***FY 2023 Plans:*** Continue chemical sensor integration on an Unmanned Air Systems (UAS) to support the NBCRV SSU program, as part of Prototype Plan #2. Continue coordination of demonstrations and test events for additional Service end users. Continue program office management and administration processes to include, but not limited to, program oversight, resource justification, budgeting and programming, milestone and schedule tracking. Continue evaluation of capability and development of CONOPS. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($16.581 Million) remains in CA5. Decrease due to fact of life change in the program/project.	-	-	12.730
Title: 7) NGDS 2 Chemical Diagnostic (NGDS 2 CHEMDX) ***Description:*** Chemical Diagnostic System (CHEMDX) ***FY 2023 Plans:*** Continue engineering and manufacturing development, conduct developmental and operational testing, and initiate clinical trials. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($4.929 Million) remains in MB5. Minor change due to routine program adjustments.	-	-	5.288
Title: 8) JBTDS ***Description:*** Test & Evaluation	-	-	2.596

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY 2023 Plans: Conduct Low Rate Initial Production T&E activities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding remains in CA5. Program/project transitioned to Production and Deployment Phase. BA5 funding decreases in FY23 as program completes EMD and prepares for MS C.			
Title: 9) NGDS 2 MPDS ***Description:*** Product Development ***FY 2023 Plans:*** Concludes hardware, software, assay development, and completes two clinical trials; starts a third clinical trial; management of hardware and software configurations. Plans for production. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($8.308 Million) remains in MB5. Program/ project transitioned to Production and Deployment Phase.	-	-	6.914
Title: 10) CB WEARABLES - Enhanced Biodefense (ENBD) ***Description:*** This effort will focus on Wearables to Monitor for Pre-Symptomatic Exposure ***FY 2023 Plans:*** Develops, tests, and evaluates a series of interfaces that connect a family of wearable devices to service-operated combat networks and architectures operating within all phases of multi-domain operations. Conducts advanced development on algorithmic tools used to monitor and predict joint Warfighter exposure to emerging threats and CBRN hazards. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	38.700
Title: 11) SPCHAR - Enhanced Biodefense (ENBD) ***Description:*** This effort will focus on Innovative Contact Tracing ***FY 2023 Plans:*** Integrates innovative and emerging contact tracing capabilities stemming from the JEONS JS-0003 response into the pre-symptomatic exposure wearable system outlined in CB WEARABLES-ENBD. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	-	3.000

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Additional investment in enhanced biodefense and pandemic preparedness.			
Title: 12) DBPAP ***Description:*** Development ***FY 2023 Plans:*** Continue development/expansion of biological threat agents reference materials to known and emerging threats. Continue development of assays and nucleic acid based genomic assays to support fielded and developmental systems. Continue QA/QC testing to encompass the transition and fielding of biological detection assays. Continue to maintain yearly accreditation audits such as ISO 9001, 17025, and Guide 34 certifications. Continue quality actions throughout to maintain the quality managed systems. Continue development of prototypes/information for strains contained in Unified Culture Collection. Supports establishment of a Common Reference Repository - a single source for well-characterized, traceable test articles and vital information for biological defense, effective verification of proficiency testing, improved acquisition of emerging technologies, all at a decreased cost for the individual organizations. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($8.043 Million) remains in MB5. Minor change due to routine program adjustments.	-	-	8.163
Title: 13) DBPAP - Enhanced Biodefense (ENBD) ***Description:*** Development ***FY 2023 Plans:*** Expansion of site locations for increased sequencing capabilities to monitor critical assay performance that detect biothreats, and exchange critical data (sequence information) collected at these sites. (One Site Per Year through FY28). Expanding the repository of collected biothreat genomic information to a government access controlled,cloud-based information center in order to support analytics from the field. Enable exchange of data by creating data compression/decompression capabilities prior to storage and retrieval on GARDIC. Expansion of biorepository of targeted biothreats and toxins strategically against emerging diseases and potential pandemics. Maintain information storage capabilities on DoD Accredited sites ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	2.600
Title: 14) NBCRV SSU	-	-	15.224

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: CBRN Sensor Development and Integration ***FY 2023 Plans:*** Continue government strategic planning, systems engineering, logistics, training, test and evaluation, technical support, integration, and system level developmental testing. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($18.159 Million) remains in CA5. Decrease due to less effort required because of work already completed and baseline of the system established with the Conditional Materiel Release version of the system. In FY23 primary focus will be on developing sensors and to integrate sensor suite prototype development for the final system configuration (Full Materiel Release version).			
Title: 15) NBCRV SSU ***Description:*** Program Management Support ***FY 2023 Plans:*** Continue program office management and administration processes to include but not limited to program oversight, resource justification, budgeting and programming, milestone and schedule tracking. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($3.182 Million) remains in CA5. Minor change due to routine program adjustments	-	-	1.692
Title: 16) Advanced Emerging Threat (AET) Defense ***Description:*** This effort will focus on Expand capabilities of Defense Biological Product Assurance Office. This effort includes Program Management, Product Development, Support, and Testing of technologies that have been demonstrated to be TRL 6 or higher in order to rapidly field solutions to combat emerging threats. ***FY 2023 Plans:*** Continue efforts to leverage expanded requirements to broaden data set for emerging biological threats and PBAs. Produce additional data to better assess detection and decontamination capabilities against new requirements and inform rapid fielding decisions. Conduct field exercises to support Joint Service and interagency tactics, techniques, and procedures (TTP) development and gap analysis for materiel solutions. Assess potential upgrades to systems in the Engineering and Manufacturing Development (EMD) phase of acquisitions to add emerging threat capability prior to or shortly after fielding. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	-	1.248

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred from another Project due to budget restructure. FY22 funding ($2.626 Million) remains in CA5. Decrease due to change in program/project schedule.			
Accomplishments/Planned Programs Subtotals	-	-	127.671

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• CA4: *Contamination Avoidance (ACD&P)*	9.367	32.923	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	42.290
• MB4: *Medical Biological Defense (ACD&P)*	42.993	47.351	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	90.344
• UN4: *Understand (ACD&P)*	0.000	0.000	57.908	-	57.908	55.291	59.174	57.358	33.474	Continuing	Continuing
• CA5: *Contamination Avoidance (SDD)*	129.914	82.295	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	212.209
• IP5: *Individual Protection (SDD)*	17.129	18.941	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.070
• MB5: *Medical Biological Defense (SDD)*	117.157	137.348	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	254.505
• IP7: *Individual Protection (Op Sys Dev)*	7.605	11.724	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	19.329
• UN7: *Understand (Op Sys Dev)*	0.000	0.000	42.856	-	42.856	35.884	42.602	42.603	44.196	Continuing	Continuing
• JX0210: *DEFENSE BIOLOGICAL PRODUCTS ASSURANCE PROGRAM (DBPAP)*	2.845	2.760	2.736	-	2.736	2.736	2.736	2.736	2.736	Continuing	Continuing
• MX0001: *JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)*	0.000	17.060	11.193	-	11.193	21.424	22.238	17.385	44.150	Continuing	Continuing
• PHM018: *SPU RAPID CAPABILITY DEVELOPMENT AND DEMO (SPU RCDD)*	8.808	6.946	13.739	-	13.739	5.973	5.974	5.980	5.980	Continuing	Continuing
• SA0005: *CBRN SENSOR INTEGRATION ON ROBOTIC PLATFORMS (CSIRP)*	0.503	3.461	2.099	-	2.099	2.626	3.014	3.753	4.563	Continuing	Continuing

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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• SA0015: *AEROSOL VAPOR CHEMICAL AGENT DETECTOR (AVCAD)*	0.000	0.000	0.000	-	0.000	66.193	78.210	69.497	81.409	Continuing	Continuing
• SA0017: *MULTIPHASE CHEMICAL AGENT DETECTOR (MPCAD)*	0.000	9.302	11.912	-	11.912	21.826	21.852	36.758	39.520	Continuing	Continuing
• SA0024: *COMPACT VAPOR CHEMICAL AGENT DETECTOR (CVCAD)*	0.000	0.000	0.000	-	0.000	0.000	0.000	11.854	9.444	Continuing	Continuing
• SA0043: *NEXT GEN DIAG 2 CHEMICAL DIAGNOSTICS (NGDS 2 CHEM DX)*	0.000	0.000	0.000	-	0.000	7.778	12.730	12.730	12.730	Continuing	Continuing
• SA0044: *NEXT GEN DIAG 2 MAN PORTABLE DIAGNOSTIC SYSTEM (NGDS 2 MPDS)*	0.000	4.624	3.126	-	3.126	4.915	5.374	3.006	0.538	Continuing	Continuing

Remarks

D. Acquisition Strategy

AEROSOL VAPOR CHEMICAL AGENT DETECTOR (AVCAD)

Aerosol & Vapor Chemical Agent Detector (AVCAD) awarded two MS B Engineering and Manufacturing Development (EMD) contracts with production options. The AVCAD program is conducting full EMD DT Record Testing in support of the Milestone C decision. If supported by EMD Test Data and funding, the program may conduct P&D phase testing with LRIP units from both vendors to promote FRP price competition.

COMPACT VAPOR CHEMICAL AGENT DETECTOR (CVCAD)

The CVCAD program will use the Combating Weapons of Mass Destruction Other Transaction Authority (CWMD OTA) contract vehicle to transition four technologies from Science & Technology (S&T) into the program of record. This streamlined acquisition approach is broken into four phases uses one contracting mechanism to award one contract with follow-on acquisition awards; Phase I S&T advanced development, Phase II technology transition maturation evaluation, Phase III competitive prototyping down select and Engineering decision. CVCAD will brief Acquisition Steering Panel (ASP) in 2QFY23 to inform milestone decision and prepare for next milestone, Milestone B or Middle Tier Acquisition (MTA). Phase IV will execute Production and Development for low rate initial production systems.

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SPU RAPID CAPABILITY DEVELOPMENT AND DEPLOYMENT (SPU RCDD)

The SPU RCDD overall acquisition strategy allows for rapid prototyping and testing of mission critical capabilities needed to enhance mission success, and will use technical and functional evaluations of currently-fielded items to introduce and incorporate operationally-relevant system developments. This will be accomplished through competitive contracting vehicles and by awarding agreements under the Countering Weapons of Mass Destruction Other Transaction Authority (CWMD OTA) for the development of prototype test assets. The OTA consists of a consortium of all potential industry, research institutions, and non-traditional government that could be potential solvers for the program, and will be used to procure test prototypes and test articles of possible solutions. Procurement will be through either the OTAs, a Small Business Innovative Research contract, or a more traditional contracting vehicle.

MULTI-PHASE CHEMICAL AGENT DETECTOR (MPCAD)

The Multi-Phase Chemical Agent Detector (MPCAD) (formerly NGCD 3) is using a streamlined acquisition strategy. The MPCAD contract(s) are utilizing the Countering Weapons of Mass Destruction (CWMD) Other Transaction Authority (OTA) for EMD and LRIP items. The MPCAD will procure production items through a follow-on Federal Acquisition Regulation based contract. The program will develop and validate the systems during EMD and LRIP utilizing two contractors to increase competition and minimize production price.

CBRN SENSOR INTEGRATION ON ROBOTIC PLATFORMS (CSIRP)

CSIRP is a streamlined and tailored acquisition effort to rapidly prototype and field CBRN payload capabilities for unmanned platforms. CSIRP will provide and integrate unmanned CBRN payload prototypes in cyclic prototyping plan cycles based on service requirements. The prototyping plans will use a streamlined acquisition process in order to keep pace with industry and the rapid advancement of technologies. The CSIRP strategy is to utilize the rapid prototyping process enabled by the Other Transactional Agreements (OTA) contract vehicle. Upon award, the awardees will have two to three years to produce prototype sensors that are integrated onto service selected (air and/or ground) platforms. These prototypes will be demonstrated, evaluated and tested by the Services as well as laboratories and academia. Successful prototypes will be transitioned to the platforms and services for the next steps in acquisition, production and eventual fielding across the services. BA4 funding provided market research to support the refinement and the building of technologically mature prototypes. BA5 funding provides integration, demonstrations, testing and operational assessments of prototypes to support transition decisions for residual capabilities and final configurations to Program of Record (PoR) or sustained capability.

NEXT GEN DIAG 2 CHEMICAL DIAGNOSTICS (NGDS 2 CHEMDX)

NGDS Increment 2 ChemDx is using an Other Transactions Authority (OTA) agreement to take advantage of nontraditional Defense contractor offerings. NGDS 2 ChemDx will use the agreement holder to conduct system development, clinical trials and pre-developmental testing (pre-DT) testing. ChemDx will use Department of Defense (DoD) test agencies to conduct Development Testing and operational user evaluations. Clinical trials will inform approval of the ChemDx system by the U.S. Food and Drug Administration for "Prescription Home Use."

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JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)

The JBTDS program awarded a full and open contract to Chemring Sensors and Electronic Systems (CSES) in the 3rd Quarter of FY15 for Engineering and Manufacturing Development (EMD) with options for Low Rate Initial Production (LRIP) and Full Rate Production (FRP). The JBTDS program uses an evolutionary acquisition strategy. Under this approach, capability is developed based on current technologies, recognizing up front the need for potential technology insertion as technology advances to provide better and more cost effective capabilities. Technology insertions will provide militarily useful and supportable operational capabilities that can be developed, produced, deployed, and sustained. Based on the results at Biological Point System Assessment (BPSA), JBTDS selected integration with the TacBio2 as the detector and Joint Handheld Biological Identifier (JHBI) as the identification capability. These technologies will offer significant production and O&S cost savings.

NEXT GEN DIAG 2 MAN PORTABLE DIAGNOSTIC SYSTEM (NGDS 2 MPDS)

NGDS 2 MPDS is currently in engineering and manufacturing development (EMD). MPDS is using Other Transactions Authority (OTA) agreements to take advantage of nontraditional Defense contractor offerings. MPDS will use the agreement holder to conduct the clinical trials and pre-developmental testing (pre-DT) instrument testing. MPDS will be using DoD clinical trial sites to support the agreement holder. MPDS will be using Department of Defense (DoD) agencies to conduct DT, operational assessment (OA), and Initial Operational Test & Evaluation (IOT&E). For the Production/Deployment Phase, the NGDS 2 MPDS will be using a COVID established Indefinite Delivery/Indefinite Quantity (IDIQ) contract with the EMD performer to procure prime mission product, support, and assays.

CHEMICAL AND BIOLOGICAL WEARABLES-ENHANCED BIODEFENSE (CB WEARABLES-ENBD)

CB Wearables-ENBD Develops deployable software algorithms and integrated wearable capabilities that combine emerging threat exposure with additional tactical, readiness, and performance monitoring functions. The system will include a family of wearable devices, predictive algorithms, and network interfaces operating securely on existing Joint Force networks. The desired outcome is a person-worn multi-functional capability that provides integrated early warning and surveillance of potential exposure and infection at the tactical and operational level throughout the Joint Force.

SURVEILLANCE AND PATHOGEN CHARACTERIZATION-ENHANCED BIODEFENSE (SPCHAR-ENBD)

SPCHAR-ENBD develops secure interfaces between the joint service contact tracing solutions emerging from the JEONS JS-0003 response and the pre-symptomatic exposure wearable capabilities outlined in CB WEARABLES-ENBD. The integrated system will provide case management contact tracing and digital proximity tools that enable commanders to identify, notify, monitor, and case manage service members that test positive for an emerging threat. The result is a consolidated system that 1) predicts potential infection via pre-symptomatic exposure wearable capabilities, and 2) directly supports and manages response actions for infected individuals.

Pathogenicity Studies will investigate pathogenesis, biomarkers, endpoints, or disease surrogates of selected CBRN threat agents and/or verify usefulness of pathogenicity models. Results from these studies will be utilized to: identify targets for potential MCMs and MCM development, test and evaluate MCMs, and identify groups of CBRN threat agents that can be treated by broad-spectrum MCMs.

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DEFENSE BIOLOGICAL PRODUCTS ASSURANCE PROGRAM (DBPAP)

The Defense Biological Products Assurance Program's (DBPAP) strategy establishes a core research and development capability to develop biological threat agent reference materials (antigens, nucleic acids, and antibodies) as well as detection and diagnostic assays for bio-threat agent detection that shall be used across multiple detection and diagnostic platforms. In addition, this strategy includes a formal, validated advanced development process for transitioning new assays into production and subsequent integration with the appropriate detection/diagnostic platform. DBPAP provides a centralized management function for the establishment of a common repository of standardized biological materials to effectively support the Department of Defense (DoD)'s and the Department of Homeland Security's (DHS) mission of providing consistent capabilities and a capacity for customers to mitigate biological events.

DEFENSE BIOLOGICAL PRODUCTS ASSURANCE PROGRAM-ENHANCED BIODEFENSE (DBPAP-ENBD)

The DBPAP strategy supports biodefense efforts, in part, through its Targeted Acquisition of Reference Materials Augmenting Capabilities (TARMAC) initiative. The support is directed at modernization and acceleration of these on-going activities i.e. expansion of sites for targeted acquisition of reference materials and information. Data generated through the use of products and partnership coordinated through TARMAC is collected and curated into a database otherwise known as the Government Assay and Reagents for Defense Information Center (GARDIC). This data is available to other agencies within the DOD and across the U.S. government. The DBPAP will continue to coordinate with international and interagency partners to set the conditions to sequence strains of interest that characterize the virus at fixed and far forward locations. Additionally, DBPAP works with allies and partners to generate data on pathogens of interest and analyze the data to inform product development. The DBPAP uses internally developed as well as commercially acquired analytical tools to determine the efficacy of the government assays and supports development of appropriate countermeasures. DBPAP will supports rapid innovation of new biological technologies by facilitating transitions and coordinating their advanced development, efficient production, and timely distribution.

NBCRV SSU (NBCRV SSU)

The acquisition strategy for the Stryker NBCRV SSU is to integrate mature sensors into the Stryker NBCRV to support the Joint Modernization Focused Assessment and system level testing. The Joint Modernization Command Focused Assessment provided user feedback and operational data to support programmatic and technical decisions. Following the testing and demonstration, the hardware and software was fixed and updated for government developmental and operational testing. Materiel Release decision will be held after system testing is conducted, to approve a Production Decision and Modification Work Order for fielding the first increment at an accelerated pace, defined as Capability Set 2.1 (CS2.1). Additional capability will be added to the system and tested as part of Capability Set 2.2 (CS2.2) in FY23-25. The production and fielding of both Capability Sets are funded using Army funds.

ADVANCED AND EMERGING THREAT DEFENSE (AET DEFENSE)

The AET Defense program will use a variety of acquisition approaches to survey, develop, assess, and rapidly field technologies to inform and fill advanced and emerging threat gaps. The program will utilize an existing Multiple Award Indefinite Delivery Indefinite Quantify Task Order Contract to provide technical support

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

to studies and assessments of performance against emerging threats. For Program of Record (PoR) systems currently in development that will be assessed for performance against emerging threats, those PoR's existing contracts will be modified to incorporate development engineering and test support for emerging threat capability. The AET Defense program will utilize OTAs for system development and prototyping activities and Government Agencies and Federally Funded Research and Development Centers to provide development, testing and technical support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCAD - SW C - PBA Development	C/CPIF	TBD : N/A	0.000	0.000		0.000		0.600	Nov 2022	0.000		0.600	Continuing	Continuing	0.000
AVCAD - HW P&D - Government Product Development Team Labor	MIPR	Various : Various	0.000	0.000		0.000		2.200	Nov 2022	0.000		2.200	Continuing	Continuing	0.000
AVCAD - HW S - P&D Contract- Smiths Detection	C/CPIF	Smiths Detection : Edgewood, MD	0.000	0.000		0.000		6.019	Nov 2022	0.000		6.019	Continuing	Continuing	0.000
CVCAD - HW S - CWMD OTA Phase 3 Task Awards	MIPR	Advanced Technologies International : Summerville, SC	0.000	0.000		0.000		3.572	Jun 2023	0.000		3.572	Continuing	Continuing	0.000
SPU RCDD - HW C - Prototype Procurement	Various	Various : Various	0.000	0.000		0.000		4.802	Dec 2022	0.000		4.802	Continuing	Continuing	0.000
MPCAD - HW S - EMD Contract - FLIR	C/CPFF	FLIR Systems : Inc., West Lafayette, IN	0.000	0.000		0.000		0.750	Nov 2022	0.000		0.750	Continuing	Continuing	0.000
MPCAD - PM/MS S - Government Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.000		0.200	Nov 2022	0.000		0.200	Continuing	Continuing	0.000
MPCAD - HW S - EMD Contract - Sig Sci	C/CPFF	Signature Science : Austin, TX	0.000	0.000		0.000		0.639	Nov 2022	0.000		0.639	Continuing	Continuing	0.000
CSIRP - HW C - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.000		1.900	Nov 2022	0.000		1.900	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) UN5 / *Understand (SDD)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CSIRP - SW C - UAS and Sensor Manufacturing and Design	C/CPFF	T2S Solutions (T2S : LLC), Belcamp, MD	0.000	0.000		0.000		1.468	Nov 2022	0.000		1.468	Continuing	Continuing	0.000
CSIRP - SW C - Sensor Integration	C/CPFF	Charles Stark Draper Laboratories : Inc., Cambridge, MA	0.000	0.000		0.000		1.000	Nov 2022	0.000		1.000	Continuing	Continuing	0.000
CSIRP - HW C - UAS Manufacturing and Design	MIPR	Various : Various	0.000	0.000		0.000		3.000	Nov 2022	0.000		3.000	Continuing	Continuing	0.000
CSIRP - HW C - Contractor Product Development Team Labor	C/FFP	Kalman & Company Inc. : Virginia Beach, VA	0.000	0.000		0.000		0.500	Feb 2023	0.000		0.500	Continuing	Continuing	0.000
CSIRP - HW C - Chem Sensor Design	Various	Various : Various	0.000	0.000		0.000		1.300	Nov 2022	0.000		1.300	Continuing	Continuing	0.000
NGDS 2 CHEMDX - HW C - Product Management	Various	Various : Various	0.000	0.000		0.000		1.904	Dec 2022	0.000		1.904	Continuing	Continuing	0.000
NGDS 2 CHEMDX - HW C - Product Development	C/CPFF	MRIGlobal : Palm Bay, FL	0.000	0.000		0.000		1.248	Dec 2022	0.000		1.248	Continuing	Continuing	0.000
NGDS 2 MPDS - HW C - Product Management	Various	Various : Various	0.000	0.000		0.000		0.988	Dec 2022	0.000		0.988	Continuing	Continuing	0.000
NGDS 2 MPDS - HW C - Man Portable Diagnostic System (MPDS)	C/CPFF	Cepheid : Sunnyvale, CA	0.000	0.000		0.000		4.175	Dec 2022	0.000		4.175	Continuing	Continuing	0.000
CB WEARABLES-ENBD - HW C - Wearables Platform Development	C/CPFF	Various : Various	0.000	0.000		0.000		19.816	Jan 2023	0.000		19.816	Continuing	Continuing	0.000
CB WEARABLES-ENBD - SW C - Wearables Software Interface Development	C/CPFF	Various : Various	0.000	0.000		0.000		10.460	Jan 2023	0.000		10.460	Continuing	Continuing	0.000
SPCHAR-ENBD - SW C - JEONS JS 0003 Integration	C/CPFF	Various : Various	0.000	0.000		0.000		2.600	Jan 2023	0.000		2.600	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DBPAP - HW C - Development of Select Biological Threat Agent Reference Materials and Assays	MIPR	Various : Various	0.000	0.000		0.000		3.618	Mar 2023	0.000		3.618	Continuing	Continuing	0.000
DBPAP-ENBD - HW C - Targeted Acquisition of Reference Materials Augmenting Capabilities (TARMAC) initiative	MIPR	Various : Various	0.000	0.000		0.000		2.600	Feb 2023	0.000		2.600	Continuing	Continuing	0.000
NBCRV SSU - SW C - Integration	C/FFP	FLIR Systems Inc. : Elkridge, MD	0.000	0.000		0.000		2.223	Nov 2022	0.000		2.223	Continuing	Continuing	0.000
NBCRV SSU - HW C - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.000		2.535	Nov 2022	0.000		2.535	Continuing	Continuing	0.000
NBCRV SSU - HW C - Virtual Trainer	Various	Various : Various	0.000	0.000		0.000		1.419	Nov 2022	0.000		1.419	Continuing	Continuing	0.000
NBCRV SSU - HW C - Contractor Team Labor	C/FFP	Various : Various	0.000	0.000		0.000		0.549	Feb 2023	0.000		0.549	Continuing	Continuing	0.000
AET DEFENSE - SW C - Prototyping and Modification	Various	Various : Various	0.000	0.000		0.000		0.197	Feb 2023	0.000		0.197	Continuing	Continuing	0.000
AET DEFENSE - HW S - System Prototyping and Modification	Various	Various : Various	0.000	0.000		0.000		0.197	Feb 2023	0.000		0.197	Continuing	Continuing	0.000
AET DEFENSE - HW S - Emerging threat detection/ decontamination/protection capability engineering development	Various	Various : Various	0.000	0.000		0.000		0.197	Jan 2023	0.000		0.197	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		82.676		0.000		82.676	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCAD - ES C - OGAs	MIPR	Various : Various	0.000	0.000		0.000		3.017	Nov 2022	0.000		3.017	Continuing	Continuing	0.000
SPU RCDD - ES C - Engineering Support	Various	Various : Various	0.000	0.000		0.000		0.626	Dec 2022	0.000		0.626	Continuing	Continuing	0.000
CSIRP - ES C - Eng Support	Various	Various : Various	0.000	0.000		0.000		0.390	Nov 2022	0.000		0.390	Continuing	Continuing	0.000
CB WEARABLES-ENBD - ES S - Wearables Systems Engineering Support Services	MIPR	Various : Various	0.000	0.000		0.000		4.023	Jan 2023	0.000		4.023	Continuing	Continuing	0.000
DBPAP - ES C - Select Biological Threat Agent Reference Material Support	MIPR	Various : Various	0.000	0.000		0.000		1.683	Mar 2023	0.000		1.683	Continuing	Continuing	0.000
DBPAP - ES C - Select Biological Threat Agent Reference Material Regulatory/Quality Assurance (QA) Support	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.000		1.699	Mar 2023	0.000		1.699	Continuing	Continuing	0.000
NBCRV SSU - ES C - Contract and Product Support	Various	Various : Various	0.000	0.000		0.000		1.350	Nov 2022	0.000		1.350	Continuing	Continuing	0.000
NBCRV SSU - ES C - Stryker NBCRV Maintenance	C/FFP	General Dynamics Land Systems : Detroit, MI	0.000	0.000		0.000		4.043	Nov 2022	0.000		4.043	Continuing	Continuing	0.000
NBCRV SSU - ILS C - Logistic Support	C/FFP	TBD : N/A	0.000	0.000		0.000		0.250	Nov 2022	0.000		0.250	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		17.081		0.000		17.081	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCAD - OTE C - DT/OT Test Activities	MIPR	Various : Various	0.000	0.000		0.000		3.300	Nov 2022	0.000		3.300	Continuing	Continuing	0.000
SPU RCDD - DTE C - Testing and Evaluation	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.000		0.449	Dec 2022	0.000		0.449	Continuing	Continuing	0.000
MPCAD - DTE C - DT/OT Chemical Chamber Event	MIPR	West Desert Test Center : Dugway, UT	0.000	0.000		0.000		0.164	Nov 2022	0.000		0.164	Continuing	Continuing	0.000
MPCAD - DTE C - Program Management Evaluation for Solid/Liquid Vapor Testing	MIPR	West Desert Test Center : Dugway, UT	0.000	0.000		0.000		0.150	Nov 2022	0.000		0.150	Continuing	Continuing	0.000
CSIRP - DTE C CSIRP Testing and Evaluation	Various	Various : Various	0.000	0.000		0.000		1.500	Nov 2022	0.000		1.500	Continuing	Continuing	0.000
CSIRP - DTE C	MIPR	Johns Hopkins University - Applied Physics Lab : Laurel, MD	0.000	0.000		0.000		0.400	Nov 2022	0.000		0.400	Continuing	Continuing	0.000
NGDS 2 CHEMDX - DTE S - Testing	MIPR	Various : Various	0.000	0.000		0.000		1.116	Dec 2022	0.000		1.116	Continuing	Continuing	0.000
JBTDS - DTE SB - Identifier Live Agent Trials / Developmental Testing	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.000		1.126	Nov 2022	0.000		1.126	Continuing	Continuing	0.000
JBTDS - DTE - Testing	MIPR	Various : Various	0.000	0.000		0.000		0.321	Nov 2022	0.000		0.321	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JBTDS - DTE - ARCA Chamber and Record Test Support	C/FFP	Battelle Memorial Institute : Columbus, OH	0.000	0.000		0.000		0.395	Jan 2023	0.000		0.395	Continuing	Continuing	0.000
JBTDS - OT - Operational Assessment	MIPR	Various : Various	0.000	0.000		0.000		0.754	Nov 2022	0.000		0.754	Continuing	Continuing	0.000
NGDS 2 MPDS - OTHT S - BSL4 Testing	MIPR	US Army Medical Research and Development Command (USAMRDC) : Fort Detrick, MD	0.000	0.000		0.000		0.286	Dec 2022	0.000		0.286	Continuing	Continuing	0.000
NGDS 2 MPDS - DTE S - System Test & Evaluation	MIPR	Various : Various	0.000	0.000		0.000		0.131	Dec 2022	0.000		0.131	Continuing	Continuing	0.000
CB WEARABLES-ENBD - DTE S - Wearables System DT&E	MIPR	Various : Various	0.000	0.000		0.000		0.725	Jan 2023	0.000		0.725	Continuing	Continuing	0.000
NBCRV SSU - DTE C - Test and Evaluation	Various	TBD : N/A	0.000	0.000		0.000		2.855	Nov 2022	0.000		2.855	Continuing	Continuing	0.000
AET DEFENSE - OTHT C - Product Demonstration Events for Users	MIPR	Various : Various	0.000	0.000		0.000		0.284	Feb 2023	0.000		0.284	Continuing	Continuing	0.000
AET DEFENSE - DTE S - Technology Assessments	Various	Various : Various	0.000	0.000		0.000		0.284	Dec 2022	0.000		0.284	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		14.240		0.000		14.240	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCAD - PM/MS S - Program Management	MIPR	Various : Various	0.000	0.000		0.000		1.808	Nov 2022	0.000		1.808	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CVCAD - PM/MS C - Program Management Support	MIPR	Various : Various	0.000	0.000		0.000		0.034	Dec 2022	0.000		0.034	Continuing	Continuing	0.000
SPU RCDD - PM/MS C - Program Management Support	Various	Various : Various	0.000	0.000		0.000		0.986	Dec 2022	0.000		0.986	Continuing	Continuing	0.000
MPCAD - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.000		0.000		0.200	Nov 2022	0.000		0.200	Continuing	Continuing	0.000
CSIRP - PM/MS S Program Management Support	Various	Various : Various	0.000	0.000		0.000		1.272	Jan 2023	0.000		1.272	Continuing	Continuing	0.000
NGDS 2 CHEMDX - PM/MS S - JPM/JPEO Management Services	Various	Various : Various	0.000	0.000		0.000		1.020	Dec 2022	0.000		1.020	Continuing	Continuing	0.000
NGDS 2 MPDS - PM/MS S - JPM/JPEO Management Services	Various	Various : Various	0.000	0.000		0.000		1.334	Dec 2022	0.000		1.334	Continuing	Continuing	0.000
CB WEARABLES-ENBD - PM/MS C - Program Management	MIPR	Various : Various	0.000	0.000		0.000		3.676	Jan 2023	0.000		3.676	Continuing	Continuing	0.000
SPCHAR-ENBD - PM/MS C - Program Management	MIPR	Various : Various	0.000	0.000		0.000		0.400	Jan 2023	0.000		0.400	Continuing	Continuing	0.000
DBPAP - PM/MS C - Product Management Contractor Support	SS/FFP	Various : Various	0.000	0.000		0.000		1.163	Mar 2023	0.000		1.163	Continuing	Continuing	0.000
NBCRV SSU - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.000		0.000		1.692	Jan 2023	0.000		1.692	Continuing	Continuing	0.000
AET DEFENSE - PM/MS S - IPT Support/Program Management	MIPR	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	0.000		0.000		0.089	Dec 2022	0.000		0.089	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		13.674		0.000		13.674	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) UN5 / *Understand (SDD)*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		127.671		0.000		127.671	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

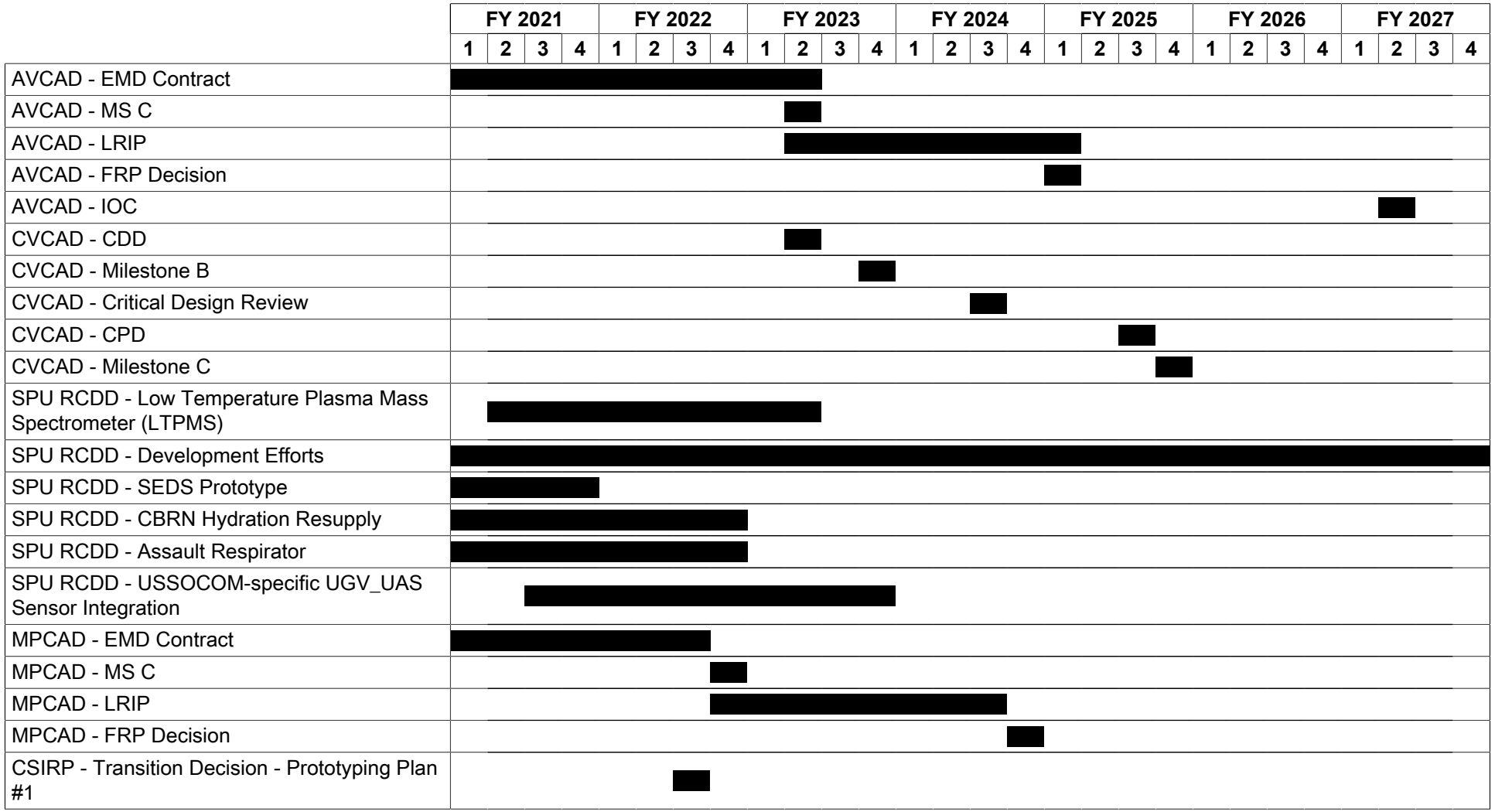

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

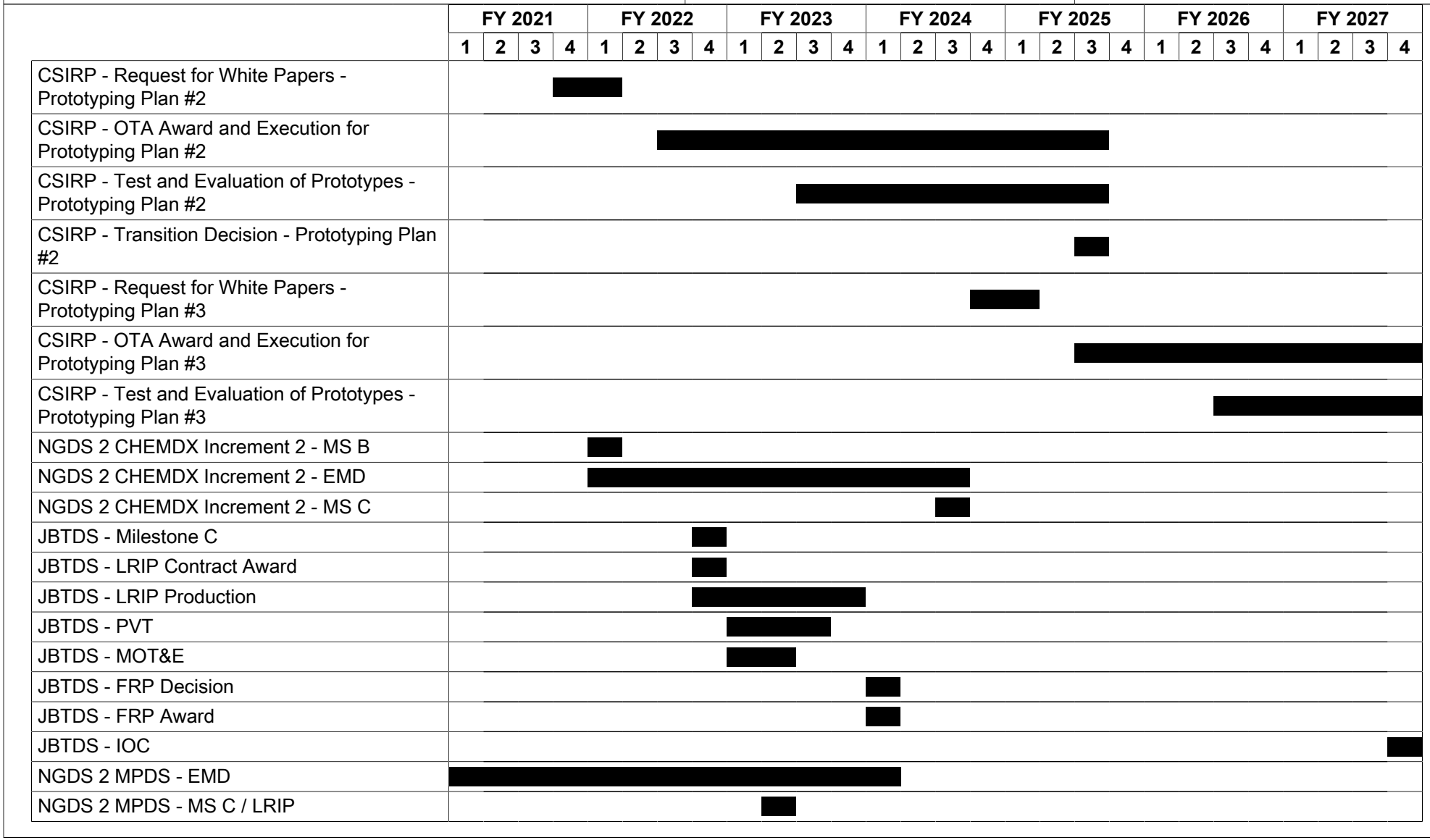

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

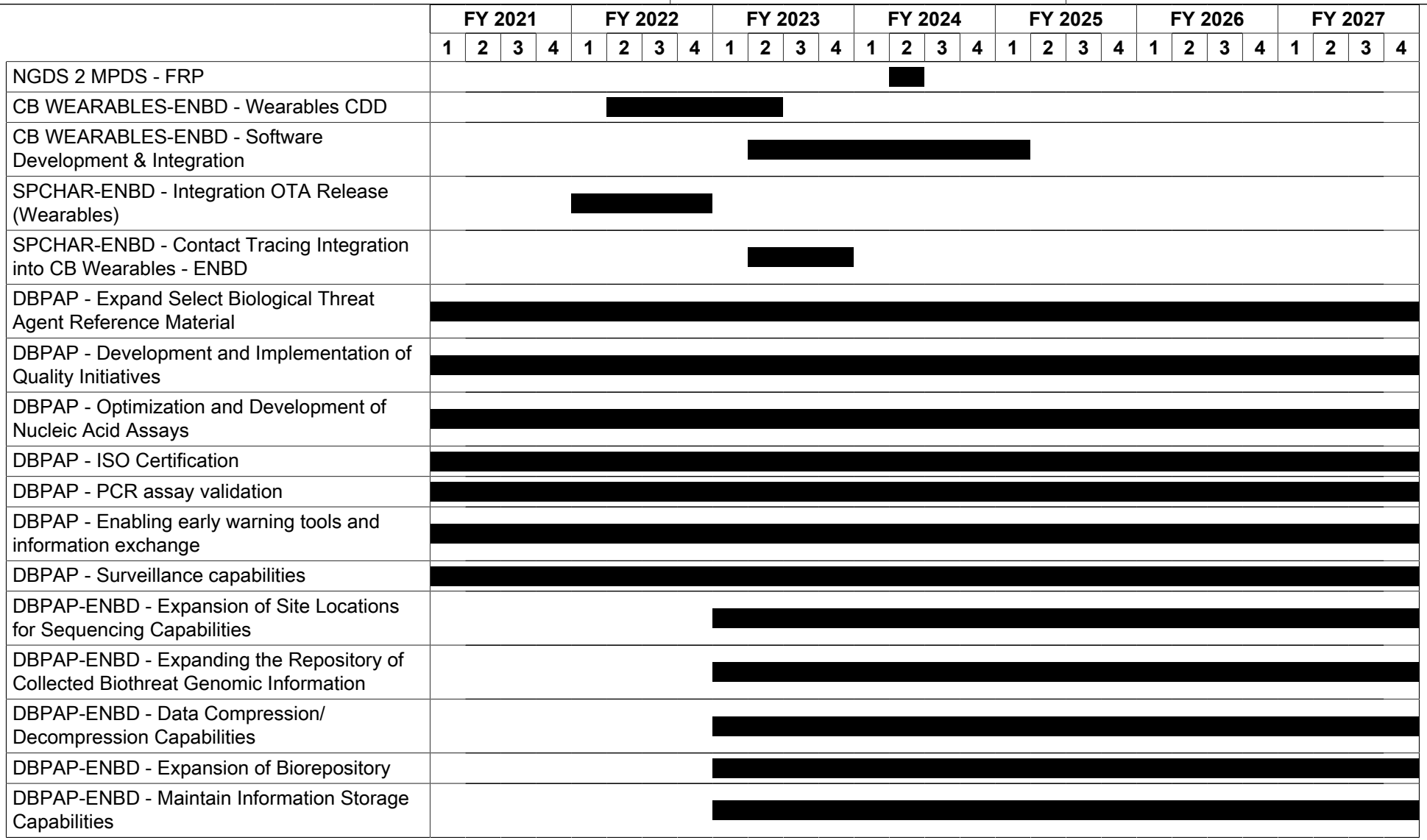

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

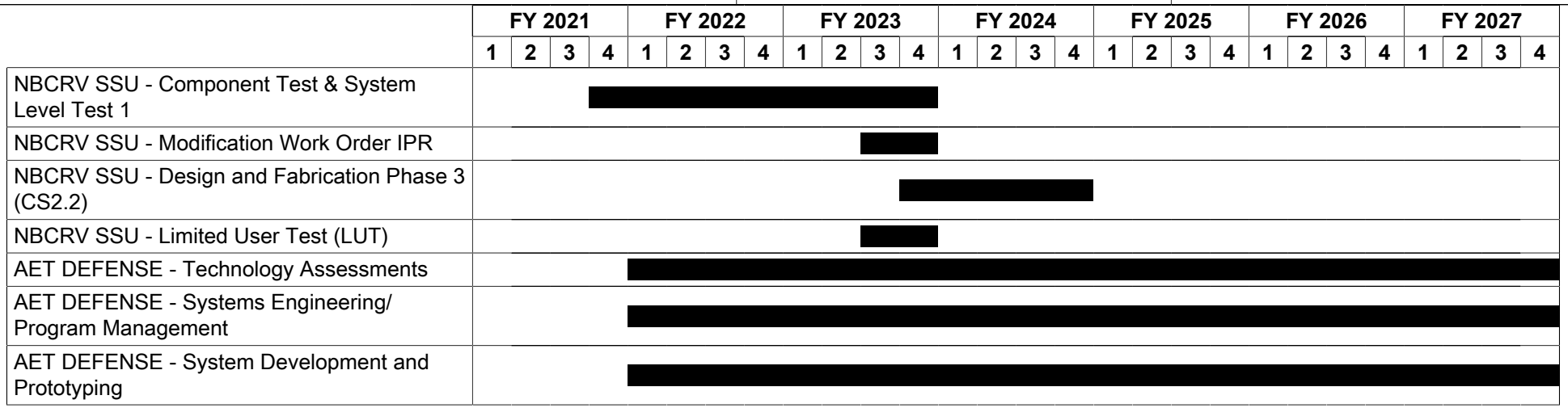

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AVCAD - EMD Contract	1	2021	2	2023
AVCAD - MS C	2	2023	2	2023
AVCAD - LRIP	2	2023	1	2025
AVCAD - FRP Decision	1	2025	1	2025
AVCAD - IOC	2	2027	2	2027
CVCAD - CDD	2	2023	2	2023
CVCAD - Milestone B	4	2023	4	2023
CVCAD - Critical Design Review	3	2024	3	2024
CVCAD - CPD	3	2025	3	2025
CVCAD - Milestone C	4	2025	4	2025
SPU RCDD - Low Temperature Plasma Mass Spectrometer (LTPMS)	2	2021	2	2023
SPU RCDD - Development Efforts	1	2021	4	2027
SPU RCDD - SEDS Prototype	1	2021	4	2021
SPU RCDD - CBRN Hydration Resupply	1	2021	4	2022
SPU RCDD - Assault Respirator	1	2021	4	2022
SPU RCDD - USSOCOM-specific UGV_UAS Sensor Integration	3	2021	4	2023
MPCAD - EMD Contract	1	2021	3	2022
MPCAD - MS C	4	2022	4	2022
MPCAD - LRIP	4	2022	3	2024
MPCAD - FRP Decision	4	2024	4	2024
CSIRP - Transition Decision - Prototyping Plan #1	3	2022	3	2022
CSIRP - Request for White Papers - Prototyping Plan #2	4	2021	1	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CSIRP - OTA Award and Execution for Prototyping Plan #2	3	2022	3	2025
CSIRP - Test and Evaluation of Prototypes - Prototyping Plan #2	3	2023	3	2025
CSIRP - Transition Decision - Prototyping Plan #2	3	2025	3	2025
CSIRP - Request for White Papers - Prototyping Plan #3	4	2024	1	2025
CSIRP - OTA Award and Execution for Prototyping Plan #3	3	2025	4	2027
CSIRP - Test and Evaluation of Prototypes - Prototyping Plan #3	3	2026	4	2027
NGDS 2 CHEMDX Increment 2 - MS B	1	2022	1	2022
NGDS 2 CHEMDX Increment 2 - EMD	1	2022	3	2024
NGDS 2 CHEMDX Increment 2 - MS C	3	2024	3	2024
JBTDS - Milestone C	4	2022	4	2022
JBTDS - LRIP Contract Award	4	2022	4	2022
JBTDS - LRIP Production	4	2022	4	2023
JBTDS - PVT	1	2023	3	2023
JBTDS - MOT&E	1	2023	2	2023
JBTDS - FRP Decision	1	2024	1	2024
JBTDS - FRP Award	1	2024	1	2024
JBTDS - IOC	4	2027	4	2027
NGDS 2 MPDS - EMD	1	2021	1	2024
NGDS 2 MPDS - MS C / LRIP	2	2023	2	2023
NGDS 2 MPDS - FRP	2	2024	2	2024
CB WEARABLES-ENBD - Wearables CDD	2	2022	2	2023
CB WEARABLES-ENBD - Software Development & Integration	2	2023	1	2025
SPCHAR-ENBD - Integration OTA Release (Wearables)	1	2022	4	2022
SPCHAR-ENBD - Contact Tracing Integration into CB Wearables - ENBD	2	2023	4	2023
DBPAP - Expand Select Biological Threat Agent Reference Material	1	2021	4	2027

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** UN5 / *Understand (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DBPAP - Development and Implementation of Quality Initiatives	1	2021	4	2027
DBPAP - Optimization and Development of Nucleic Acid Assays	1	2021	4	2027
DBPAP - ISO Certification	1	2021	4	2027
DBPAP - PCR assay validation	1	2021	4	2027
DBPAP - Enabling early warning tools and information exchange	1	2021	4	2027
DBPAP - Surveillance capabilities	1	2021	4	2027
DBPAP-ENBD - Expansion of Site Locations for Sequencing Capabilities	1	2023	4	2027
DBPAP-ENBD - Expanding the Repository of Collected Biothreat Genomic Information	1	2023	4	2027
DBPAP-ENBD - Data Compression/Decompression Capabilities	1	2023	4	2027
DBPAP-ENBD - Expansion of Biorepository	1	2023	4	2027
DBPAP-ENBD - Maintain Information Storage Capabilities	1	2023	4	2027
NBCRV SSU - Component Test & System Level Test 1	4	2021	4	2023
NBCRV SSU - Modification Work Order IPR	3	2023	4	2023
NBCRV SSU - Design and Fabrication Phase 3 (CS2.2)	4	2023	4	2024
NBCRV SSU - Limited User Test (LUT)	3	2023	4	2023
AET DEFENSE - Technology Assessments	1	2022	4	2027
AET DEFENSE - Systems Engineering/Program Management	1	2022	4	2027
AET DEFENSE - System Development and Prototyping	1	2022	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) CA5 / *Contamination Avoidance (SDD)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
CA5: *Contamination Avoidance (SDD)*	-	129.914	82.295	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	212.209
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports Engineering and Manufacturing Development (EMD) and Low Rate Initial Production (LRIP) of an array of reconnaissance, detection and identification equipment, and warning systems. In FY2023, the CBDP RDT&E Projects have been restructured to align to the CBDP portfolio. CA5 efforts in FY2022 progress to the Understand (UN5) portfolio. This restructuring is intended to provide standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:
(1) Aerosol & Vapor Chemical Agent Detector (AVCAD) **Progresses to UN5 in FY2023**,
(2) Multi-Phase Chemical Agent Detector (MPCAD) **Progresses to UN5 in FY2023**,
(3) Chemical Biological Radiological and Nuclear (CBRN) Sensor Integration on Robotics Platforms (CSIRP) **Progresses to UN5 in FY2023**,
(4) Compact Vapor Chemical Agent Detector (CVCAD) **Progresses to UN5 in FY2023**,
(5) Joint Biological Tactical Detection System (JBTDS) **Progresses to UN5 in FY2023**,
(6) Joint Nuclear Biological Chemical Radiological System (JNBCRS) 1, renamed NBCRV SSU in FY22
(7) Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU) **Progresses to UN5 in FY2023**,
(8) Mounted Enhanced Radiac Long Range Imaging Networkable (MERLIN),
(9) Non-Traditional Agent Defense (NTA DEFENSE),
(10) Advanced Emerging Threat Defense (AET DEFENSE) **Progresses to UN5 in FY2023**, and
(11) Reactive Chemistry Orthogonal Surface and Environmental Threat Ticket Array (ROSETTA)

The AVCAD is a man portable system to detect aerosol and vapor chemical agents. AVCAD fills critical gaps in current Joint Force chemical sensor capabilities, in the areas of liquid, solid and dusty aerosol Chemical Warfare Agent detection, and detection of specific advanced threats/Non-Traditional Agents. The AVCAD will also detect low-level off-gassing, or residual vapors, to prevent/mitigate health effects associated with low concentration exposures, and perform remote alarm warning and reporting. AVCAD will support chemical and biological defense missions, including monitoring, collective protection, base defense, decontamination, unmasking, reconnaissance, and shipboard and aviation platform chemical detection. In FY23, AVCAD will award the LRIP option and start P&D Testing.

The MPCAD is a two-person portable system that will conduct near real-time, near-laboratory grade analysis of solid, liquid, and vapor samples collected by the operator in a presumptively contaminated area. The MPCAD results will support the Commander's tactical and operational decisions regarding maneuver, protection, decontamination, and treatment measures. The Army and Marine Corps will employ MPCAD in Dismounted Reconnaissance and Site Assessment missions to

substantiate presumptive detector results. The Air Force will employ the MPCAD to support Post-Event Reconnaissance in support of Reconnaissance and Surveillance missions by monitoring the environment at airbases after a chemical release. The Air Force will continuously monitor contaminated areas for chronic health effects levels through analysis of samples from collectors deployed at the contamination site and brought back to the analyzer for identification and quantification. This information will support commander decisions to determine Mission Oriented Protective Posture (MOPP) levels and eventual termination of cordon restrictions. In FY23, MPCAD will complete the LRIP contracts, systems engineering support, and complete operational testing.

CSIRP is a prototyping and fielding effort that will focus on repackaging and integrating modular CBRN sensor solutions to enhance Unmanned Aircraft Systems (UAS) and Unmanned Ground Vehicles (UGV) to provide situational awareness across the echelons of command in order to enable freedom of maneuver and action on the battlefield. An integrated CSIRP capability will exploit advances in artificial intelligence, machine learning and autonomy, sensing and communication capabilities that enable timely and accurate detection, warning and reporting of CBRN hazards. This reduces risk at tactical and operational echelons in mounted and dismounted configurations. CSIRP gives the Joint Force an opportunity to enhance capabilities and maintain operational advantage in a lethal and sophisticated operating environment. In FY23, CSIRP will integrate a chemical sensor on a UAS to support NBCRV SSU program, initiate integration on USV to support USN/USMC, and continue user evaluation for other robotic platforms.

The JBTDS is the first tactical lightweight, low-cost biological surveillance system to detect, collect, and identify Biological Warfare Agent (BWA) aerosols. JBTDS components are man-portable, battery operable and easy to employ by any military user. JBTDS provides notification of a hazard and enhances battle-space awareness to protect and preserve the forces and can archive a sample for follow up analysis. When networked, JBTDS augments existing biological detection systems providing a theater-wide array capable of biological detection, identification and warning to support time sensitive force protection decisions. The JBTDS provides surface sampling capability which interfaces with the JBTDS identifier to support sensitive site exploitation missions. In FY23, JBTDS will conduct LRIP T&E.

The JNBCRS 1, renamed NBCRV SSU in FY22, provides maneuver formations the ability to conduct mounted reconnaissance and surveillance missions of CBRN named areas of interest (NAIs). The NBCRV SSU will answer the commander's priority intelligence requirements (PIR), and facilitate proactive risk-based decisions to ensure freedom of action and survivability. A modern and capable NBCRV SSU is a critical component for Joint Force success when operating in the complex CBRN environment. Operating with combat vehicles fighting against increasingly capable and determined enemies requires like capability with regard to protection, mobility, and lethality. The NBCRV SSU will accomplish this by integrating the capability for command and control of unmanned systems with CBRN payload. The NBCRV SSU will provide a CBRN detection, tipping and queueing to accomplish desired standoff distances to keep the warfighter out of harm's way and reduce sustainment costs over the current system. In FY22 the NBCRV SSU will continue Government Developmental and Operational Test to support a future Materiel Release decision.

MERLIN is a set of externally mounted sensors used in joint operations on the Stryker NBCRV Sensor Suite Upgrade with the potential for integration on other Army platforms within the formation. The system supports manned and unmanned platform-mounted reconnaissance and surveillance of radiological and nuclear hazards at standoff distances. It is the first and only standoff radiological and nuclear detection capability for the Army; all previously fielded detectors require platforms to travel dangerously close to hazardous areas to detect radiological threats, which puts manned platform crews at risk of radiation exposure and presents contamination issues for the vehicle (be it manned or unmanned). The MERLIN funding in FY21 supported integration of the MERLIN system designed for the NBCRV SSU.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

The AET DEFENSE program, formerly known as the NTA DEFENSE program, continues to address the highest priority CBRN gaps and supports the Chemical Biological Defense Program (CBDP) Strategic Line of Effort to meet current and emerging threats by anticipating CB hazards and developing capabilities to counter emerging and future threats. The AET Defense program collaborates with the Joint Services, interagency, and international partners to align RDT&E resources to determine readiness against emerging threats, to include NTAs, such as Novichoks and Pharmaceutical-Based Agents (PBA) (e.g. synthetic opioids), emerging biological threats, and other advanced and emerging threats as they are identified across the entire CBDP enterprise portfolio. NTA DEFENSE efforts transition to the AET DEFENSE program in FY22 to better align with strategic guidance and expand to threats beyond those identified specifically as NTAs. In FY23, AET Defense continues to broaden data set for emerging biological threats and PBSs to better assess detection and decontamination capabilities.

The ROSETTA is a modernization effort to provide a higher confidence chemical hazard detection tickets in the currently fielded M256A2 kit for the Warfighter to make timely decisions for the general forces. These decisions will reduce casualties and improve the combat effectiveness of troops engaged in conflicts involving the use of chemical threats. ROSETTA is based on colorimetric technologies and will be eye-readable and ease the Warfighter from current training and operational burden. In addition, the ROSETTA tickets will provide improved hazard detection performance with reduced false alarm rate, potential for increased number of chemicals detected, reduced detection time especially for compounds of interest (CWAs, PBAs, NTAs and TICs), and potential for integration onto unmanned platforms especially micro-sized unmanned aerial sensors. In FY22, ROSETTA will transition to BA7 funding line to continue modernization efforts that include developmental and Testing for Vapor.

CVCAD is designed to be an unobtrusive, low-profile chemical detection capability that will continuously, and autonomously, monitor and alert general and specialized units to an unsafe environment without further burdening the warfighters payload or interfering with the primary mission. The small form factor is amenable to both man-worn and unmanned aerial or ground system operations to enable timely personnel protective action and other force protection decisions. In FY23 the four competing prototypes will undergo down selects based on performance to prepare for Milestone B and EMD awards in FY23.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Aerosol & Vapor Chemical Agent Detector (AVCAD) ***Description:*** Product Development ***FY 2022 Plans:*** Continue EMD Phase of development contracts in support of system reliability improvement data for MS C and LRIP decisions. Continue Systems Engineering and other IPTs for product development of AVCAD. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5.	18.730	12.745	-
Title: 2) Aerosol & Vapor Chemical Agent Detector (AVCAD) ***Description:*** Test and Evaluation ***FY 2022 Plans:***	5.805	5.133	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Complete EMD chamber testing and Soldier Touch Point to collect system reliability improvement data for Operational Test Agency Milestone Assessment Report in support of Milestone C. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5.			
Title: 3) Aerosol & Vapor Chemical Agent Detector (AVCAD) ***Description:*** Management Services ***FY 2022 Plans:*** Continue Program office management and administration processes to include but not limited to program oversight, resource justification, budgeting and programming, milestone and schedule tracking. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5.	3.603	3.441	-
Title: 4) Aerosol & Vapor Chemical Agent Detector (AVCAD) ***Description:*** Support Costs - OGA Support costs for logistics, test evaluation results and safety and reliability. ***FY 2022 Plans:*** Continue OGA Support for logistics and test evaluation results in support of MS C decision. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5.	1.832	1.250	-
Title: 5) ROSETTA (M8) ***Description:*** Product Development & Technical Assessment of the M256A2 Kit. ***FY 2022 Plans:*** Continue program management and transition to TACOM including initial 6 month supply of ROSETTA M8 tickets. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. Rosetta efforts transition to Budget Activity BA7 starting in FY22 under Project CA7. FY23 funding transfers to new Project UN7. Engineering change proposal (ECP) to existing M256A2 kit.	6.566	1.037	-
Title: 6) Multi-Phase Chemical Agent Detector (MPCAD) ***Description:*** Product Development	18.800	6.271	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY 2022 Plans: Continue both contracts, Government and contracted Integrated Product Development team, systems engineering and IPT Support. Conduct LRIP Liquid/Solid testing and operational testing. Continue EMD Vapor development and testing. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5.			
Title: 7) Multi-Phase Chemical Agent Detector (MPCAD) ***Description:*** Testing ***FY 2022 Plans:*** Complete LRIP Liquid/Solid testing and continue EMD vapor testing. Continue OGA support of development and testing of MPCAD systems including development of logistics products, test plans, and reports. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5.	10.658	3.323	-
Title: 8) Multi-Phase Chemical Agent Detector (MPCAD) ***Description:*** Program Management Support ***FY 2022 Plans:*** Continue Program office management and administration processes to include but not limited to program oversight, resource justification, budgeting and programming, milestone and schedule tracking. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5.	3.321	1.160	-
Title: 9) CBRN Sensor Integration onto Robotic Platforms (CSIRP) ***Description:*** Product Development, Program Management, Test and Evaluation and Support. ***FY 2022 Plans:*** Prototype #2 will continue multiple sensor integration efforts to improve on Prototype #1 for unmanned ground and air platforms for multiple services. Continue coordination of demonstrations and test events for additional service end users evaluating the capabilities of the integrated sensor prototypes onto the Unmanned Air Systems (UAS) and Unmanned Ground Vehicles (UGV). Continue Program office management and administration processes to include but not limited to program oversight, resource	10.861	16.581	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
justification, budgeting and programming, milestone and schedule tracking. Initiate evaluation of capability and development of CONOPS. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 Funding ($12.730 Million) transferred to UN5.			
Title: 10) JBTDS ***Description:*** EMD Contract & Program Management ***FY 2022 Plans:*** Continue program office management and administration processes to include but not limited to program oversight, resource justification, budgeting and programming, milestone and schedule tracking. Conduct failure analysis and corrective action of issues identified in EMD testing. Complete preparation of MS C documents, negotiate and award LRIP contract. Conduct a Milestone C decision and move into Low Rate Initial Production (LRIP). ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5. Program completes EMD and completes MS C in FY23.	7.792	1.620	-
Title: 11) JBTDS ***Description:*** Test & Evaluation ***FY 2022 Plans:*** Complete Engineering Manufacturing and Development (EMD) and Operational Evaluation Report (OER). Finalize development of TEMP update to support MS C. Conduct Low Rate Initial Production (LRIP) testing, continue combat developer and test community support. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5.	7.782	5.767	-
Title: 12) JNBCRS 1 (NBCRV SSU) ***Description:*** CBRN Sensor Development and Integration	26.508	-	-
Title: 13) JNBCRS 1 (NBCRV SSU) ***Description:*** Program Management Support	3.252	-	-
Title: 14) NBCRV SSU	-	18.159	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: CBRN Sensor Development and Integration ***FY 2022 Plans:*** Continue CBRN sensor and integrated sensor suite prototype development, maturation, and procurement. Continue government strategic planning, systems engineering, logistics, training, test and evaluation, technical support, integration, and the bulk of component and system level developmental testing. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($15.224 Million) transferred to UN5.			
Title: 15) NBCRV SSU ***Description:*** Program Management Support ***FY 2022 Plans:*** Continue program office management and administration processes to include but not limited to program oversight, resource justification, budgeting and programming, milestone and schedule tracking. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($1.692 Million) transferred to UN5.	-	3.182	-
Title: 16) Mounted Enhanced Radiac Long Range Imaging Networkable (MERLIN) ***Description:*** Risk reduction efforts for integration onto Army platforms.	1.249	-	-
Title: 17) NTA Defense ***Description:*** Program Management, Product Development, Support, and Testing of technologies that have been demonstrated to be TRL 6 or higher in order to rapidly field solutions to combat emerging threats.	3.155	-	-
Title: 18) Advanced Emerging Threat (AET) Defense ***Description:*** Program Management, Product Development, Support, and Testing of technologies that have been demonstrated to be TRL 6 or higher in order to rapidly field solutions to combat emerging threats. ***FY 2022 Plans:*** Continue efforts from NTA Defense to leverage expanded requirements to broaden data set for emerging biological threats and PBAs. Produce additional data to better assess detection and decontamination capabilities against new requirements and inform rapid fielding decisions. Conduct table top exercises and field exercises to support Joint Service and interagency tactics,	-	2.626	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
techniques, and procedures (TTP) development and gap analysis for materiel solutions. Assess potential upgrades to systems in the Engineering and Manufacturing Development (EMD) phase of acquisitions to add emerging threat capability prior to or shortly after fielding.			
FY 2022 to FY 2023 Increase/Decrease Statement: Funding transferred to a new Project due to budget restructure. FY23 funding ($1.248 Million) transferred to UN5.			
Accomplishments/Planned Programs Subtotals	129.914	82.295	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• CA4: *Contamination Avoidance (ACD&P)*	9.367	32.923	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	42.290
• UN5: *Understand (SDD)*	0.000	0.000	127.671	-	127.671	101.933	98.742	98.122	72.699	Continuing	Continuing
• CA7: *Contamination Avoidance (Op Sys Dev)*	14.557	15.051	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	29.608
• UN7: *Understand (Op Sys Dev)*	0.000	0.000	42.856	-	42.856	35.884	42.602	42.603	44.196	Continuing	Continuing
• MC0100: *JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)*	1.433	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.433
• MX0001: *JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)*	0.000	17.060	11.193	-	11.193	21.424	22.238	17.385	44.150	Continuing	Continuing
• SA0005: *CBRN SENSOR INTEGRATION ON ROBOTIC PLATFORMS (CSIRP)*	0.503	3.461	2.099	-	2.099	2.626	3.014	3.753	4.563	Continuing	Continuing
• SA0015: *AEROSOL VAPOR CHEMICAL AGENT DETECTOR (AVCAD)*	0.000	0.000	0.000	-	0.000	66.193	78.210	69.497	81.409	Continuing	Continuing
• SA0017: *MULTIPHASE CHEMICAL AGENT DETECTOR (MPCAD)*	0.000	9.302	11.912	-	11.912	21.826	21.852	36.758	39.520	Continuing	Continuing
• SA0046: *MOUNTED ENHANCED RADIAC LONG RANGE IMAGING NETWORKABLE (MERLIN)*	0.146	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.146

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

AEROSOL VAPOR CHEMICAL AGENT DETECTOR (AVCAD)

Aerosol & Vapor Chemical Agent Detector (AVCAD) awarded two MS B Engineering and Manufacturing Development (EMD) contracts with production options. The AVCAD program is conducting full EMD DT Record Testing in support of the Milestone C decision. If supported by EMD Test Data and funding, the program may conduct P&D phase testing with LRIP units from both vendors to promote FRP price competition.

REACTIVE CHEMISTRY ORTHOGONAL SURFACE AND ENVIRONMENTAL THREAT TICKET ARRAY (ROSETTA)

ROSETTA will use a streamlined approach to rapidly field multiple components of the modernization of the M256A2 kit. This approach is based on technology that will transition from Science and Technology Efforts and/or commercial off the shelf (COTS) products to the M256 kit. These efforts will utilize multiple contract vehicles including Countering Weapons of Mass Destruction (CWMD) Other Transactional Authority (OTA) and Joint Enterprise- Research, Development, Acquisition, Production/Procurement (JERDAP) in order to streamline the acquisition of the products. The ROSETTA funding will complete the acquisition of the M8 component to the M256 kit and will support the acquisition of a PBA ticket, the M256 vapor unmasking tool, and the other NTAs and TICs. These products will be transitioned to TACOM for production.

MULTI-PHASE CHEMICAL AGENT DETECTOR (MPCAD)

The Multi-Phase Chemical Agent Detector (MPCAD) (formerly NGCD 3) is using a streamlined acquisition strategy. The MPCAD contract(s) are utilizing the Countering Weapons of Mass Destruction (CWMD) Other Transaction Authority (OTA) for EMD and LRIP items. The MPCAD will procure production items through a follow-on Federal Acquisition Regulation based contract. The program will develop and validate the systems during EMD and LRIP utilizing two contractors to increase competition and minimize production price.

CBRN SENSOR INTEGRATION ON ROBOTIC PLATFORMS (CSIRP)

CSIRP is a streamlined and tailored acquisition effort to rapidly prototype and field CBRN payload capabilities for unmanned platforms. CSIRP will provide and integrate unmanned CBRN payload prototypes in cyclic prototyping plan cycles based on service requirements. The prototyping plans will use a streamlined acquisition process in order to keep pace with industry and the rapid advancement of technologies. The CSIRP strategy is to utilize the rapid prototyping process enabled by the Other Transactional Agreements (OTA) contract vehicle. Upon award, the awardees will have two to three years to produce prototype sensors that are integrated onto service selected (air and/or ground) platforms. These prototypes will be demonstrated, evaluated and tested by the Services as well as laboratories and academia.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Successful prototypes will be transitioned to the platforms and services for the next steps in acquisition, production and eventual fielding across the services. BA4 funding provided market research to support the refinement and the building of technologically mature prototypes. BA5 funding provides integration, demonstrations, testing and operational assessments of prototypes to support transition decisions for residual capabilities and final configurations to Program of Record (PoR) or sustained capability.

JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)

The JBTDS program awarded a full and open contract to Chemring Sensors and Electronic Systems (CSES) in the 3rd Quarter of FY15 for Engineering and Manufacturing Development (EMD) with options for Low Rate Initial Production (LRIP) and Full Rate Production (FRP). The JBTDS program uses an evolutionary acquisition strategy. Under this approach, capability is developed based on current technologies, recognizing up front the need for potential technology insertion as technology advances to provide better and more cost effective capabilities. Technology insertions will provide militarily useful and supportable operational capabilities that can be developed, produced, deployed, and sustained. Based on the results at Biological Point System Assessment (BPSA), JBTDS selected integration with the TacBio2 as the detector and Joint Handheld Biological Identifier (JHBI) as the identification capability. These technologies will offer significant production and O&S cost savings.

JOINT NBC RECONNAISSANCE SYSTEM - STRYKER (JNBCRS)

Joint Nuclear Biological Chemical Radiological System (JNBCRS) was renamed to the Stryker Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU) starting in FY22.

NBCRV SSU (NBCRV SSU)

The acquisition strategy for the Stryker NBCRV SSU is to integrate mature sensors into the Stryker NBCRV to support the Joint Modernization Focused Assessment and system level testing. The Joint Modernization Command Focused Assessment provided user feedback and operational data to support programmatic and technical decisions. Following the testing and demonstration, the hardware and software was fixed and updated for government developmental and operational testing. Materiel Release decision will be held after system testing is conducted, to approve a Production Decision and Modification Work Order for fielding the first increment at an accelerated pace, defined as Capability Set 2.1 (CS2.1). Additional capability will be added to the system and tested as part of Capability Set 2.2 (CS2.2) in FY23-25. The production and fielding of both Capability Sets are funded using Army funds.

MOUNTED ENHANCED RADIAC LONG RANGE IMAGING NETWORKABLE (MMPRDS MERLIN)

The MERLIN BA5 line covers risk reduction efforts for the integration of the MERLIN system onto the NBCRV SSU. The work was accomplished through competition using an Other Transaction Authority (OTA) utilizing the Countering Weapons of Mass Destruction (CWMD) OTA.

NON TRADITIONAL AGENT DEFENSE (NTA DEFENSE)

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The NTA Defense program transitions to the AET DEFENSE program starting in FY22.

ADVANCED AND EMERGING THREAT DEFENSE (AET DEFENSE)

The AET Defense program will use a variety of acquisition approaches to survey, develop, assess, and rapidly field technologies to inform and fill advanced and emerging threat gaps. The program will utilize an existing Multiple Award Indefinite Delivery Indefinite Quantify Task Order Contract to provide technical support to studies and assessments of performance against emerging threats. For Program of Record (PoR) systems currently in development that will be assessed for performance against emerging threats, those PoR's existing contracts will be modified to incorporate development engineering and test support for emerging threat capability. The AET Defense program will utilize OTAs for system development and prototyping activities and Government Agencies and Federally Funded Research and Development Centers to provide development, testing and technical support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCAD - HW - Government Product Development Team Labor	MIPR	Various : Various	2.168	2.352	Nov 2020	1.303	Nov 2021	0.000		0.000		0.000	0.000	5.823	0.000
AVCAD - HW S - EMD Contract- Smiths Detection	C/CPIF	Smiths Detection : Edgewood, MD	13.159	7.816	Jun 2021	5.750	Nov 2021	0.000		0.000		0.000	0.000	26.725	0.000
AVCAD - HW S - EMD Contract- Chemring	C/CPIF	Chemring Detection Systems : Inc., Charlotte, NC	7.443	8.562	Jun 2021	5.750	Nov 2021	0.000		0.000		0.000	0.000	21.755	0.000
ROSETTA - HW C - Product Development	C/FFP	ATI Solutions : Inc., Tysons Corner, VA	2.736	3.335	Jul 2021	0.000		0.000		0.000		0.000	0.000	6.071	0.000
ROSETTA - HW C - Government Product Development Team Labor	MIPR	Various : Various	0.725	1.330	Nov 2021	0.680	Nov 2022	0.000		0.000		0.000	0.000	2.735	0.000
ROSETTA - HW C - Government Product Development Core Team Labor	MIPR	JPM CBRN Sensors : JPEO-CBRND, Aberdeen Proving Ground, MD	0.277	0.296	Nov 2021	0.054	Nov 2022	0.000		0.000		0.000	0.000	0.627	0.000
MPCAD - HW S - EMD Contract - Sig Sci	C/CPFF	Signature Science : Austin, TX	23.871	8.443	Dec 2020	1.450	Dec 2021	0.000		0.000		0.000	0.000	33.764	0.000
MPCAD - HW C - Contractor Product Development Team Labor	C/FFP	Kalman & Company Inc. : Virginia Beach, VA	0.208	0.200	Feb 2021	0.292	Dec 2021	0.000		0.000		0.000	0.000	0.700	0.000
MPCAD - PM/MS S - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	3.673	2.289	Nov 2020	2.420	Nov 2021	0.000		0.000		0.000	0.000	8.382	0.000
MPCAD - HW S - EMD Contract - FLIR	C/CPFF	FLIR Systems : Inc., West Lafayette, IN	14.652	7.868	Dec 2020	2.109	Dec 2021	0.000		0.000		0.000	0.000	24.629	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CSIRP - HW C - Chemical Sensor Prototype and Integration	C/FFP	Intelligent Optical Systems (IOS) : Torrance, CA	0.000	0.485	Apr 2021	0.139	Nov 2021	0.000		0.000		0.000	0.000	0.624	0.000
CSIRP - HW C - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	1.383	Mar 2021	2.550	Dec 2021	0.000		0.000		0.000	0.000	3.933	0.000
CSIRP - SW C - UAS and Sensor Manufacturing and Design	C/CPFF	T2S Solutions (T2S : LLC), Belcamp, MD	0.000	1.687	Mar 2021	1.700	Dec 2021	0.000		0.000		0.000	0.000	3.387	0.000
CSIRP - SW C - Sensor Integration	C/CPFF	FLIR Systems Inc. : Elkridge, MD	0.000	0.000		2.193	Jun 2022	0.000		0.000		0.000	0.000	2.193	0.000
CSIRP - HW C - Chem Sensor Design	MIPR	Various : Various	0.000	0.430	Apr 2021	0.331	Dec 2021	0.000		0.000		0.000	0.000	0.761	0.000
CSIRP - HW C - RN Sensor Prototype and Integration	C/FFP	Radiation Monitoring Devices : Inc, Boston, MA	0.000	0.615	Apr 2021	0.000		0.000		0.000		0.000	0.000	0.615	0.000
CSIRP - SW C - Sensor Integration #2	C/CPFF	Charles Stark Draper Laboratories : Inc., Cambridge, MA	0.000	1.500	Mar 2021	2.342	Nov 2021	0.000		0.000		0.000	0.000	3.842	0.000
CSIRP - HW C - UAS Manufacturing and Design	Various	Various : Various	0.000	0.679	Apr 2021	0.000		0.000		0.000		0.000	0.000	0.679	0.000
CSIRP - HW C - Contractor Product Development Labor	C/FFP	Various : Various	0.000	0.318	Apr 2021	0.499	Feb 2022	0.000		0.000		0.000	0.000	0.817	0.000
JBTDS - HW C - LRIP Contract Award	C/CPIF	Chemring Sensors & Electronic Systems : Charlotte, NC	0.000	0.000		0.423	Jun 2022	0.000		0.000		0.000	0.000	0.423	0.000

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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JBTDS - HW GFPR - LRIP Test Hardware	C/CPFF	Army Contracting Command : Natick, MA	0.000	0.000		0.654	Jun 2022	0.000		0.000		0.000	0.000	0.654	0.000
JBTDS - HW C - Product Development - Correct Limitation Identified in EMD	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.947	0.635	Jan 2021	0.206	Jan 2022	0.000		0.000		0.000	0.000	1.788	0.000
JBTDS - HW - EMD Contract Award	C/CPIF	Chemring Detection Systems : Inc., Charlotte, NC	34.954	2.067	Feb 2021	0.000		0.000		0.000		0.000	0.000	37.021	0.000
JBTDS - HW C - Government Team Labor	MIPR	Various : Various	25.199	3.348	Nov 2020	1.197	Nov 2021	0.000		0.000		0.000	0.000	29.744	0.000
JNBCRS 1 - HW-Sensor Suite Development	Various	Various : Various	7.845	0.207	Nov 2020	0.000		0.000		0.000		0.000	0.000	8.052	0.000
JNBCRS 1 - HW C - Contractor Team Labor	C/FFP	Various : Various	1.101	0.624	Feb 2021	0.000		0.000		0.000		0.000	0.000	1.725	0.000
JNBCRS 1 - SW C Integration	C/FFP	FLIR Systems Inc. : Elkridge, MD	19.275	17.872	Nov 2020	0.000		0.000		0.000		0.000	0.000	37.147	0.000
JNBCRS 1 - HW C - Chemical Surface Detector Development	C/CPFF	Various : Various	1.932	1.832	Nov 2020	0.000		0.000		0.000		0.000	0.000	3.764	0.000
JNBCRS 1 - HW C - Government Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	3.820	2.170	Nov 2020	0.000		0.000		0.000		0.000	0.000	5.990	0.000

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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NBCRV SSU - HW C - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		3.032	Dec 2021	0.000		0.000		0.000	0.000	3.032	0.000
NBCRV SSU - SW C - Integration	C/FFP	FLIR Systems Inc. : Elkridge, MD	0.000	0.000		2.830	Dec 2021	0.000		0.000		0.000	0.000	2.830	0.000
NBCRV SSU - HW C - Contractor Team Labor	C/FFP	Various : Various	0.000	0.000		0.779	Feb 2022	0.000		0.000		0.000	0.000	0.779	0.000
NBCRV SSU - HW C - Chemical Surface Detector Development	C/CPFF	FLIR Systems Inc. : Elkridge, MD	0.000	0.000		0.530	Jan 2022	0.000		0.000		0.000	0.000	0.530	0.000
MERLIN - HW C - Army Platform Integration Kit Development	Various	Various : Various	0.000	0.757	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.757	0.000
MERLIN - HW C - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.349	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.349	0.000
NTA DEFENSE - HW C - Systems Prototyping & Development	C/CPFF	Various : Various	0.815	0.671	Dec 2020	0.000		0.000		0.000		0.000	0.000	1.486	0.000
AET DEFENSE - HW S - System Prototyping and Modification	Various	Various : Various	0.000	0.000		0.178	Dec 2021	0.000		0.000		0.000	0.197	0.375	0.000
AET DEFENSE - SW C - Prototyping and Modification	Various	Various : Various	0.000	0.000		0.931	Jan 2022	0.000		0.000		0.000	0.000	0.931	0.000

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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AET DEFENSE - HW S - Emerging threat detection/ decontamination/protection capability engineering development	Various	Various : Various	0.000	0.000		0.191	Dec 2021	0.000		0.000		0.000	0.000	0.191	0.000
		Subtotal	164.800	80.120		40.513		0.000		0.000		0.000	0.197	285.630	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCAD - ES ALD, ISA & TACOM Support	MIPR	Various : Various	0.000	0.000		1.250	Nov 2021	0.000		0.000		0.000	0.000	1.250	0.000
AVCAD - ES C - OGA support (IPTs)	MIPR	Various : Various	0.000	2.132	Jan 2021	0.000		0.000		0.000		0.000	0.000	2.132	0.000
ROSETTA - ES C - Engineering and technical services for ROSETTA	MIPR	Various : Various	0.090	0.398	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.488	0.000
CSIRP - ES C - Engineering Support	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.650	Dec 2021	0.000		0.000		0.000	0.000	0.650	0.000
CSIRP - ES C - Eng Support	Various	Various : Various	0.000	1.421	Apr 2021	1.378	Dec 2021	0.000		0.000		0.000	0.000	2.799	0.000
JBTDS - ES - Engineering Support	MIPR	Various : Various	1.166	0.436	Nov 2020	0.494	Jun 2022	0.000		0.000		0.000	0.000	2.096	0.000
JBTDS - ES - OTA/OGA Service Representation	MIPR	Various : Various	13.378	1.371	Jan 2021	0.000		0.000		0.000		0.000	0.000	14.749	0.000
JNBCRS 1 - ILS C - Logistics Support	C/FFP	Various : Various	1.893	1.084	Nov 2020	0.000		0.000		0.000		0.000	0.000	2.977	0.000
JNBCRS 1 - ES C - Contract and Product Support	Various	Various : Various	1.068	0.889	Dec 2020	0.000		0.000		0.000		0.000	0.000	1.957	0.000

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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JNBCRS 1 - ES - Engineering Support	MIPR	Various : Various	2.818	0.296	Nov 2020	0.000		0.000		0.000		0.000	0.000	3.114	0.000
NBCRV SSU - ES C - Contract and Product Support	Various	Various : Various	0.000	0.000		0.477	Dec 2021	0.000		0.000		0.000	0.000	0.477	0.000
NBCRV SSU - ES C - Stryker NBCRV Maintenance	C/FFP	General Dynamics Land Systems : Detroit, MI	0.000	0.000		2.603	Mar 2022	0.000		0.000		0.000	0.000	2.603	0.000
NBCRV SSU - ILS C - Logistic Support	C/FFP	TBD : N/A	0.000	0.000		0.798	Feb 2022	0.000		0.000		0.000	0.000	0.798	0.000
NBCRV SSU - ES C - Engineering Support	MIPR	Various : Various	0.000	0.000		1.048	Apr 2022	0.000		0.000		0.000	0.000	1.048	0.000
		Subtotal	20.413	8.027		8.698		0.000		0.000		0.000	0.000	37.138	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCAD - OTE C - DT/ OT Chem Chamber & Chemicals	MIPR	West Desert Test Center : Dugway, UT	0.000	0.000		3.300	Nov 2021	0.000		0.000		0.000	0.000	3.300	0.000
AVCAD - OTE C - DT/OT Test Activities	MIPR	Various : Various	3.990	3.605	Apr 2021	1.775	Nov 2021	0.000		0.000		0.000	0.000	9.370	0.000
AVCAD - OTE C - DT/ OT Chemical Chamber & Chemical Purchase for Chamber	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	3.330	2.503	Mar 2021	0.000		0.000		0.000		0.000	0.000	5.833	0.000
ROSETTA - DTE C - Development Testing	MIPR	Various : Various	1.123	0.635	Nov 2020	0.000		0.000		0.000		0.000	0.000	1.758	0.000

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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MPCAD - DTE C - Various	MIPR	Various : Various	0.635	2.677	Jan 2021	0.579	Jan 2022	0.000		0.000		0.000	0.000	3.891	0.000
MPCAD - DTE C - MPCAD support	MIPR	Aberdeen Test Center (ATC) : Aberdeen Proving Ground, MD	0.996	1.268	Feb 2021	0.500	Nov 2021	0.000		0.000		0.000	0.000	2.764	0.000
MPCAD - DTE C - DT/OT Chemical Chamber Event	MIPR	West Desert Test Center : Dugway, UT	2.458	3.892	Dec 2020	1.644	Jan 2022	0.000		0.000		0.000	0.000	7.994	0.000
MPCAD - DTE C - OT Limited Users Test	MIPR	Aberdeen Test Center (ATC) : Aberdeen Proving Ground, MD	0.000	1.671	Mar 2021	0.000		0.000		0.000		0.000	0.000	1.671	0.000
MPCAD - OTE S - Multi-Service Operational Test (OTC)	MIPR	Operational Test Command (OTC) : Ft. Hood, TX	0.000	1.150		0.600	Feb 2021	0.000		0.000		0.000	0.000	1.750	0.000
CSIRP - DTE C Prototype Testing and Evaluation	Various	TBD : N/A	0.000	0.574	Aug 2021	1.372	Jun 2022	0.000		0.000		0.000	0.000	1.946	0.000
CSIRP - DTE C - CSIRP Testing & Evalution	MIPR	Army Test and Evaluation Command (ATEC) : Aberdeen Proving Ground, MD	0.000	0.107	Aug 2021	0.000		0.000		0.000		0.000	0.000	0.107	0.000
CSIRP - DTE C - CSIRP JHU-APL	MIPR	Johns Hopkins University - Applied Physics Lab : Laurel, MD	0.000	0.400	Sep 2021	1.053	May 2022	0.000		0.000		0.000	0.000	1.453	0.000
JBTDS - DTE SB - Identifier Live Agent Trials / Developmental Testing	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	6.584	2.681	Nov 2020	0.883	Nov 2021	0.000		0.000		0.000	14.788	24.936	0.000

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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JBTDS - OTHT S - JHBI	C/CPFF	Biomeme : Philadelphia, PA	1.315	0.437	Nov 2020	0.000		0.000		0.000		0.000	0.000	1.752	0.000
JBTDS - DTE - Testing	MIPR	Various : Various	0.380	0.410	Nov 2020	0.504	Nov 2021	0.000		0.000		0.000	0.000	1.294	0.000
JBTDS - DTE - ARCA Chamber and Record Test Support	C/FFP	Battelle Memorial Institute : Columbus, OH	1.164	0.400	Jan 2021	0.284	Nov 2021	0.000		0.000		0.000	0.000	1.848	0.000
JBTDS - DTE - V&V of JBTDS Military Utility Model	FFRDC	Institute for Defense Analysis (IDA) : Alexandria, VA	0.200	0.675	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.875	0.000
JBTDS - OT - Operational Assessment	MIPR	Various : Various	0.592	1.207	Jan 2021	1.262	Nov 2021	0.000		0.000		0.000	0.000	3.061	0.000
JBTDS - DTE - BPSA and Other Test Events	C/FFP	Battelle Memorial Institute : Columbus, OH	3.066	0.377	Oct 2020	0.000		0.000		0.000		0.000	0.000	3.443	0.000
JNBCRS 1 - DTE - Test and Evaluation	MIPR	Various : Various	5.813	1.534	Nov 2020	0.000		0.000		0.000		0.000	0.000	7.347	0.000
NBCRV SSU - DTE S - System Level Testing	MIPR	Various : Various	0.000	0.000		1.134	Feb 2022	0.000		0.000		0.000	0.000	1.134	0.000
NBCRV SSU - DTE C - Component Level Testing	MIPR	Various : Various	0.000	0.000		1.689	Jan 2022	0.000		0.000		0.000	0.000	1.689	0.000
NBCRV SSU - DTE C - Test and Evaluation	Various	TBD : N/A	0.000	0.000		3.239	Apr 2022	0.000		0.000		0.000	0.000	3.239	0.000
NTA DEFENSE - DTE C - Field-forward PBA Detection	Various	TBD : N/A	0.000	0.892	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.892	0.000
NTA DEFENSE - DTE C - System Prototype Development	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.255	1.000	Apr 2021	0.000		0.000		0.000		0.000	0.000	1.255	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AET DEFENSE - DTE S - Technology Assessments	Various	Various : Various	0.000	0.000		0.745	Dec 2021	0.000		0.000		0.000	0.000	0.745	0.000
AET DEFENSE - OTHT C - Product Demonstration Events for Users	MIPR	Various : Various	0.000	0.000		0.500	Feb 2022	0.000		0.000		0.000	0.000	0.500	0.000
		Subtotal	31.901	28.095		21.063		0.000		0.000		0.000	14.788	95.847	N/A

Remarks

EMBD: $529k for misc organizations

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCAD - PM/MS S - Management Services	MIPR	Various : Various	3.312	3.000	Jan 2021	3.441	Nov 2021	0.000		0.000		0.000	0.000	9.753	0.000
ROSETTA - PM/MS S - Program Management Support	MIPR	Various : Various	0.298	0.572	Oct 2020	0.303	Oct 2021	0.000		0.000		0.000	0.000	1.173	0.000
MPCAD - PM/MS S - Program Management Support	MIPR	Various : Various	7.171	3.321	Dec 2020	1.160	Dec 2021	0.000		0.000		0.000	0.000	11.652	0.000
CSIRP - PM/MS S Program Management Support	Various	Various : Various	0.000	1.262	Feb 2021	2.374	Oct 2021	0.000		0.000		0.000	0.000	3.636	0.000
JBTDS - PM/MS S - Program Management Support	MIPR	Various : Various	20.226	1.530	Nov 2020	1.480	Nov 2021	0.000		0.000		0.000	0.000	23.236	0.000
JNBCRS 1 - PM/MS S - Program Management Support	MIPR	Various : Various	8.935	3.252	Nov 2020	0.000		0.000		0.000		0.000	0.000	12.187	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NBCRV SSU - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.000		3.182	Oct 2021	0.000		0.000		0.000	0.000	3.182	0.000
MERLIN - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.143	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.143	0.000
NTA DEFENSE - PM/MS S - IPT Support/Program Management	MIPR	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	6.598	0.592	Nov 2020	0.000		0.000		0.000		0.000	0.000	7.190	0.000
AET DEFENSE - PM/MS S - IPT Support/Program Management	MIPR	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	0.000		0.081	Dec 2021	0.000		0.000		0.000	0.000	0.081	0.000
		Subtotal	46.540	13.672		12.021		0.000		0.000		0.000	0.000	72.233	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	263.654	129.914		82.295		0.000		0.000		0.000	14.985	490.848	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

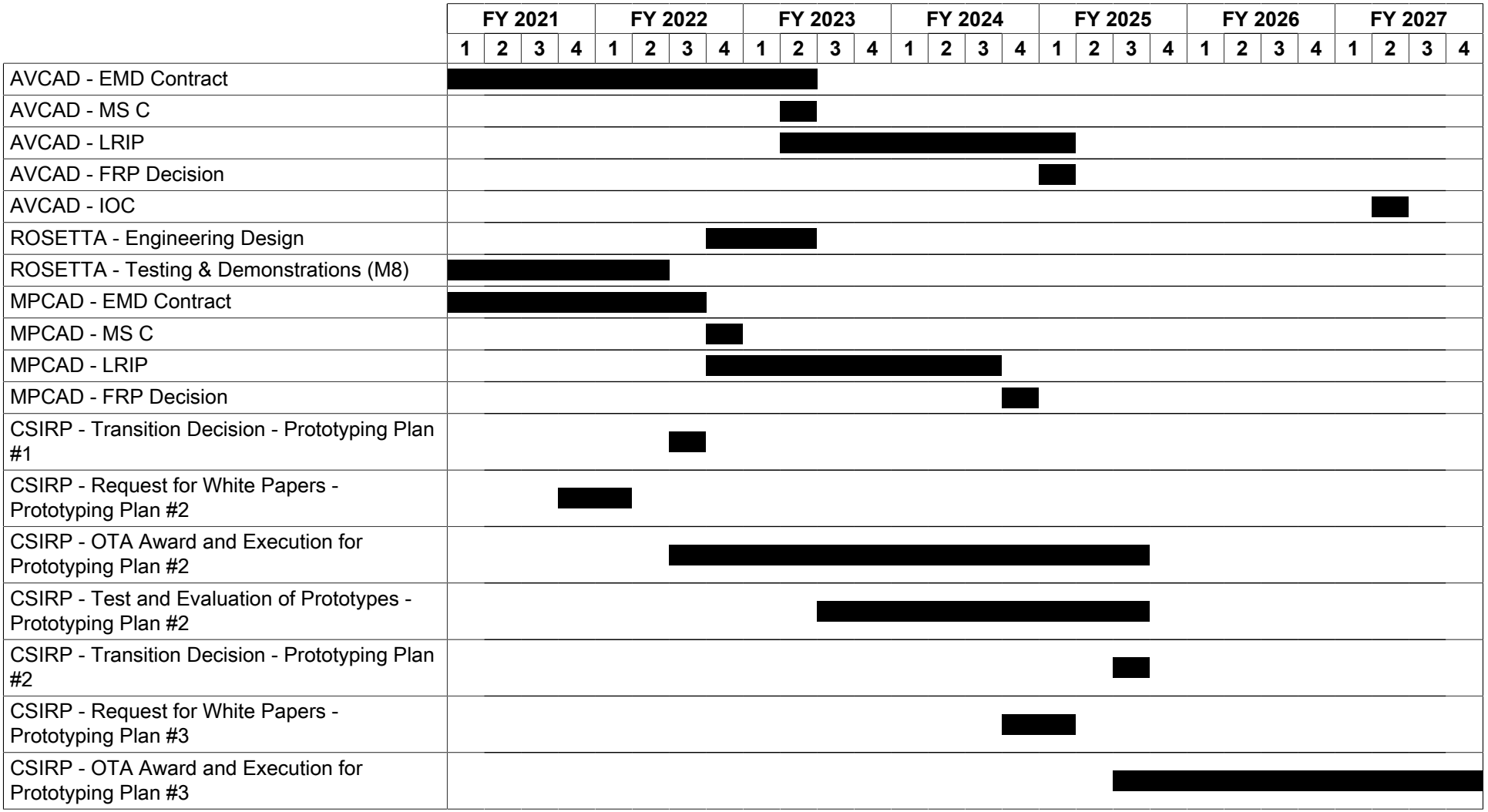

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

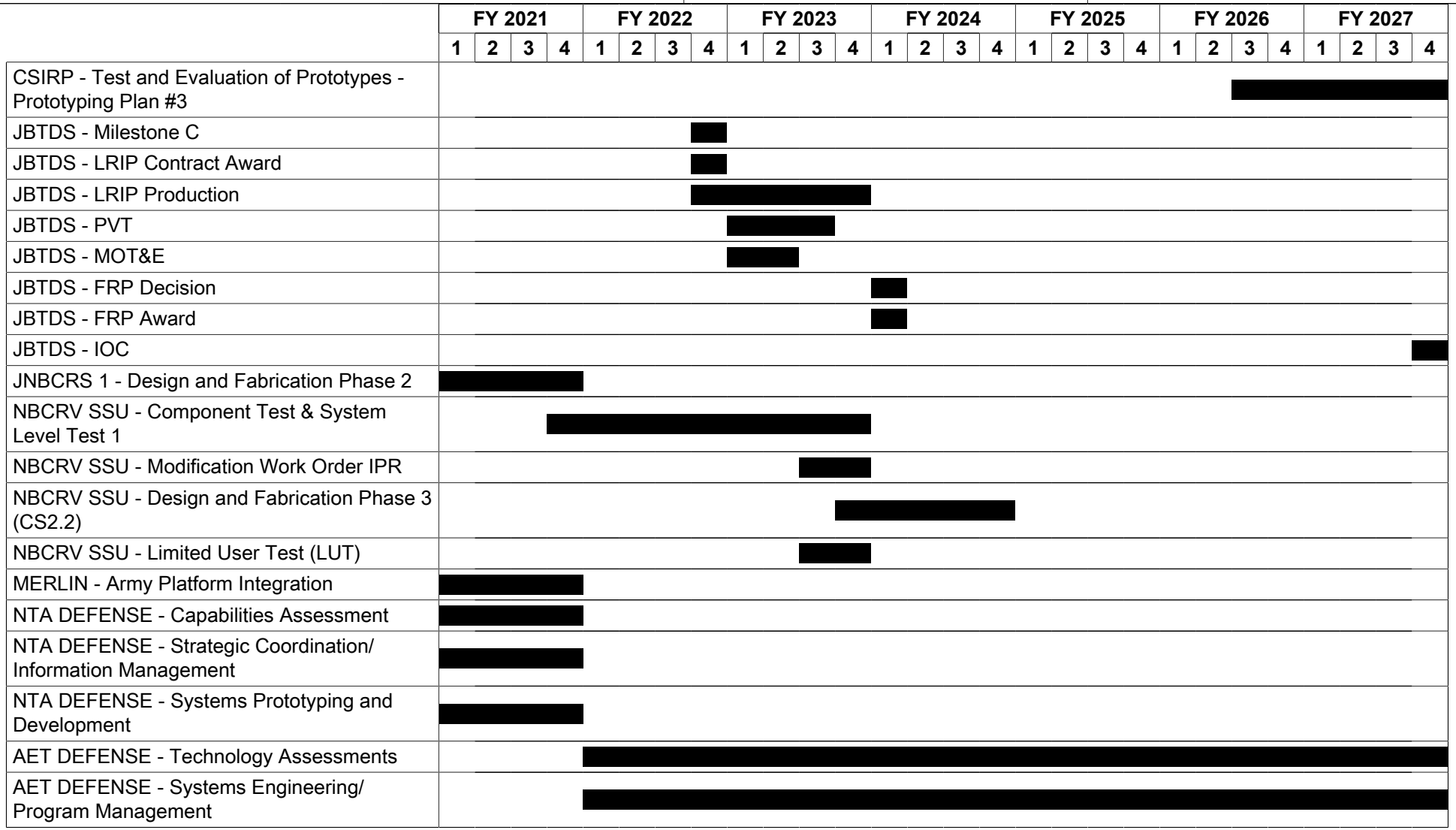

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
AET DEFENSE - System Development and Prototyping																												

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AVCAD - EMD Contract	1	2021	2	2023
AVCAD - MS C	2	2023	2	2023
AVCAD - LRIP	2	2023	1	2025
AVCAD - FRP Decision	1	2025	1	2025
AVCAD - IOC	2	2027	2	2027
ROSETTA - Engineering Design	4	2022	2	2023
ROSETTA - Testing & Demonstrations (M8)	1	2021	2	2022
MPCAD - EMD Contract	1	2021	3	2022
MPCAD - MS C	4	2022	4	2022
MPCAD - LRIP	4	2022	3	2024
MPCAD - FRP Decision	4	2024	4	2024
CSIRP - Transition Decision - Prototyping Plan #1	3	2022	3	2022
CSIRP - Request for White Papers - Prototyping Plan #2	4	2021	1	2022
CSIRP - OTA Award and Execution for Prototyping Plan #2	3	2022	3	2025
CSIRP - Test and Evaluation of Prototypes - Prototyping Plan #2	3	2023	3	2025
CSIRP - Transition Decision - Prototyping Plan #2	3	2025	3	2025
CSIRP - Request for White Papers - Prototyping Plan #3	4	2024	1	2025
CSIRP - OTA Award and Execution for Prototyping Plan #3	3	2025	4	2027
CSIRP - Test and Evaluation of Prototypes - Prototyping Plan #3	3	2026	4	2027
JBTDS - Milestone C	4	2022	4	2022
JBTDS - LRIP Contract Award	4	2022	4	2022
JBTDS - LRIP Production	4	2022	4	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JBTDS - PVT	1	2023	3	2023
JBTDS - MOT&E	1	2023	2	2023
JBTDS - FRP Decision	1	2024	1	2024
JBTDS - FRP Award	1	2024	1	2024
JBTDS - IOC	4	2027	4	2027
JNBCRS 1 - Design and Fabrication Phase 2	1	2021	4	2021
NBCRV SSU - Component Test & System Level Test 1	4	2021	4	2023
NBCRV SSU - Modification Work Order IPR	3	2023	4	2023
NBCRV SSU - Design and Fabrication Phase 3 (CS2.2)	4	2023	4	2024
NBCRV SSU - Limited User Test (LUT)	3	2023	4	2023
MERLIN - Army Platform Integration	1	2021	4	2021
NTA DEFENSE - Capabilities Assessment	1	2021	4	2021
NTA DEFENSE - Strategic Coordination/Information Management	1	2021	4	2021
NTA DEFENSE - Systems Prototyping and Development	1	2021	4	2021
AET DEFENSE - Technology Assessments	1	2022	4	2027
AET DEFENSE - Systems Engineering/Program Management	1	2022	4	2027
AET DEFENSE - System Development and Prototyping	1	2022	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) CO5 / *Collective Protection (SDD)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
CO5: *Collective Protection (SDD)*	-	7.688	3.028	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.716
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports Engineering and Manufacturing Development and Low Rate Initial Production of Joint Service Chemical, Biological, and Radiological (CBR) Collective Protection (CP) systems that are smaller, lighter, less costly to produce and maintain, and more logistically supportable. CP systems provide spaces safe from the effects of CBR contamination enabling mission accomplishment in CBR environments.

The systems included in this Project are:

(1) Joint Expeditionary Collective Protection (JECP) Family of Systems

The JECP program provides the Joint Expeditionary Forces a collective protection capability that is lightweight, compact, modular, and affordable. JECP is a family of systems, developed in two phases that will allow the application of CP to transportable soft-side shelters, enclosed spaces of opportunity and in remote austere locations as a standalone resource. Phase 1 includes standalone CP systems and kits that provide existing host platforms and structures with CBRN protection. Phase 2 includes kits that provide CBRN protection to other host platforms and structures that were not explicitly designed in Phase 1. JECP will be capable of protecting personnel groups of varying size, unencumbered by Individual Protective Equipment (IPE), from the effects of CB agents, Toxic Industrial Materials (TIMs), radiological particles, heat, dust, and sand. The employment of JECP will reduce the need for personnel and equipment decontamination and is a strategic deterrence against state adversaries and non-state actors from using weapons of mass destruction. FY22 is the last year of BA5 funding for this program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) JECP	7.688	3.028	-
Description: Phase 2 system Development and Demonstration Events ***FY 2022 Plans:*** Complete Technical Manual verification event. Finalize logistics products and finalize program acquisition documentation in support of a Full Rate Production decision. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase.			
Accomplishments/Planned Programs Subtotals	7.688	3.028	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *Collective Protection (SDD)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• CO7: *Collective Protection (Op Sys Dev)*	7.950	8.442	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	16.392
• JP1111: *JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)*	14.496	22.719	30.737	-	30.737	37.128	23.201	23.060	23.060	Continuing	Continuing

Remarks

D. Acquisition Strategy

JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)

JECP Family of Systems (FoS) (Phase 1 and Phase 2) involves multiple contract types throughout the Engineering and Manufacturing Development (EMD) and Production and Deployment Phases of the program. Having achieved a Full Rate Production (FRP) decision for Phase 1 Systems in December 2016, the program exercised Fixed Price Incentive (FPI) production options in FY17 & FY18 through the now expired contract with Leidos in support of Initial Operational Capability (IOC). A competitive build-to print follow-on production delivery order contract was awarded June 2019 to Production Products Manufacturing and will support the remaining production of Phase 1 Systems to meet Full Operational Capability (FOC). Phase 2 systems will be developed as engineering changes to the Phase 1 systems under a separate competitive delivery order awarded March 2019 to Leidos and undergo limited developmental and operational testing in pursuit of a FRP decision and Full Materiel Release. Production options are included in the delivery order to meet FOC for Phase 2 systems.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *Collective Protection (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JECP - HW S - Phase 2 System Product Development/Phase 2 Prototype Manufacturing	C/FPIF	Leidos : Abingdon, MD	6.732	2.087	Nov 2020	0.937	Nov 2021	0.000		0.000		0.000	0.000	9.756	0.000
		Subtotal	6.732	2.087		0.937		0.000		0.000		0.000	0.000	9.756	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JECP - ES S/ILS S - Engineering, Logistics, Technical, IPT Support	MIPR	Various : Various	3.443	3.008	Dec 2020	1.116	Nov 2021	0.000		0.000		0.000	0.000	7.567	0.000
		Subtotal	3.443	3.008		1.116		0.000		0.000		0.000	0.000	7.567	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JECP - OTHT SB - Test & Evaluation IPT/OTE S - Operational Testing/DTE S - Phase 2 Developmental testing	MIPR	Various : Various	10.999	1.443	Dec 2020	0.638	Dec 2021	0.000		0.000		0.000	0.000	13.080	0.000
		Subtotal	10.999	1.443		0.638		0.000		0.000		0.000	0.000	13.080	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *Collective Protection (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JECP - PM/MS S - Program Management Support	MIPR	Various : Various	13.649	1.150	Dec 2020	0.337	Nov 2021	0.000		0.000		0.000	0.000	15.136	0.000
		Subtotal	13.649	1.150		0.337		0.000		0.000		0.000	0.000	15.136	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	34.823	7.688		3.028		0.000		0.000		0.000	0.000	45.539	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *Collective Protection (SDD)*

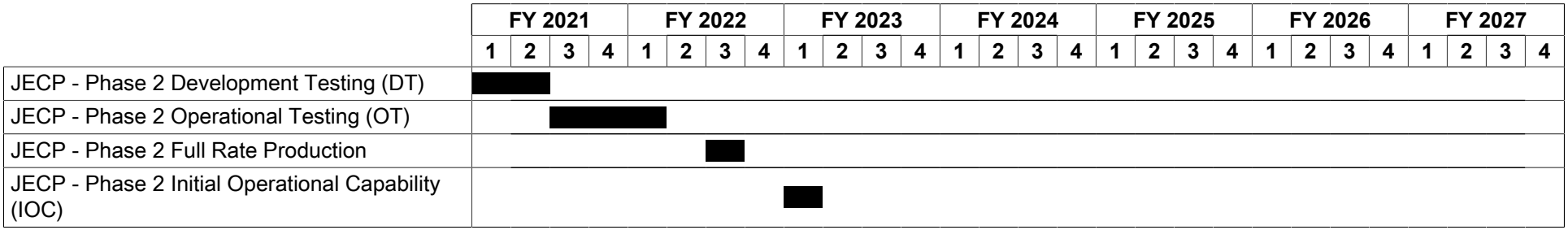

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *Collective Protection (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JECP - Phase 2 Development Testing (DT)	1	2021	2	2021
JECP - Phase 2 Operational Testing (OT)	3	2021	1	2022
JECP - Phase 2 Full Rate Production	3	2022	3	2022
JECP - Phase 2 Initial Operational Capability (IOC)	1	2023	1	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program											Date: April 2022	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*				Project (Number/Name) DE5 / *Decontamination (SDD)*			
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
DE5: *Decontamination (SDD)*	-	17.274	7.874	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	25.148
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the development of Contamination Mitigation (ConMit) systems utilizing solutions that remove and/or detoxify contaminated material without damaging combat equipment, platforms, personnel, or the environment, helping sustain a resilient force posture, one of the efforts outlined in the National Defense Strategy. ConMit systems provide a force restoration capability for units that become contaminated. Development efforts will provide systems that reduce operational impact and logistics burden, reduce sustainment costs, increase safety, and minimize environmental effects associated with decontamination and contamination mitigation operations. Experimentation and demonstration will be used in this phase to reduce risk and inform supporting materiel solutions, Concept of Operations and Tactics, Techniques & Procedures. In FY2023, the CBDP RDT&E Projects have been restructured to align to the CBDP portfolio. DE5 efforts in FY2022 progress to the Enabling Investments (EN5) and Mitigate (MT5) portfolios. This restructuring is intended to provide standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

(1) Decontamination Family of Systems (DFoS) Contamination Indicator Decontamination Assurance System (CIDAS) Blister **Progresses to MT5 in FY2023**,
(2) DFoS CIDAS Nerve,
(3) Forward Area Mobility Spray - System (FAMS-S) **Progresses to MT5 in FY2023**,
(4) Joint Biological Agent Decontamination System (JBADS),
(5) Joint Biological Agent Decontamination System Lite (JBADS Lite) (Congressional Interest Item),
(6) Major Defense Acquisition Program (MDAP) **Progresses to EN5 in FY2023**, and
(7) Services Equipment Decontamination System (SEDS) **Progresses to MT5 in FY2023**

DFOS CIDAS is a contamination indicator and decontamination assurance technology. The indicator will be sprayed on tactical vehicles, ships, crew-served weapons, and individual weapons that may have been exposed to traditional and non- traditional chemical contamination. DFoS CIDAS is a new capability for the Joint Forces that will reduce the logistics burden of decontamination by indicating presence and location of traditional (Nerve and Blister) and non-traditional chemical agents on militarily relevant surfaces pre- and post-decontamination. This helps sustain a resilient force posture, making the Joint Force more adaptable against the uncertainty in a changing global strategic environment, an effort listed in the National Defense Strategy under building a more lethal force. It will consist of an indicator and an applicator, with two applicator configurations -- small-scale and tactical large scale applicator -- and three indicator formulations -- nerve training, nerve and blister indicators.

The DFoS CIDAS Blister program addresses traditional blister agents, two separate threat scenarios that require different materiel solutions, modernizing a key capability to help build a more lethal force, as outlined in the National Defense Strategy.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

The DFoS CIDAS Nerve Program will provide the Joint Forces with a new capability to reduce the logistics burden of decontamination by indicating presence and location of traditional Nerve and non-traditional chemical agents on militarily relevant surfaces pre- and post-decontamination. It will consist of an indicator and an applicator, for which there will be two applicator configurations (small scale and tactical large scale) and two indicator formulations (nerve training and nerve). Post application, the DFoS CIDAS Nerve will not cause material degradation other than that which is allowable in service platforms' specifications to complete primary mission functions. FY21 is the last year of BA5 funding for this program.

The FAMS-S, which was a new start in FY21, will provide Special Operations Forces (SOF) and SOF Task Forces (SOTFs) with transportable, rapidly-deployable decontamination systems in three variants: man-portable, small vehicle-mounted, and large vehicle-mounted systems to rapidly decontaminate chemical and biological (CB) agents from the exterior of vehicles and support equipment to a level that is clean enough for re-use during missions without the need for donning CB personal protective equipment. This will maximize tactical flexibility and fighting strength while minimizing the logistical burden and the cost of conducting Countering Weapons of Mass Destruction (CWMD) and CB operations.

The Joint Biological Agent Decontamination System (JBADS) will provide the capability to conduct biological agent decontamination of the interior and exterior of aircraft. There is currently no capability to decontaminate both the inside and outside of aircraft. Additionally, this design incorporates a chemical liner for potential chemical agent decontamination ability. The JBADS capability set will include a decontamination delivery system using hot-humid air, shelter to encapsulate an airframe, an environmental control and monitoring system(s), and other ancillary components. It will provide the capability to decontaminate biologically contaminated airframes to safe levels, allow more rapid return to service and provides a key cornerstone to future decontamination capability. The JBADS focus is on the biological agent decontamination of the C-130 aircraft and future efforts may address chemical and biological decontamination of other airframes and vehicles. FY21 is the last year of BA5 funding for this program.

The JBADS Lite (Congressional Interest Item) effort will research and analyze, in coordination with the Department of Homeland Security, how JBADS decontamination technology could be utilized in the pandemic preparedness of civilian transportation systems. This is a FY21 congressional interest item and no further funding is anticipated.

The MDAP Chemical Biological Radiological and Nuclear (CBRN) Survivability Initiative ensures weapon system programs at all Acquisition Category (ACAT) levels, as well as non-DoD agency programs such as those at the Department of Homeland Security (DHS), meet their CBRN defense requirements. In FY23, this effort continues to facilitate and coordinate the research, development, test and evaluation, procurement, delivery, and life cycle sustainment of affordable CBRN defense materiel solutions for each program's documented CBRN requirements.

The Service Equipment Decontamination System (SEDS) program will develop reliable and modular hardware intended to decontaminate military equipment in operational environments including personal effects, and weapons to pre-contamination conditions for immediate re-use. This capability is needed to sustain the Joint Force military by reducing logistical burden to increase tactical agility and sustain a resilient force posture, and align with the National Defense Strategy. SEDS will provide contamination mitigation capabilities for critical equipment that have been exposed to chemical and biological contamination and achieve efficacy levels that allow unprotected post-decontamination exposures for long periods with less than negligible severity effects.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) DFoS CIDAS NERVE ***Description:*** Log Demo, Multi Service Operational Test & Evaluation (MOT&E) and Large Scale Applicators	0.710	-	-
Title: 2) DFoS CIDAS BLISTER ***Description:*** Blister Indicator Kits and Large Scale Applicators ***FY 2022 Plans:*** Award contract option to acquire associated CDRLs and complete Sustainment Cost Reduction efforts with Prime Contractor. Continue planning and test preparation for Developmental Testing (DT) (CIDAS Level of Indication, detector, Individual Protective Equipment testing), Logistics Demonstration and Operational Testing (OT) in support of MS C/FRP. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($3.681 Million) transferred to MT5.	4.621	2.840	-
Title: 3) Forward Area Mobility Spray - System ***Description:*** Prototype Development ***FY 2022 Plans:*** Award follow-on development contract for improved prototype variants; conduct developmental and operational testing on 30 backpack variant prototypes to measure decontamination levels, user suitability and system interoperability effectiveness. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($2.967 Million) transferred to MT5.	1.264	2.743	-
Title: 4) Joint Biological Agent Decontamination System (JBADS) ***Description:*** Development and Testing	4.679	-	-
Title: 5) Major Defense Acquisition Program (MDAP) ***Description:*** CBRN Survivability Support ***FY 2022 Plans:*** Continue to ensure CBRN survivability requirements are met for MDAP's by cross-walking requirements documents with program execution plans. Attend meetings to address integration needs and present CBRN system and hardware options. Provide subject matter expertise in the execution of CBRN survivability requirements for both materiel and non-material solutions. Review and assist in document preparation for milestones and programs reviews. Conduct CBRN survivability compliance reviews for	1.000	2.291	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Optionally Manned Fighting Vehicle, Robotic Combat Vehicle, Future Long Range Assault Aircraft, Future Attack Reconnaissance Aircraft, Littoral Combat Ship, European Reassurance Initiative, and other CBRN survivability system integration in preparation for various program acquisition milestones, system and subsystem test events, design reviews and low rate initial production reviews.			
FY 2022 to FY 2023 Increase/Decrease Statement: Funding transferred to a new Project due to budget restructure. FY23 funding ($2.418 Million) transferred to EN5.			
Accomplishments/Planned Programs Subtotals	12.274	7.874	-

	FY 2021	FY 2022
Congressional Add: 1) Decontamination Technologies - Development and Testing	5.000	-
FY 2021 Accomplishments: Commenced research and analysis related to JBADS decontamination technology that can aid in pandemic preparedness of civilian transportation systems.		
Congressional Adds Subtotals	5.000	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• DE4: *Decontamination (ACD&P)*	4.919	18.385	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	23.304
• EN5: *Enabling Investments (SDD)*	0.000	0.000	13.392	-	13.392	13.984	14.037	14.341	13.728	Continuing	Continuing
• MT5: *Mitigate (SDD)*	0.000	0.000	74.225	-	74.225	61.861	68.280	39.819	22.062	Continuing	Continuing
• JD0050: *DECONTAMINATION FAMILY OF SYSTEMS (DFoS)*	11.474	4.166	5.795	-	5.795	8.562	8.673	8.820	18.518	Continuing	Continuing
• JD0070: *JOINT BIOLOGICAL AGENT DECONTAMINATION SYSTEM (JBADS)*	5.096	26.367	13.519	-	13.519	1.512	0.000	0.000	0.000	0.000	46.494
• PHM025: *FORWARD AIR MOBILITY SPRAY SYSTEM (FAMS-S)*	0.000	0.000	4.607	-	4.607	4.824	4.724	4.724	4.724	Continuing	Continuing

Remarks

D. Acquisition Strategy

DFoS CONTAMINATION INDICATOR DECON ASSURANCE SPRAY NERVE (DFoS CIDAS NERVE)

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

The DFoS CIDAS program will follow an evolutionary acquisition strategy in consonance with user developed capability documents. Following MS A in 2011, the program office collaborated with external efforts, including the Hazard Mitigation, Materiel and Equipment Restoration (HaMMER) Advanced Technology Development (ATD) Operational Demonstration and Extended User Evaluations, and conducted technology demonstrations on candidate indicator and applicator technologies to mitigate risk and identify affordable mature technologies that meet requirements. The DFoS CIDAS program determined the need for and initiated Government designed a tactical large scale applicator to provide affordable solutions to meet specific User requirements. Following MS B in 2015, the program used full and open competition to award a performance based indefinite quantity contract with fixed price incentive successive target contract line items, with options for Low Rate Initial Production (LRIP) and Full Rate Production (FRP) for nerve indicator and small scale applicator systems. The program integrated the Contractor and Government designed indicator and applicators and conducted developmental and operational testing.

DFoS CONTAMINATION INDICATOR DECON ASSURANCE SPRAY BLISTER (DFoS CIDAS BLISTER)

The DFoS CIDAS Blister program will follow an evolutionary acquisition strategy. The program office coordinated with Science and Technology efforts to identify blister technologies that met Service requirements. After further development, in 4QFY19 a sole-source performance based indefinite delivery indefinite quantity contract was awarded to develop blister indicator and small scale applicator systems with options for production. The program will leverage the contract to procure blister indicator kits and conduct test and evaluation events for the EMD phase in preparation of MS C/FRP.

FORWARD AREA MOBILITY SPRAY SYSTEM (FAMS-S)

The FAMS-S will be developed using Middle Tier Acquisition (MTA) to advance decontamination technology and capability for Special Operations Forces (SOF) and Special Operations Task Forces (SOTF) application to tactical and strategic platforms in accordance with MTA authorities and regulations and the Capability Development Document (CDD). FAMS-S will reduce technological risk by reviewing existing materials and technologies as well as designs, configurations, and test data from mature legacy and commercial decontamination systems. The program will utilize the CWMD Other Transaction Authority (OTA) agreement to competitively award projects to three vendors for the man-portable and three vendors for the vehicle-mounted variants followed by a prototype down-select. The program will perform technical evaluations, undergo developmental and operational testing, and early user assessments to inform the final prototype design across each variant in preparation for the man-portable variant production decision in FY23.

JOINT BIOLOGICAL AGENT DECONTAMINATION SYSTEM (JBADS)

The JBADS acquisition approach is to leverage information and technology from the JBADS Joint Capability Technology Demonstration (JCTD) to support entry into the Engineering and Manufacturing Development (EMD) phase of the acquisition cycle. Following testing, the JBADS will transition to Full Rate Production (FRP). The JBADS will utilize Commercial-off-the-Shelf components for the shelter, the decontamination delivery system, the environmental control and monitoring system(s), and other ancillary components with the award of a competitive delivery order to produce, operate, and sustain the system. The program as a whole utilizes the evolutionary acquisition approach for future increments that may expand JBADS capabilities to include other platforms (aircraft and vehicles) as requirements dictate. The Future Capabilities Analysis conducted studies, analyses, and prototyping based on the current JBADS concept to improve its readiness to meet potential future requirements with minimal impact to the JBADS program.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

MAJOR DEFENSE ACQUISITION PROGRAM (MDAP)

The MDAP program provides assistance to non-CBD programs with meeting and or optimizing their Chemical, Biological, Radiological, and Nuclear (CBRN) survivability and force protection capabilities. The MDAP also provides systems engineering analyses to develop CBRN specific operational and technical requirements, identifies performance gaps between existing materiel and technical requirements, develops cost and schedule estimates, conducts preliminary CBRN T&E and logistics planning, develops CBRN defense architectures products, and performs trade space analyses for a number of non-CBD programs.

CONGRESSIONAL INTEREST ITEMS

CONGRESSIONAL ADD
DECONTAMINATION TECHNOLOGIES:
The Joint Biological Agent Decontamination System (JBADS) Lite project will research and analyze how JBADS Lite could aid in the pandemic preparedness of civilian transportation systems in coordination with the Department of Homeland Security (DHS). The JBADS Lite was created in response to the Coronavirus Disease 2019 (COVID-19) global pandemic. The JBADS Lite uses Biothermal Decontamination which is hot, humid air to decontaminate the interior of aircraft. Using existing contract vehicles, this effort will research, analyze, and test prototypes to aid in decontamination of other platforms with DHS to aid in civilian transportation pandemic preparedness.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS CIDAS BLISTER - HW S - Small Scale / Large Scale Applicators/ Kits	SS/FPIF	FLIR Systems : Inc., Stillwater, OK	0.000	2.269	Dec 2020	0.565	Nov 2021	0.000		0.000		0.000	0.000	2.834	0.000
FAMS-S - HW S - System Development and Prototype Refinement	C/CPIF	ATI Solutions : Inc., Tysons Corner, VA	0.000	0.876	Aug 2021	1.372	Jan 2022	0.000		0.000		0.000	0.000	2.248	0.000
CONG - HW S - JBADS Lite - Prototype Development & Testing	Various	TBD : N/A	0.000	3.810	Oct 2021	0.000		0.000		0.000		0.000	0.000	3.810	0.000
		Subtotal	0.000	6.955		1.937		0.000		0.000		0.000	0.000	8.892	N/A

Remarks

CONG: Includes development, prototyping and testing to support pandemic preparedness of civilian transportation systems.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS CIDAS NERVE - ES C - Engineering Support	MIPR	Various : Various	0.000	0.090		0.000		0.000		0.000		0.000	0.000	0.090	0.000
DFoS CIDAS BLISTER - TD/D S - IPT and Technical Support	MIPR	Various : Various	0.000	0.980	Dec 2020	0.426	Dec 2021	0.000		0.000		0.000	0.000	1.406	0.000
FAMS-S - ES S - Systems Engineer/Technical SME Support	MIPR	Various : Various	0.000	0.272	Mar 2021	0.686	Jan 2022	0.000		0.000		0.000	0.000	0.958	0.000
JBADS - TD/D S - Logistics, Engineering, and IPT Support	MIPR	Various : Various	4.454	0.408	Nov 2021	0.000		0.000		0.000		0.000	0.000	4.862	0.000
MDAP - TD/D SB - IPT and Technical Support	MIPR	Various : Various	1.609	0.871	Nov 2020	2.081	Nov 2021	0.000		0.000		0.000	0.000	4.561	0.000
		Subtotal	6.063	2.621		3.193		0.000		0.000		0.000	0.000	11.877	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

CONG: Tech Scouting and Analysis to include prototyping and testing to support pandemic preparedness of civilian transportation systems.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS CIDAS NERVE - OTE C - CIDAS NERVE LSA MOT&E	Various	Various : Various	0.000	0.416		0.000		0.000		0.000		0.000	0.000	0.416	0.000
DFoS CIDAS NERVE - OTHT C - Environmental and Variant T&E	MIPR	Various : Various	0.000	0.147		0.000		0.000		0.000		0.000	0.000	0.147	0.000
DFoS CIDAS BLISTER - DFoS CIDAS BLISTER - OTHT S - DT/OT	MIPR	Various : Various	0.000	1.003	Dec 2020	1.637	Dec 2021	0.000		0.000		0.000	0.000	2.640	0.000
FAMS-S - DTE SB - Decon Solution Analysis	Various	TBD : N/A	0.000	0.100	Mar 2021	0.356	Feb 2022	0.000		0.000		0.000	0.000	0.456	0.000
JBADS - OTE S - Initial Operational Test and Evaluation	C/CPIF	AeroClave : LLC, Winter Park, FL	0.000	3.363	Oct 2021	0.000		0.000		0.000		0.000	0.000	3.363	0.000
JBADS - Future Capabilities	Various	Various : Various	2.699	0.536		0.000		0.000		0.000		0.000	0.000	3.235	0.000
CONG - OTHT S - JBADS Lite - Analysis and Test Support	Various	TBD : N/A	0.000	1.190	Mar 2022	0.000		0.000		0.000		0.000	0.000	1.190	0.000
		Subtotal	2.699	6.755		1.993		0.000		0.000		0.000	0.000	11.447	N/A

Remarks

CONG: Support for JBADS Lite test events.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS CIDAS NERVE - PM/MS C - Program Management Support	MIPR	Various : Various	0.000	0.057		0.000		0.000		0.000		0.000	0.000	0.057	0.000
DFoS CIDAS BLISTER - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.369	Dec 2020	0.212	Dec 2021	0.000		0.000		0.000	0.000	0.581	0.000
FAMS-S - PM/MS S - Program Management	MIPR	Various : Various	0.000	0.016	Mar 2021	0.329	Dec 2021	0.000		0.000		0.000	0.000	0.345	0.000
JBADS - PM/MS S - Program Management Support	MIPR	Various : Various	4.725	0.372	Dec 2020	0.000		0.000		0.000		0.000	0.000	5.097	0.000
MDAP - PM/MS S - Program Management Support	MIPR	Various : Various	0.359	0.129	Nov 2020	0.210	Nov 2021	0.000		0.000		0.000	0.000	0.698	0.000
		Subtotal	5.084	0.943		0.751		0.000		0.000		0.000	0.000	6.778	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	13.846	17.274		7.874		0.000		0.000		0.000	0.000	38.994	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

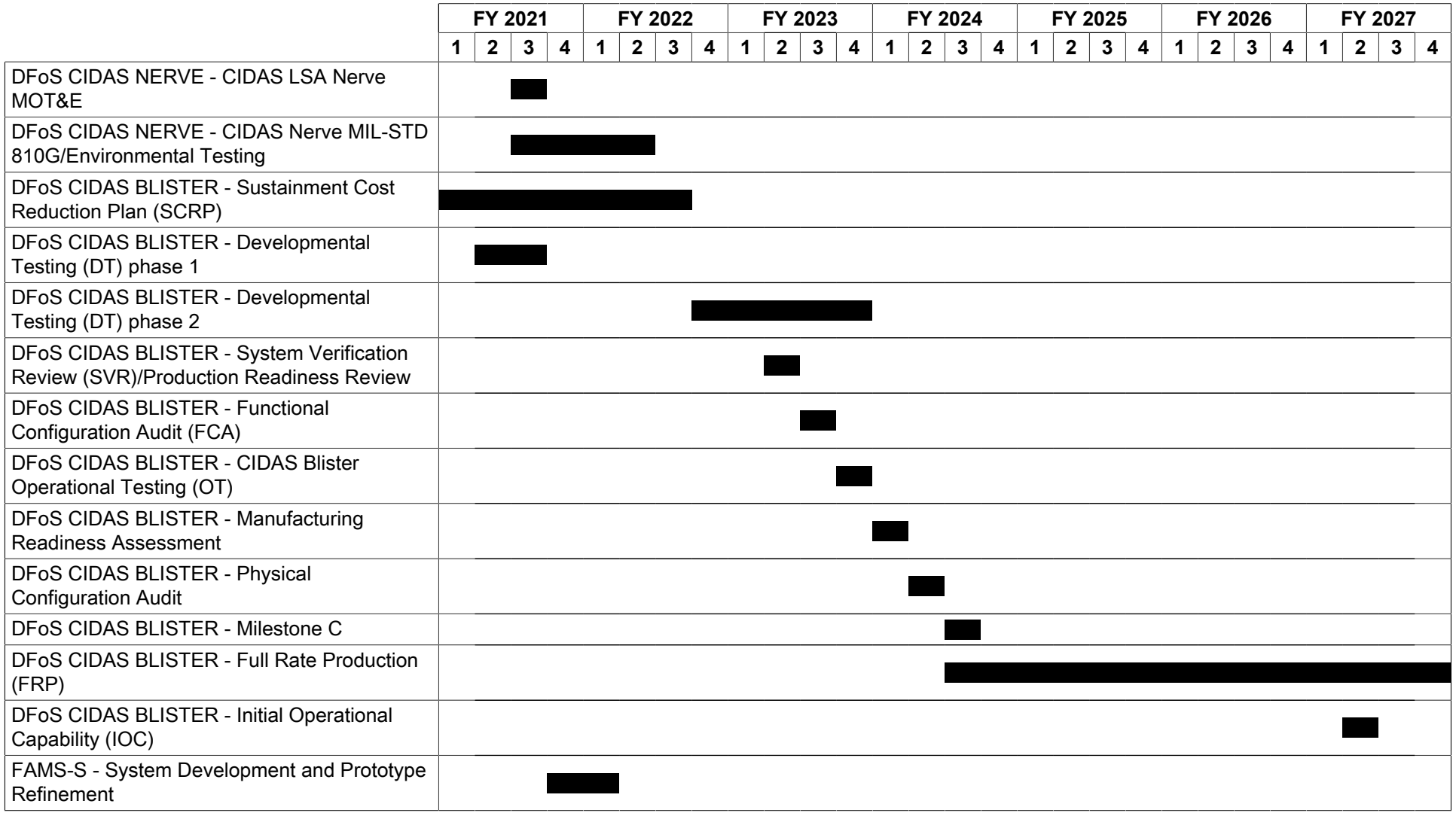

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

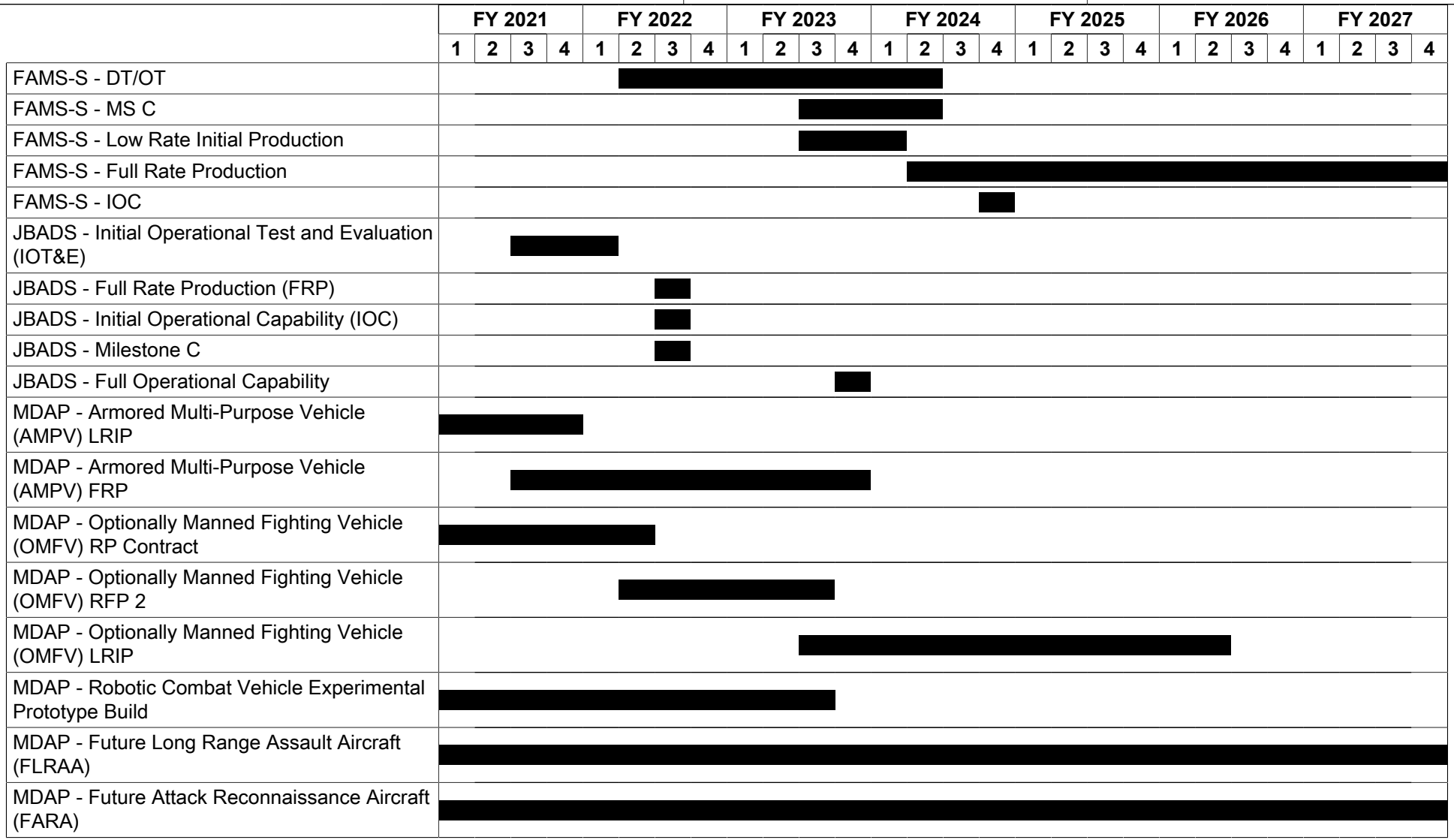

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
CONG - JBADS Lite - Development and Testing	[redacted]																											

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DFoS CIDAS NERVE - CIDAS LSA Nerve MOT&E	3	2021	3	2021
DFoS CIDAS NERVE - CIDAS Nerve MIL-STD 810G/Environmental Testing	3	2021	2	2022
DFoS CIDAS BLISTER - Sustainment Cost Reduction Plan (SCRP)	1	2021	3	2022
DFoS CIDAS BLISTER - Developmental Testing (DT) phase 1	2	2021	3	2021
DFoS CIDAS BLISTER - Developmental Testing (DT) phase 2	4	2022	4	2023
DFoS CIDAS BLISTER - System Verification Review (SVR)/Production Readiness Review	2	2023	2	2023
DFoS CIDAS BLISTER - Functional Configuration Audit (FCA)	3	2023	3	2023
DFoS CIDAS BLISTER - CIDAS Blister Operational Testing (OT)	4	2023	4	2023
DFoS CIDAS BLISTER - Manufacturing Readiness Assessment	1	2024	1	2024
DFoS CIDAS BLISTER - Physical Configuration Audit	2	2024	2	2024
DFoS CIDAS BLISTER - Milestone C	3	2024	3	2024
DFoS CIDAS BLISTER - Full Rate Production (FRP)	3	2024	4	2027
DFoS CIDAS BLISTER - Initial Operational Capability (IOC)	2	2027	2	2027
FAMS-S - System Development and Prototype Refinement	4	2021	1	2022
FAMS-S - DT/OT	2	2022	2	2024
FAMS-S - MS C	3	2023	2	2024
FAMS-S - Low Rate Initial Production	3	2023	1	2024
FAMS-S - Full Rate Production	2	2024	4	2027
FAMS-S - IOC	4	2024	4	2024
JBADS - Initial Operational Test and Evaluation (IOT&E)	3	2021	1	2022
JBADS - Full Rate Production (FRP)	3	2022	3	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JBADS - Initial Operational Capability (IOC)	3	2022	3	2022
JBADS - Milestone C	3	2022	3	2022
JBADS - Full Operational Capability	4	2023	4	2023
MDAP - Armored Multi-Purpose Vehicle (AMPV) LRIP	1	2021	4	2021
MDAP - Armored Multi-Purpose Vehicle (AMPV) FRP	3	2021	4	2023
MDAP - Optionally Manned Fighting Vehicle (OMFV) RP Contract	1	2021	2	2022
MDAP - Optionally Manned Fighting Vehicle (OMFV) RFP 2	2	2022	3	2023
MDAP - Optionally Manned Fighting Vehicle (OMFV) LRIP	3	2023	2	2026
MDAP - Robotic Combat Vehicle Experimental Prototype Build	1	2021	3	2023
MDAP - Future Long Range Assault Aircraft (FLRAA)	1	2021	4	2027
MDAP - Future Attack Reconnaissance Aircraft (FARA)	1	2021	4	2027
CONG - JBADS Lite - Development and Testing	2	2021	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program											Date: April 2022	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*				Project (Number/Name) IP5 / *Individual Protection (SDD)*			
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
IP5: *Individual Protection (SDD)*	-	17.129	18.941	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.070
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides Engineering & Manufacturing Development Phase and Low Rate Initial Production (EMD/LRIP) for individual protection equipment, with the goal of providing equipment that allows the individual Soldier, Sailor, Airman, or Marine to operate in a contaminated Nuclear, Biological and Chemical (NBC) environment with little or no degradation of his/her performance. In FY2023, the CBDP RDT&E Projects have been restructured to align to the CBDP portfolio. IP5 efforts in FY2022 progress to the Protect (PT5) and Understand (UN5) portfolios. This restructuring is intended to provide standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

(1) Joint Service Aircrew Mask for Strategic Aircraft (JSAM SA)
(2) Special Purpose Unit Rapid Capability Development and Deployment (SPU RCDD) - **Progresses to UN5 in FY2023**
(3) UIPE FoS General Purpose (GP) - **Progresses to PT5 in FY2023**
(4) UIPE FoS Air - **Progresses to PT5 in FY2023**
(5) UIPE FoS Gloves - **Progresses to PT5 in FY2023**

JSAM SA will provide individual respiratory, ocular, and percutaneous protection of chemical and biological warfare agents, and select toxic industrial chemicals for USAF, Aeromedical personnel, USN, USMC, and USA strategic aircrew. The mask components will be optimized to minimize their impact on the wearer's performance to continue lethality in a chemical biological (CB) environment and maximize its ability to interface with aircrew protective clothing. JSAM SA will provide pressure breathing for altitude for aircraft that do not require pressure breathing for gravity. JSAM SA will integrate with aircraft subsystems which include aviation life support equipment, aircrew flight equipment, aircraft seating, portable aircrew systems, communications systems, and aircraft oxygen systems. FY22 is the last year of BA5 funding for this program, all activities will be completed.

SPU RCDD facilitates Joint Special Operations Command (JSOC) rapid response requirements to near-term and emergent chemical-biological defensive capabilities. This includes select elements from across the Special Operations Force (SOF) Enterprise such as Combatant Commanders Response Forces (CRFs) and other Joint Force enabling units such as the 20th Chemical, Biological, Radiological, Nuclear and Explosives Command. SPU RCDD mitigates risk across the Chemical Biological Defense Program (CBDP) by creating a portfolio of operationally-relevant CB capabilities that can be quickly transitioned in response to the articulated, emergent capability needs of the geographic combatant commanders. These objectives are met by the early transitioning of promising science and technologies (S&T); the focused conduct of combat evaluations and mission-oriented operational assessments to assess technological and mission suitability; and the active leveraging of existing Commercial-Off-The-Shelf (COTS) and Government-Off-The-Shelf (GOTS) products along with novel redesign approaches to optimize existing solutions to new challenges supported by "buy-try-decide-acquire" acquisition strategies. SPU RCDD initiates efforts such as respiratory breathing systems, biological identification,

unmanned aerial and ground platform sensor integration, development of enhanced and augmented reality systems, and modernization of protective Chemical and Biological ensembles that have gone through requirements validation, and continues product enhancement development and technology upgrades on currently fielded SOF equipment to counter emerging threats, conduct limited user evaluations and operational assessment.

The UIPE FoS is a family of systems that provides the broad spectrum of users with individual percutaneous protective equipment allowing the ability to operate in a contaminated environment with no or minimal degradation in performance. UIPE FoS provides protection from operationally relevant traditional and non-traditional CBRN threats likely to be encountered during joint force operations.

UIPE FoS GP is part of a family of systems that will give the Warfighter percutaneous protection from operationally relevant traditional, non-traditional, and advanced CBRN/Toxic Industrial Material (TIM) threats likely to be encountered during joint force operations. The legacy chemical biological garment is nearing the end of its service life and does not meet updated requirements such as emerging threats, aerosol protection, and flame resistance. The UIPE FoS GP is a two-piece lightweight (compared to the legacy system) duty uniform replacement that has an aerosol liner, is flame resistant, and does not reduce Warfighter effectiveness in the areas of mobility and thermal burden. The Tactical All-Hazards Threat Protective Ensemble (TATPE) will provide high risk Special Operations Forces (SOF) and Explosive Ordnance Disposal (EOD) personnel with increased protection against non-traditional and advanced threat agents during CWMD crisis and response missions in a more athletic fit combining a level of protection and performance not previously available together. TATPE will capitalize on the protection factor of commercial Level A with design modifications to align with the necessary operational requirements. The TATPE is a system consisting of a protective garment that integrates with a Self-Contained Breathing Apparatus (SCBA), M53 protective mask, and cooling and hydration systems. The TATPE serves as an additional tool in the arsenal until technology matures to the point of delivering a similar capability applied against the range of military operations in all environments under all conditions. In FY22, the TATPE will obtain a MS C Low Rate Initial Production decision and expects to achieve an Initial Operations Capability (IOC) for SOF, EOD, and Special Mission Units within SOCOM.

UIPE FoS Air program will provide the Warfighter percutaneous protection from operationally relevant traditional and non-traditional Chemical, Biological, Radiological, Nuclear (CBRN) threats. UIPE FoS Air will improve aircrew performance and survivability under CBRN conditions by reducing thermal burden and bulk, while increasing mobility and resulting in an increase operational effectiveness. The UIPE FoS Air is composed of two variants. The UIPE FoS Air Chemical, Biological, Radiological Layer (CBRL) to address the specific requirements of the United States Air Force (USAF) tactical/ejection fixed wing platforms and the Two Piece Undergarment (2PUG) to address the remaining USAF and United States Navy / United States Marine Corps tactical/ejection seat (rotary wing) and non-ejection (fixed wing) platforms.

UIPE FoS Gloves provides percutaneous protection to the hand and wrist interface of the warfighter against traditional and non-traditional CBRN threats. UIPE FoS Gloves will provide improved comfort, tactility and dexterity and for certain mission profiles enhanced touch screen and flame resistant capability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Joint Service Aircrew Mask for Strategic Aircraft (JSAM SA)	1.060	1.153	-
Description: Operational Testing and Evaluation (OT&E)			
FY 2022 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Continue OT, Integration Testing and Safe-to-Fly on various Service aircraft. Continue updates to the Technical Manual to include specialized procedures for the various aircraft based on testing results. Continue engineering studies to assess communication system adaptors and oxygen system adaptors for remaining aircraft. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase. FY22 was last year of engineering and manufacturing development phase; program has fully transitioned to production phase.			
Title: 2) Special Purpose Unit Rapid Capability Development & Deployment (SPU RCDD) ***Description:*** Development of specialized equipment for agent-specific threats. ***FY 2022 Plans:*** Initiate efforts such as respiratory breathing systems, biological identification, modernization of protective Chemical and Biological ensembles that have gone through requirements validation and continue developing, prototyping, and maturing CBD technologies to rapidly equip users with capabilities in response to new and emerging threats and opportunities, building on the advancements in decontamination, respiratory / ocular, and other defensive technologies demonstrated by prototypes. Conduct limited user evaluations / operational assessments. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($6.863 Million) transferred to UN5.	5.599	4.581	-
Title: 3) UIPE FoS GP - Tactical All-Hazards Threat Protective Ensemble (TATPE) ***Description:*** TATPE system development, developmental testing, and operational assessment.	2.714	-	-
Title: 4) UIPE FoS General Purpose (GP) ***Description:*** Development of the next generation protective ensembles. ***FY 2022 Plans:*** Begin Developmental/Operational Testing (DT/OT), Award Production Initiation Contract and Begin Operational Assessment. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 Funding ($9.640 Million) transferred to PT5.	4.381	8.167	-
Title: 5) UIPE FoS Air ***Description:*** Design, Test, and Integration of the 2PUG ***FY 2022 Plans:***	3.375	3.858	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Complete system level development testing and Safe to Fly requirements and begin integration testing. Conduct Developmental Testing /Operational Testing (DT/OT), to include flight testing. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($5.132 Million) transferred to PT5.			
Title: 6) UIPE FoS Gloves ***Description:*** Development of the Next Generation Protective Glove ***FY 2022 Plans:*** Finalize UIPE FoS Glove prototype development and testing for multiple mission profiles (General Purpose, Aviation Heavy and Aviation Light). Conduct Developmental Testing/Operational Testing (DT/OT) events on mature prototypes. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 Funding ($2.699 Million) transferred to PT5.	-	1.182	-
Accomplishments/Planned Programs Subtotals	17.129	18.941	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PT5: *Protect (SDD)*	0.000	0.000	96.860	-	96.860	98.427	78.868	48.793	35.494	Continuing	Continuing
• UN5: *Understand (SDD)*	0.000	0.000	127.671	-	127.671	101.933	98.742	98.122	72.699	Continuing	Continuing
• IP7: *Individual Protection (Op Sys Dev)*	7.605	11.724	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	19.329
• UN7: *Understand (Op Sys Dev)*	0.000	0.000	42.856	-	42.856	35.884	42.602	42.603	44.196	Continuing	Continuing
• JI0002: *JS AIRCREW MASK (JSAM)*	66.468	41.459	20.823	-	20.823	0.000	0.000	0.000	0.000	0.000	128.750
• PHM018: *SPU RAPID CAPABILITY DEVELOPMENT AND DEMO (SPU RCDD)*	8.808	6.946	13.739	-	13.739	5.973	5.974	5.980	5.980	Continuing	Continuing
• PHM032: *UNIFORM INTEGRATED PROTECTIVE ENSEMBLE FOS GLOVES (UIPE FOS GLOVES)*	0.000	0.000	0.000	-	0.000	7.478	7.974	7.974	8.328	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PHM033: *UNIFORM INTEGRATED PROTECTIVE ENSEMBLE GENERAL PURPOSE (UIPE FOS GP)*	0.000	17.686	51.130	-	51.130	101.486	174.124	194.691	264.433	Continuing	Continuing
• PHM034: *UNIFORM INTEGRATED PROTECTION ENSEMBLE FOS AIR (UIPE FOS AIR)*	4.786	34.568	23.407	-	23.407	25.794	26.195	26.403	17.586	Continuing	Continuing

Remarks

D. Acquisition Strategy

JOINT SERVICE AIRCREW MASK STRATEGIC AIRCRAFT (JSAM SA)

The contract strategy consists of two sole-source contracts with Avon Protection Systems, the manufacturer of the fielded M53 mask. The first contract, which was awarded on 31 July 2013, covers all activities during the Engineering and Manufacturing Development (EMD) phase to include all LRIP builds. The second contract, which was awarded on 4 January 2019 to Avon Protection Systems, will cover the activities during the Production and Deployment (PD) phase including all Full Rate Production (FRP) builds for the Services.

SPU RAPID CAPABILITY DEVELOPMENT AND DEPLOYMENT (SPU RCDD)

The SPU RCDD overall acquisition strategy allows for rapid prototyping and testing of mission critical capabilities needed to enhance mission success, and will use technical and functional evaluations of currently-fielded items to introduce and incorporate operationally-relevant system developments. This will be accomplished through competitive contracting vehicles and by awarding agreements under the Countering Weapons of Mass Destruction Other Transaction Authority (CWMD OTA) for the development of prototype test assets. The OTA consists of a consortium of all potential industry, research institutions, and non-traditional government that could be potential solvers for the program, and will be used to procure test prototypes and test articles of possible solutions. Procurement will be through either the OTAs, a Small Business Innovative Research contract, or a more traditional contracting vehicle.

UNIFORM INTEGRATED PROTECTIVE ENSEMBLE GENERAL PURPOSE (UIPE FOS GP)

UIPE FoS GP used an Other Transaction Authority (OTA) and Government designed prototypes produced in conjunction with an Industry Partner to acquire prototypes for early user testing. Warfighter feedback, trade space analysis, and chemical testing resulted in three government designed candidates being down selected in 3QFY20. These three candidates are designed to minimize operational burden and provide improved form, fit, function, and integration with the current Warfighter

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

kits compared to legacy systems. Additional testing, review of the results, stakeholder guidance, and a risk analysis led to the selection of one candidate in FY21 - the Integrated Chemical Biological Lightweight Improved Thermal Ensemble Flame Resistant (ICBLITE FR). UIPE FoS GP will be executing multiple awards in the next 3 years, where production occurring before the milestone to allow for completion of UIPE evaluation (effectiveness, suitability and survivability) prior to award of a high ceiling production contract. This will allow the vendor to better estimate pricing (labor and material) with an initial production ramp up; and Mitigates schedule risk for award of a high ceiling production contract.

UNIFORM INTEGRATED PROTECTION ENSEMBLE FOS AIR (UIPE FOS AIR)

The UIPE FoS Air utilizes a streamlined acquisition strategy that identifies mature technology and capitalizes on work accomplished by the USAF IAE and UIPE FoS General Purpose programs. The UIPE FoS Air will utilize an Milestone A-C acquisition strategy that will accelerate fielding to the Warfighter. The contract strategy leverages the USAF Integrated Aircrew Ensemble (IAE) SBIR Phase III contract to procure UIPE Air CBRL. The UIPE FoS Air 2PUG will be procured utilizing a Government design on a separate contract.

UNIFORM INTEGRATED PROTECTIVE ENSEMBLE FOS GLOVES (UIPE FOS GLOVES)

The UIPE FoS Glove program conducted market research through both Requests For Information (RFIs) and a call for White Papers through an Other Transaction Authority (OTA) contracting approach. Eight white papers were deemed acceptable and will be pursued through a Mid-Tier Acquisition Rapid Prototyping strategy. Candidate technologies will undergo Early User Tests/Wear events and material and system level testing to identify available capabilities as well as Analytical framework analyses to determine the most suitable solution(s) per mission profile.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) IP5 / *Individual Protection (SDD)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SPU RCDD - HW C - SEDS Prototype	C/FFP	Battelle Memorial Institute : Columbus, OH	0.000	0.110	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.110	0.000
SPU RCDD - HW C - CBRN Hydration Development	C/FFP	D. Wheatley Enterprises Inc. : Belcamp, MD	0.000	0.250	Nov 2020	0.300	Mar 2022	0.000		0.000		0.000	0.000	0.550	0.000
SPU RCDD - HW C - Assault Respirator	C/FFP	MRIGlobal : Kansas City, MO	0.000	0.564	Nov 2020	0.400	Nov 2021	0.000		0.000		0.000	0.000	0.964	0.000
SPU RCDD - HW C - Prototype Procurement	Various	Various : Various	2.335	1.904	Mar 2021	0.000	Dec 2021	0.000		0.000		0.000	0.000	4.239	0.000
SPU RCDD - HW C - Genetic Sequencing	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	1.219	Sep 2021	0.000		0.000		0.000		0.000	0.000	1.219	0.000
SPU RCDD - HW S - Low Temperature Plasma Mass Spectrometer (LTPMS)	C/CPFF	ATI Solutions : Inc., Tysons Corner, VA	0.000	0.000		1.158	Jan 2022	0.000		0.000		0.000	0.000	1.158	0.000
UIPE FOS GP - HW S - TATPE System Development	C/CPFF	Battelle Memorial Institute : Columbus, OH	0.000	1.632	Feb 2021	0.000		0.000		0.000		0.000	0.000	1.632	0.000
UIPE FOS GP - HW C - Prototype Development	MIPR	TBD : N/A	0.000	0.025	Dec 2020	0.035	Nov 2021	0.000		0.000		0.000	0.000	0.060	0.000
UIPE FOS AIR - HW C - Prototype Development (2PUG)	Various	Various : Various	0.000	0.063		0.000		0.000		0.000		0.000	0.000	0.063	0.000
UIPE FOS GLOVES - HW C - Prototype Manufacturing, Demonstration and Down-select	MIPR	Various : Various	0.000	0.000		0.389	May 2022	0.000		0.000		0.000	0.000	0.389	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	2.335	5.767		2.282		0.000		0.000		0.000	0.000	10.384	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JSAM SA - TD/D S - Logistics, Engineering, and IPT Support	MIPR	Various : Various	0.826	0.204	Dec 2020	0.916	Nov 2021	0.000		0.000		0.000	0.000	1.946	0.000
SPU RCDD - ES C - Engineering Support	Various	Various : Various	0.000	0.672	Dec 2020	0.697	Dec 2021	0.000		0.000		0.000	0.000	1.369	0.000
UIPE FOS GP - ES C - Engineering & Technical IPT Support / SME Support	Various	Various : Various	0.000	1.049	Dec 2020	1.388	Nov 2021	0.000		0.000		0.000	0.000	2.437	0.000
UIPE FOS GP - ILS S - Integrated Log Support-System	Various	Various : Various	0.000	0.000		0.545	Nov 2021	0.000		0.000		0.000	0.000	0.545	0.000
UIPE FOS GP - ES S - TATPE Engineering & Technical IPT Support / SME Support	Various	Various : Various	0.000	0.300	Oct 2020	0.000		0.000		0.000		0.000	0.000	0.300	0.000
UIPE FOS AIR - ES C - Engineering and IPT Support	Various	Various : Various	0.000	0.000		0.578	Nov 2021	0.000		0.000		0.000	0.000	0.578	0.000
UIPE FOS GLOVES - ES C - Engineering, Logistics, Technical, IPT Support	MIPR	Various : Various	0.000	0.000		0.177	May 2022	0.000		0.000		0.000	0.000	0.177	0.000
		Subtotal	0.826	2.225		4.301		0.000		0.000		0.000	0.000	7.352	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) IP5 / *Individual Protection (SDD)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JSAM SA - DTE S - DT/OT	MIPR	Various : Various	3.423	0.774	Dec 2020	0.115	Nov 2021	0.000		0.000		0.000	0.000	4.312	0.000
SPU RCDD - DTE C - Testing and Evaluation	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.218	0.000		1.468	Dec 2021	0.000		0.000		0.000	0.000	1.686	0.000
SPU RCDD - DTE C - Test and Evaluation	Various	Various : Various	0.000	0.151	Mar 2021	0.000		0.000		0.000		0.000	0.000	0.151	0.000
UIPE FOS GP - DTE C - DT/OT	Various	Various : Various	0.000	2.816	Dec 2020	5.292	Nov 2021	0.000		0.000		0.000	0.000	8.108	0.000
UIPE FOS GP - OTE S - TATPE User Evaluation	Various	Combat Capabilities Development Command (CCDC) Soldier Center : Natick, MA	0.000	0.400	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.400	0.000
UIPE FOS GP - DTE S - TATPE Technical Testing	Various	Combat Capabilities Development Command (CCDC) Soldier Center : Natick, MA	0.000	0.200	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.200	0.000
UIPE FOS AIR - DTE C - System Level Testing	Various	Various : Various	0.000	3.043		2.992	Nov 2021	0.000		0.000		0.000	0.000	6.035	0.000
UIPE FOS GLOVES - DTE C - Early User Testing, Developmental Testing	MIPR	Various : Various	0.000	0.000		0.528	May 2022	0.000		0.000		0.000	0.000	0.528	0.000
		Subtotal	3.641	7.384		10.395		0.000		0.000		0.000	0.000	21.420	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JSAM SA - PM/MS S - Program Management Support	MIPR	Various : Various	1.764	0.082	Dec 2020	0.122	Dec 2021	0.000		0.000		0.000	0.000	1.968	0.000
SPU RCDD - PM/MS C - Program Management Support	Various	Various : Various	0.250	0.729	Nov 2020	0.558	Nov 2021	0.000		0.000		0.000	0.000	1.537	0.000
UIPE FOS GP - PM/MS C - Program Management Support	Various	Various : Various	0.000	0.673	Dec 2020	0.907	Nov 2021	0.000		0.000		0.000	0.000	1.580	0.000
UIPE FOS AIR - PM/MS C - Program Management Services	MIPR	Various : Various	0.000	0.269		0.288	Nov 2021	0.000		0.000		0.000	0.000	0.557	0.000
UIPE FOS GLOVES - PM/MS C - Program Management Support	Various	Various : Various	0.000	0.000		0.088	May 2022	0.000		0.000		0.000	0.000	0.088	0.000
		Subtotal	2.014	1.753		1.963		0.000		0.000		0.000	0.000	5.730	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8.816	17.129		18.941		0.000		0.000		0.000	0.000	44.886	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

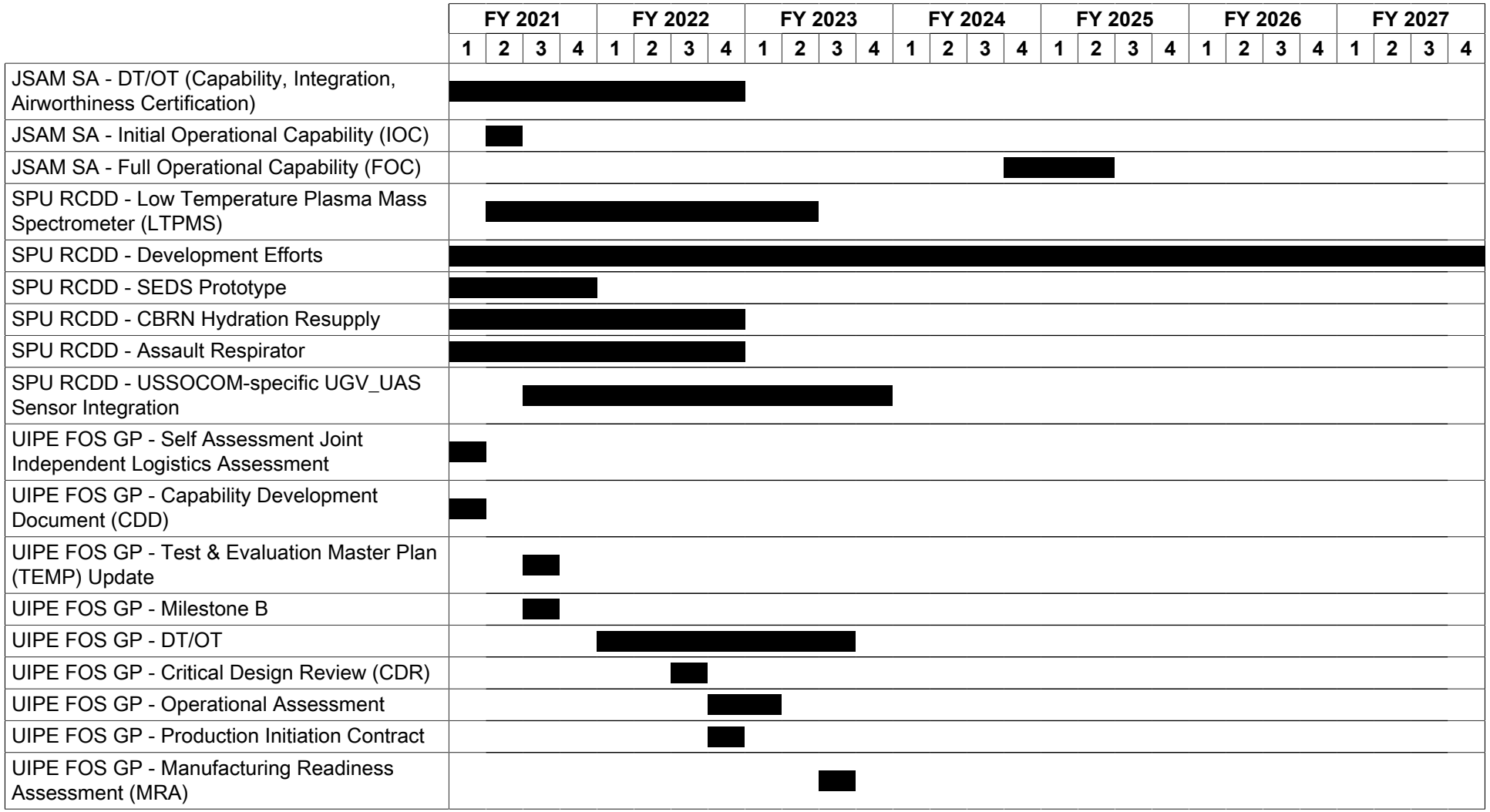

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

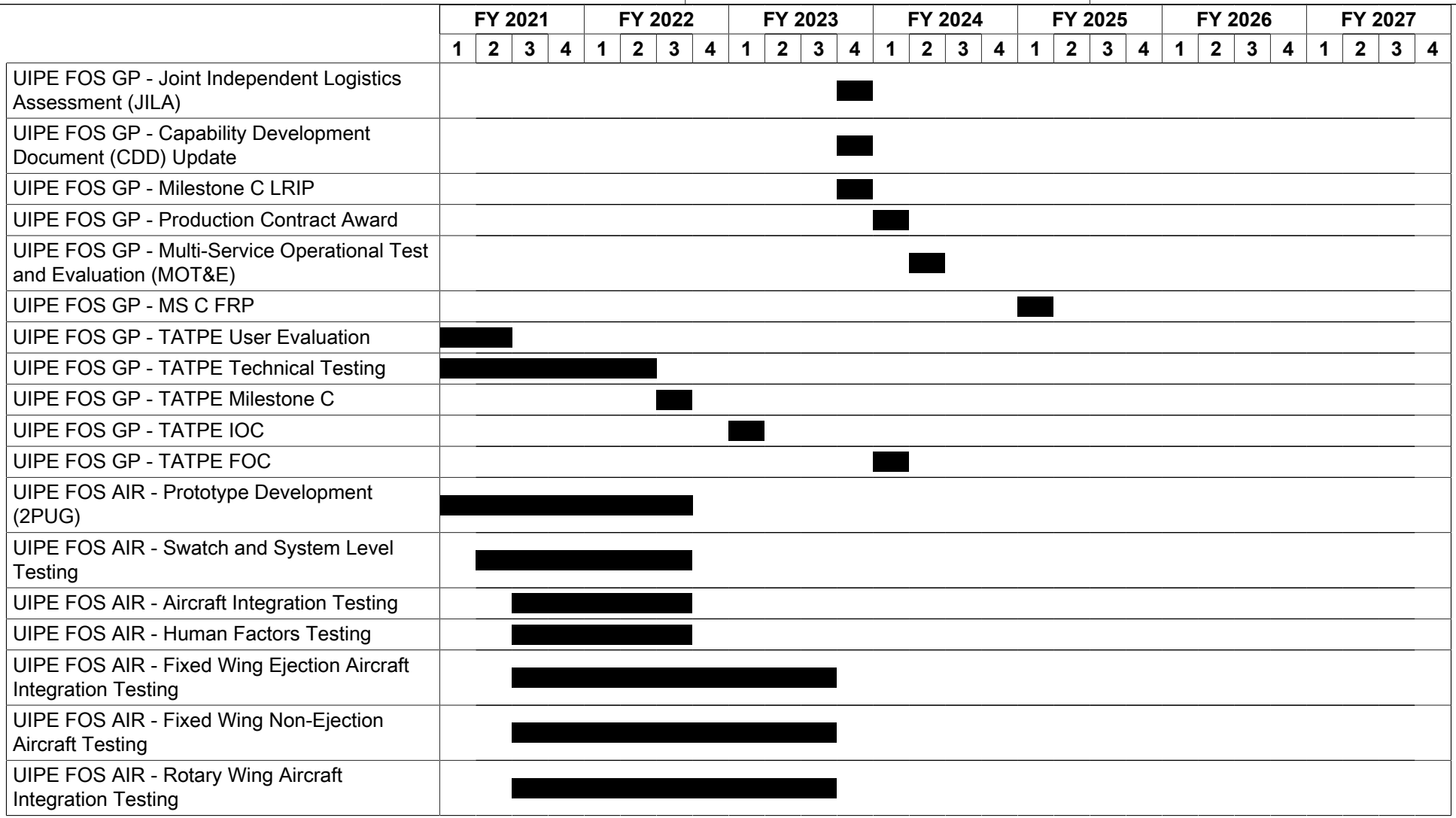

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

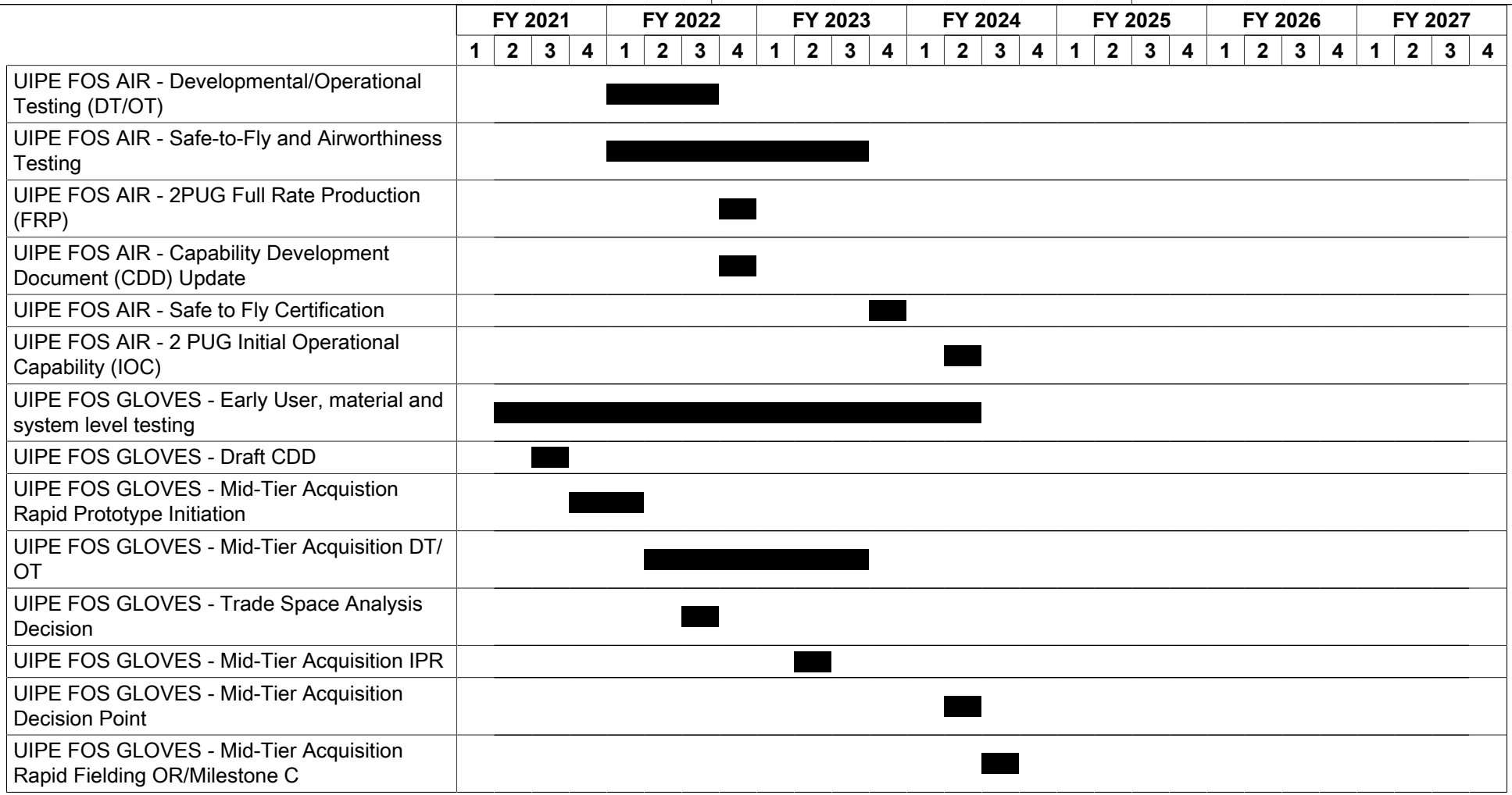

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JSAM SA - DT/OT (Capability, Integration, Airworthiness Certification)	1	2021	4	2022
JSAM SA - Initial Operational Capability (IOC)	2	2021	2	2021
JSAM SA - Full Operational Capability (FOC)	4	2024	2	2025
SPU RCDD - Low Temperature Plasma Mass Spectrometer (LTPMS)	2	2021	2	2023
SPU RCDD - Development Efforts	1	2021	4	2027
SPU RCDD - SEDS Prototype	1	2021	4	2021
SPU RCDD - CBRN Hydration Resupply	1	2021	4	2022
SPU RCDD - Assault Respirator	1	2021	4	2022
SPU RCDD - USSOCOM-specific UGV_UAS Sensor Integration	3	2021	4	2023
UIPE FOS GP - Self Assessment Joint Independent Logistics Assessment	1	2021	1	2021
UIPE FOS GP - Capability Development Document (CDD)	1	2021	1	2021
UIPE FOS GP - Test & Evaluation Master Plan (TEMP) Update	3	2021	3	2021
UIPE FOS GP - Milestone B	3	2021	3	2021
UIPE FOS GP - DT/OT	1	2022	3	2023
UIPE FOS GP - Critical Design Review (CDR)	3	2022	3	2022
UIPE FOS GP - Operational Assessment	4	2022	1	2023
UIPE FOS GP - Production Initiation Contract	4	2022	4	2022
UIPE FOS GP - Manufacturing Readiness Assessment (MRA)	3	2023	3	2023
UIPE FOS GP - Joint Independent Logistics Assessment (JILA)	4	2023	4	2023
UIPE FOS GP - Capability Development Document (CDD) Update	4	2023	4	2023
UIPE FOS GP - Milestone C LRIP	4	2023	4	2023
UIPE FOS GP - Production Contract Award	1	2024	1	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
UIPE FOS GP - Multi-Service Operational Test and Evaluation (MOT&E)	2	2024	2	2024
UIPE FOS GP - MS C FRP	1	2025	1	2025
UIPE FOS GP - TATPE User Evaluation	1	2021	2	2021
UIPE FOS GP - TATPE Technical Testing	1	2021	2	2022
UIPE FOS GP - TATPE Milestone C	3	2022	3	2022
UIPE FOS GP - TATPE IOC	1	2023	1	2023
UIPE FOS GP - TATPE FOC	1	2024	1	2024
UIPE FOS AIR - Prototype Development (2PUG)	1	2021	3	2022
UIPE FOS AIR - Swatch and System Level Testing	2	2021	3	2022
UIPE FOS AIR - Aircraft Integration Testing	3	2021	3	2022
UIPE FOS AIR - Human Factors Testing	3	2021	3	2022
UIPE FOS AIR - Fixed Wing Ejection Aircraft Integration Testing	3	2021	3	2023
UIPE FOS AIR - Fixed Wing Non-Ejection Aircraft Testing	3	2021	3	2023
UIPE FOS AIR - Rotary Wing Aircraft Integration Testing	3	2021	3	2023
UIPE FOS AIR - Developmental/Operational Testing (DT/OT)	1	2022	3	2022
UIPE FOS AIR - Safe-to-Fly and Airworthiness Testing	1	2022	3	2023
UIPE FOS AIR - 2PUG Full Rate Production (FRP)	4	2022	4	2022
UIPE FOS AIR - Capability Development Document (CDD) Update	4	2022	4	2022
UIPE FOS AIR - Safe to Fly Certification	4	2023	4	2023
UIPE FOS AIR - 2 PUG Initial Operational Capability (IOC)	2	2024	2	2024
UIPE FOS GLOVES - Early User, material and system level testing	2	2021	2	2024
UIPE FOS GLOVES - Draft CDD	3	2021	3	2021
UIPE FOS GLOVES - Mid-Tier Acquistion Rapid Prototype Initiation	4	2021	1	2022
UIPE FOS GLOVES - Mid-Tier Acquisition DT/OT	2	2022	3	2023
UIPE FOS GLOVES - Trade Space Analysis Decision	3	2022	3	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
UIPE FOS GLOVES - Mid-Tier Acquisition IPR	2	2023	2	2023
UIPE FOS GLOVES - Mid-Tier Acquisition Decision Point	2	2024	2	2024
UIPE FOS GLOVES - Mid-Tier Acquisition Rapid Fielding OR/Milestone C	3	2024	3	2024

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IS5 / *Information Systems (SDD)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
IS5: *Information Systems (SDD)*	-	5.810	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.810
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project provides for Advanced Component Development and Prototypes (ACD&P) responsible for providing the information architecture and applications for shaping the battlespace against the Chemical, Biological, Radiological and Nuclear (CBRN) threat. Experimentation and demonstration will be used in this phase to reduce risk and inform supporting materiel solutions, CONOPS and TTPs.

Efforts included in this project are:
(1) CBRN Information System (CBRN IS), and
(2) Software Support Activity (SSA).

The CBRN IS program provides a collaborative Cloud hosted environment that allows users to collect and disseminate CBRN warning and reporting data, provide detailed CBRN hazard predictions, aid in decision support, and make relevant CBRN defense information available in near-real time. CBRN IS provides an environment that supports the implementation of Integrated Early Warning (IEW) capabilities that allow users to access netted sensor information, data fusion, disease modeling, biosurveillance data, source term estimation data, incident management tools, and planning and analysis capabilities. The CBRN IS enterprise makes CBRN decision aids readily accessible from any desktop through a web browser simplifying interoperability, reducing integration and deployment costs and increases cybersecurity protection. The CBRN IS program will transition to the BA7 MOD CBRN IS program (Project IS7) starting in FY22.

The SSA program provides for enterprise services in the areas of software development, system/network architectures, cybersecurity, information assurance standards and policies and interoperability. The SSA emphasizes development of reference implementations to guide Government and industry system and software developers to ensure that their products meet risk management framework compliance and common interoperability standards such as the Integrated Sensor Architecture (ISA). SSA efforts will transition to the BA7 MOD CBRN IS program (Project IS7) starting in FY22.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) CBRN IS ***Description:*** Product Development, Operational Assessments, Management, Engineering, and Cybersecurity Support	3.022	-	-
Title: 2) SSA ***Description:*** Enterprise Support and Services	2.788	-	-
Accomplishments/Planned Programs Subtotals	5.810	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IS5 / *Information Systems (SDD)*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• IS7: *Information Systems (Op Sys Dev)*	3.122	15.281	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	18.403
• UN7: *Understand (Op Sys Dev)*	0.000	0.000	42.856	-	42.856	35.884	42.602	42.603	44.196	Continuing	Continuing
• SA0006: *CBRN INFORMATION SYSTEMS (CBRN IS)*	0.512	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.512

Remarks

D. Acquisition Strategy

CBRN INFORMATION SYSTEMS

CBRN IS acquisition utilizes a Family-of-Systems (FoS) approach to align multiple capabilities to the CBRN-IS architecture and operational environment. CBRN IS leverages the concepts of CBRN Hazard Awareness and Understanding and DISA Enterprise Services to integrate current CBRN capabilities, and other information and intelligence services, applications, and systems to provide increased situational awareness and decision support to commanders for CBRN defense. The strategy supports the implementation of integrated early warning capabilities by incorporating mature science and technology products and emerging technologies from existing advanced technology demonstrations (ATD) and experimental capability demonstrations (ECD). CBRN IS utilizes the Agile software development process to provide for the spiral development and fielding of modular capability packages. CBRN IS will transition to MOD CBRN IS beginning 1QFY22.

SOFTWARE SUPPORT ACTIVITY (SSA)

Software Support Activity (SSA) is a non-acquisition, service organization that provides professional subject matter expertise support throughout the CBDP Enterprise. These services are provided by government and contract personnel with expertise in software development, network architecture, cybersecurity, technology transitions, information assurance, and standards and policies compliance, and are provided throughout the lifecycle of programs within the CBDP portfolio. These efforts facilitate the efficient development, transition, fielding, modernization, and sustainment of interoperable and integrated Chemical Biological Radiological and Nuclear (CBRN) capabilities. In FY22, SSA efforts will transition to Modernization CBRN Information Systems (MOD CBRN IS).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IS5 / *Information Systems (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CBRN IS - SW S - software - integration with BSP, JEM, JWARN	MIPR	Various : Various	3.910	1.230	Dec 2020	0.000		0.000		0.000		0.000	0.000	5.140	0.000
SSA - SW S - CBRN Data Model	C/CPAF	Various : Various	9.480	0.778	Feb 2020	0.000		0.000		0.000		0.000	0.000	10.258	0.000
		Subtotal	13.390	2.008		0.000		0.000		0.000		0.000	0.000	15.398	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CBRN IS - ES S - Support Costs - Cybersecurity and IA updates, architecture documentation	MIPR	Space and Naval Warfare (SPAWAR) Systems Center : San Diego, CA	3.122	0.715	Dec 2020	0.000		0.000		0.000		0.000	0.000	3.837	0.000
SSA - ES S - Support Costs	MIPR	Space and Naval Warfare (SPAWAR) Systems Center : San Diego, CA	12.823	1.900	Feb 2021	0.000		0.000		0.000		0.000	0.000	14.723	0.000
		Subtotal	15.945	2.615		0.000		0.000		0.000		0.000	0.000	18.560	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CBRN IS - OTE S - Operational Test - service-specific testing, joint test	MIPR	Various : Various	2.599	0.786	Dec 2020	0.000		0.000		0.000		0.000	0.000	3.385	0.000
		Subtotal	2.599	0.786		0.000		0.000		0.000		0.000	0.000	3.385	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IS5 / *Information Systems (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CBRN IS - PM/MS S - Program Management - Planning, Programming, and Budgeting	MIPR	Various : Various	0.910	0.291	Dec 2020	0.000		0.000		0.000		0.000	0.000	1.201	0.000
SSA - PM/MS S - Management Services	MIPR	Space and Naval Warfare (SPAWAR) Systems Center : San Diego, CA	3.537	0.110	Dec 2020	0.000		0.000		0.000		0.000	0.000	3.647	0.000
		Subtotal	4.447	0.401		0.000		0.000		0.000		0.000	0.000	4.848	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	36.381	5.810		0.000		0.000		0.000		0.000	0.000	42.191	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IS5 / *Information Systems (SDD)*

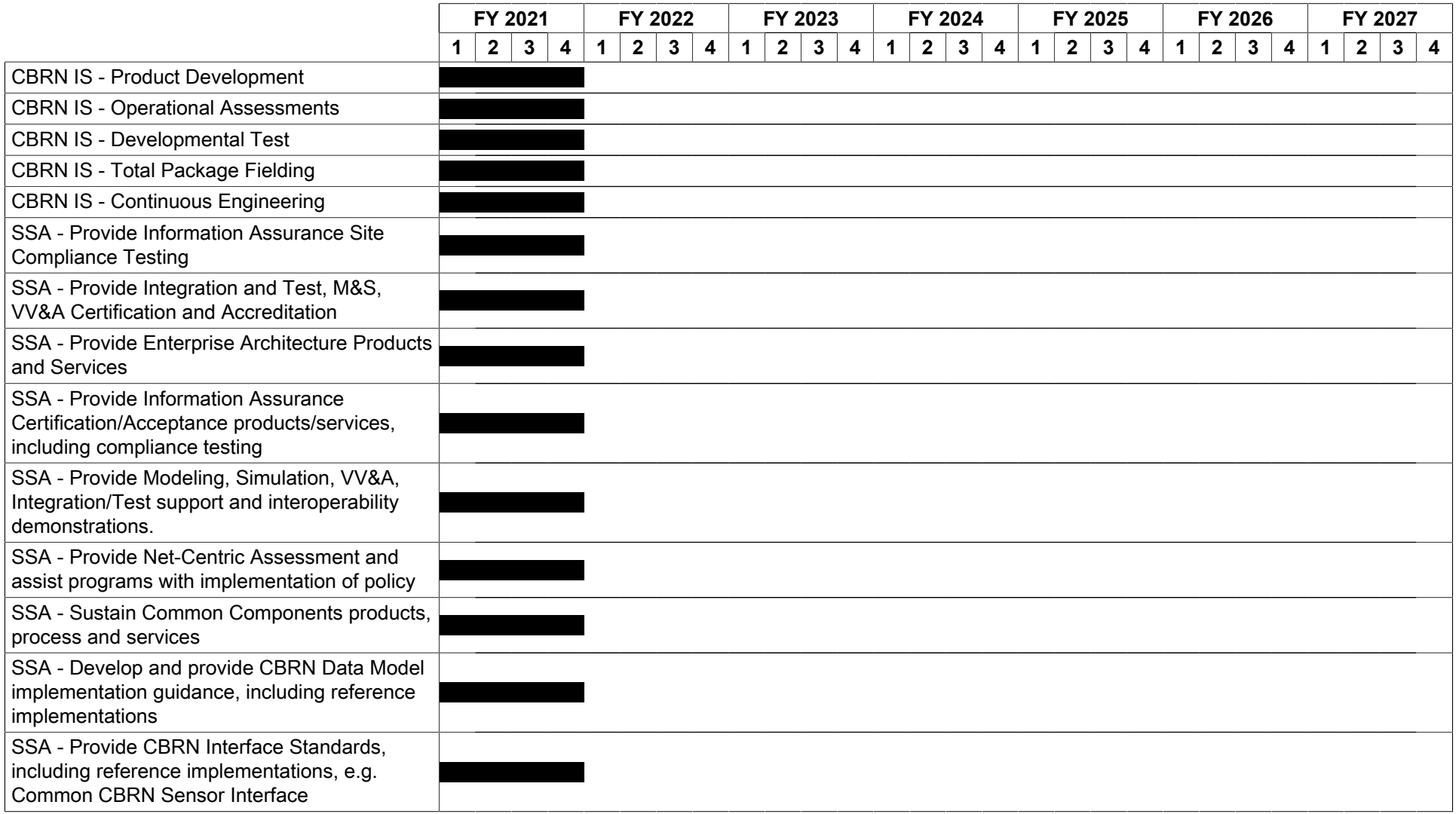

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IS5 / *Information Systems (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CBRN IS - Product Development	1	2021	4	2021
CBRN IS - Operational Assessments	1	2021	4	2021
CBRN IS - Developmental Test	1	2021	4	2021
CBRN IS - Total Package Fielding	1	2021	4	2021
CBRN IS - Continuous Engineering	1	2021	4	2021
SSA - Provide Information Assurance Site Compliance Testing	1	2021	4	2021
SSA - Provide Integration and Test, M&S, VV&A Certification and Accreditation	1	2021	4	2021
SSA - Provide Enterprise Architecture Products and Services	1	2021	4	2021
SSA - Provide Information Assurance Certification/Acceptance products/services, including compliance testing	1	2021	4	2021
SSA - Provide Modeling, Simulation, VV&A, Integration/Test support and interoperability demonstrations.	1	2021	4	2021
SSA - Provide Net-Centric Assessment and assist programs with implementation of policy	1	2021	4	2021
SSA - Sustain Common Components products, process and services	1	2021	4	2021
SSA - Develop and provide CBRN Data Model implementation guidance, including reference implementations	1	2021	4	2021
SSA - Provide CBRN Interface Standards, including reference implementations, e.g. Common CBRN Sensor Interface	1	2021	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) MB5 / *Medical Biological Defense (SDD)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
MB5: *Medical Biological Defense (SDD)*	-	117.157	137.348	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	254.505
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project supports Engineering and Manufacturing Development and Low Rate Initial Production (EMD/LRIP) of medical countermeasures, development of reagents, assays, diagnostic equipment, Biosurveillance and supporting efforts. In FY2023, the CBDP RDT&E Projects have been restructured to align to the CBDP portfolio. MB5 efforts in FY2022 progress to the Enabling Investments (EN5), Mitigate (MT5), Protect (PT5), and Understand (UN5) portfolios. This restructuring is intended to provide standardization/alignment across CBDP research, development /acquisition efforts and small model development with a success End of Phase 1 meeting with the FDA.

Efforts included in this Project are:

(1) Countering Emerging Threats Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR) **Progresses to MT5 in FY2023**,
(2) Botulinum Monoclonal Antibodies (BOT MAB) **Progresses to PT5 in FY2023**,
(3) Chem Bio Incident Preparedness and Response - Advanced Development and Manufacturing (CBIPR - ADM) **Progresses to EN5 in FY2023**,
(4) Next Generation Diagnostic System (NGDS) 2 Chemical Diagnostic (NGDS 2 CHEMDX) **Progresses to UN5 in FY2023**,
(5) Next Generation Diagnostic System (NGDS) 2 Man Portable Diagnostic System (NGDS 2 MPDS) **Progresses to UN5 in FY2023**,
(6) Defense Biological Products Assurance Program (DBPAP) **Progresses to UN5 in FY2023**,
(7) Antiviral Therapeutics Program (AV TX) **Progresses to MT5 in FY2023**,
(8) Special Immunizations Program (VAC SIP) **Progresses to PT5 in FY2023**
(9) Antiviral Prophylaxis Studies (Congressional Interest Item - CONG), and
(10) Botulinum and Plague Vaccine Storage and Stability Testing (Congressional Interest Item - CONG),

The Countering Emerging Threats Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR) program will develop repurposed drugs as medical countermeasures towards known, potential, and unknown and emerging threats, bridging the gap from when a threat is identified until targeted countermeasures such as vaccines are available. CET RAIDR will leverage lessons learned in Coronavirus Aid, Relief, and Economic Security (CARES) Act funded efforts under Coronavirus Disease (COVID) Repurposed Therapeutics (CR TX) and address advanced development portion of Science and Technology (S&T) efforts from Defense Threat Reduction Agency (DTRA) Joint Science and Technology Office (JSTO) Development of Medical Countermeasures Against Novel Entities (DOMANE) and Layered Integrated Medical Countermeasures Intervention Technologies (LIMIT) programs for new and emerging threats.

The BOT MAB program will provide protection from Botulinum neurotoxin (BoNT) which is classified by the CDC as a category A threat, one that poses the highest risk to the public and national security. This medical countermeasure will prevent (pre-exposure) and reduce the incidence or progression of disease following exposure to

BoNT serotypes A/B in adults. The drug product contains a total of six monoclonal antibodies, three for BoNT type A and three for BoNT type B, and the planned route of administration is Intra-Muscular (IM) injection.

The CBIPR-ADM program maintains the DoD-ADM facility in a state of operational readiness so that it can rapidly develop and manufacture medical countermeasures (MCMs) against current and emerging chemical and biological threats including pandemic response. Operational readiness is achieved by establishing and enhancing proven biopharmaceutical manufacturing platform technologies and infrastructure at the facility. By establishing and enhancing proven manufacturing platform technologies and infrastructure, the DoD-ADM facility will have the capability to accelerate development of MCMs at all stages of development, enhance preparedness for existing threats, and rapidly respond to emerging threats as part of a medical integrated layered defense. MCMs impacted by these efforts include: Vaccines for Viral Agents, Vaccines for Bacterial Agents and Toxins, monoclonal antibodies, antibody fragments and conjugates for therapeutic and prophylactic use across all agent classes. Funds to support the facility in a state of operational readiness were previously provided via individual product development and manufacturing funding lines. The Department is now providing dedicated funds. The CBIPR-ADM return on investment is an increased level of preparedness and responsiveness.

The NGDS 2 ChemDx program will provide a rapid, hand-held, point-of-care device, for the quantitative detection of acetyl cholinesterase (AChE) activity in finger stick and venous whole blood samples of individuals suspected of being exposed to cholinesterase inhibiting substances, such as chemical nerve agents. NGDS 2 ChemDx will be employed by the Army, Air Force, Navy, Marines and SOCOM at multiple echelons of healthcare. NGDS 2 ChemDx test results are to be used to aid in the diagnosis and treatment of individuals suspected of having exposure to chemical nerve agents.

The NGDS 2 MPDS program will provide a simple-to-use, portable diagnostic device capability that can be used in austere battlefield environments to assist in the diagnosis of infectious diseases and biological warfare agents. The MPDS will enable earlier patient diagnosis improve decision support for treatment, evacuation and command situational awareness, and mitigate the effects of exposure to unknown infectious disease and biological agents. In FY23, NGDS 2 MPDS concludes hardware, software and assay design; completes clinical trials for the device and two assay panels, and; continues development of a third assay panel.

The DBPAP program facilitates new technology transition to advanced development, efficient production, and timely distribution. DBPAP consists of a Critical Assays and Reagents, which serves as the principal resource for biological assays and reagents, and the Targeted Acquisition of Reference Materials Augmenting Capabilities (TARMAC), which generates data on biodefense pathogens to inform product development. DBPAP establishes a core research and development capability by developing biological threat agent reference materials (strains, antigens, antibodies and nucleic acids) and detection/diagnostic assays for biothreat agent detection. These reagents/assays are leveraged across multiple programs to meet the requirements of the Warfighter and Joint biological defense systems and support the biological defense community. Through the TARMAC initiative, the DBPAP will use a systematic approach to the introduction of new materials and information into MCM development. This includes advanced platform technologies within the DoD's ADM facility. In FY23 DBPAP continues development/expansion of biological threat agents reference materials to known and emerging threats.

The AV TX program will develop and deliver FDA approved antiviral therapeutics for the warfighter. Based on the current gap in defense to the warfighter, the initial therapeutic candidate is now for a treatment against the Marburg virus in lieu of Ebola Zaire to follow for approval of a PanFilo therapeutic. Other pathogens on the biological warfare threat lists, including viruses of interest from Filoviridae, Arenaviridae, Bunyaviridae, and Flaviviridae, are targets of future interest. Developed broad spectrum antiviral therapeutics will be employed after suspected or confirmed exposure to the relevant threat agents and AVTX Medical Countermeasures (MCMs)

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

will ameliorate the effect of threat agents to the warfighter. In the event of a natural occurring outbreak, antiviral therapeutics can be provided to ensure freedom of operation

The SIP continually manages, updates, and executes the Investigational New Drugs (INDs) of selected prophylaxis, treatments and diagnostics development products which provide additional protection to individuals that are at high risk of exposure to CBRN agents. These vaccines will be used to provide additional levels of protection to laboratory workers conducting research. DoD has the mission to maintain IND vaccines in Good Manufacturing Practice (GMP) storage and to conduct the periodic potency and stability testing of these materials to support submissions to the FDA.

The Antiviral Prophylaxis Studies (Congressional Interest Item) program will manage the development of TPOXX as Post-Exposure Prophylaxis (PEP) for Smallpox. TPOXX is only approved as treatment for clinically evident smallpox, which is usually diagnosed 12 to 14 days post-exposure, but as late as 17 days post-exposure. The warfighter is therefore exposed to a "window of vulnerability" in the progression of smallpox for which no treatment options are approved by the FDA. This effort will complete all required nonclinical and clinical studies necessary to submit a supplemental New Drug Application (sNDA) or New Drug Application (NDA) seeking approval of TPOXX as a post-exposure prophylaxis. The funding supports a regulatory pathway to provide a Post-Exposure Prophylactic to close the "window of vulnerability" by providing a treatment option for smallpox after vaccination ceases to be effective and prior to clinically evident disease.

The Botulinum and Plague Vaccine Storage Stability Testing (VSST) (Congressional Interest Item) program utilizes Congressional directed funding for the Botulinum and Plague vaccines. DoD has the mission to maintain the existing material in Good Manufacturing Practice (GMP) storage and to conduct the periodic potency and stability testing of these materials to support submissions to the FDA and potential future emergency response. In FY21, VSST continues storage and stability testing of VAC BOT and VAC PLG materials, and initiates a Phase 2 clinical trial evaluating the use of a biological response modifier (BRM) co-administered with the VAC PLG drug product to identify avenues for faster onset and longer duration of protection.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Countering Emerging Threats Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR) ***Description:*** Advance Development ***FY 2022 Plans:*** Initiate advanced development of up to two (2) FDA-approved and/or late-stage products for repurposing against CBRN indications. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to MT5.	-	8.000	-
Title: 2) CET RAIDR ***Description:*** Pandemic Preparedness ***FY 2022 Plans:***	-	12.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Continues on-going COVID activities to conduct advanced development of repurposed drugs. These resources support development of repurposing reports (including animal T&E studies) and pre-Emergency Use Authorization (EUA) submissions up to two therapeutics each year. These efforts will address known and potential threats to prepare DoD for response to biological threats. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to MT5.			
Title: 3) Botulinum Monoclonal Antibodies (BOT MAB) ***Description:*** Clinical and Nonclinical Studies ***FY 2022 Plans:*** Initiate nonhuman primate proof of concept efficacy study and the Phase 2 clinical study. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($27.000 Million) transferred to PT5.	20.474	27.723	-
Title: 4) Botulinum Monoclonal Antibodies (BOT MAB) ***Description:*** Manufacturing ***FY 2022 Plans:*** Continue Botulinum monoclonal antibody platform development with large scale manufacturing runs to produce product for pivotal animal studies and Phase 3 clinical study. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($37.741 Million) transferred to PT5.	0.001	33.000	-
Title: 5) Chem Bio Incident Preparedness and Response - Adv Dev Mfg (CBIPR - ADM) ***Description:*** ADM Infrastructure ***FY 2022 Plans:*** Continue activities to maintain the DoD ADM's capabilities in a state of readiness to support Medical Countermeasure (MCM) development and manufacturing. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 Funding ($10.974 Million) transferred to EN5.	9.805	10.363	-
Title: 6) NGDS 2 Chemical Diagnostic (NGDS 2 CHEMDX)	2.016	2.693	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: Chemical Diagnostic System (CHEMDX) ***FY 2022 Plans:*** Continue Engineering & Manufacturing Development and initiate clinical trials for NGDS 2 ChemDx System. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5.			
Title: 7) NGDS 2 Chemical Diagnostic (NGDS 2 CHEMDX) ***Description:*** Chemical Diagnostic System (CHEMDX) ***FY 2022 Plans:*** Conduct program management and government test activities for NGDS 2 CHEMDX. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY23 funding transferred to UN5.	-	2.236	-
Title: 8) NGDS 2 Man Portable Diagnostic System (NGDS 2 MPDS) ***Description:*** Man Portable Diagnostic System (MPDS) Product Development ***FY 2022 Plans:*** Continue hardware, software, assay development, and start clinical trials; continue development of third assay panel, and; management of hardware and software configurations. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to UN5.	30.604	8.937	-
Title: 9) NGDS 2 MPDS ***Description:*** Man Portable Diagnostic System (MPDS) Program Management and Support ***FY 2022 Plans:*** Conduct program management. Complete developmental testing and operational assessments. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY23 funding transferred to UN5.	-	3.246	-
Title: 10) Defense Biological Products Assurance Program (DBPAP)	8.564	8.043	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: Development ***FY 2022 Plans:*** Continue development/expansion of biological threat agents reference materials to known and emerging threats. Continue development of assays and nucleic acid based genomic assays to support fielded and developmental systems. Continue QA/QC testing to encompass the transition and fielding of biological detection assays. Continue to maintain yearly accreditation audits such as ISO 9001, 17025, and Guide 34 certifications. Continue quality actions throughout to maintain the quality managed systems. Continue development of prototypes/information for strains contained in Unified Culture Collection. Supports establishment of a Common Reference Repository - a single source for well-characterized, traceable test articles and vital information for biological defense, effective verification of proficiency testing, improved acquisition of emerging technologies, all at a decreased cost for the individual organizations. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($8.163 Million) transferred to UN5.			
Title: 11) Antiviral Therapeutics Program (AV TX) ***Description:*** Enabling Technologies ***FY 2022 Plans:*** Complete Natural History study with Non-Human Primates (NHPs) infected with Marburg virus. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($10.122 Million) transferred to MT5.	11.420	14.476	-
Title: 12) VAC SIP ***Description:*** Storage, Distribution, Potency Testing ***FY 2022 Plans:*** Continue storage, distribution, potency testing, and biosurety compliance activities in support of the Special Immunization Program. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($6.694 Million) transferred to PT5.	2.777	6.631	-
Accomplishments/Planned Programs Subtotals	85.661	137.348	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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	FY 2021	FY 2022
Congressional Add: 1) Antiviral Prophylaxis Studies ***FY 2021 Accomplishments:*** Completed protocol development and executed Phase II and Phase III trials.	4.500	-
Congressional Add: 2) Recombinant Botulinum and Plague Vaccines - Storage ***FY 2021 Accomplishments:*** Stored Botulinum and Plague vaccines and associated critical reagents to ensure there is a stock of material available to the Warfighter in an emergency.	1.000	-
Congressional Add: 3) Adaptive Clinical Trial ***FY 2021 Accomplishments:*** Conducted adaptive clinical trial to test for improved efficacy and reduced immunization time for the Warfighter achieved by utilizing a Biological Response Modulator (BRM) with the current Plague vaccine. The intent of new BRMs is to reduce needle in arm count and time for full immunity, allowing for faster recovery and deployment of the warfighter.	23.613	-
Congressional Add: 4) Recombinant Botulinum and Plague Vaccines - Stability Testing ***FY 2021 Accomplishments:*** Conducted stability testing of the VAC BOT and VAC PLG to ensure the drug product is safe and usable for the warfighter in case of an emergency use situation. Initial testing began on contract award and maintained appropriate time points.	2.383	-
Congressional Adds Subtotals	31.496	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• EN4: *Enabling Investments (ACD&P)*	0.000	0.000	8.781	-	8.781	9.172	9.179	9.392	9.440	Continuing	Continuing
• PT4: *Protect (ACD&P)*	0.000	0.000	203.689	-	203.689	183.220	139.375	113.754	105.176	Continuing	Continuing
• EN5: *Enabling Investments (SDD)*	0.000	0.000	13.392	-	13.392	13.984	14.037	14.341	13.728	Continuing	Continuing
• MT5: *Mitigate (SDD)*	0.000	0.000	74.225	-	74.225	61.861	68.280	39.819	22.062	Continuing	Continuing
• PT5: *Protect (SDD)*	0.000	0.000	96.860	-	96.860	98.427	78.868	48.793	35.494	Continuing	Continuing
• UN5: *Understand (SDD)*	0.000	0.000	127.671	-	127.671	101.933	98.742	98.122	72.699	Continuing	Continuing
• JX0210: *DEFENSE BIOLOGICAL PRODUCTS ASSURANCE PROGRAM (DBPAP)*	2.845	2.760	2.736	-	2.736	2.736	2.736	2.736	2.736	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PHM039: *BOTULINUM MONOCLONAL ANTIBODIES (BOT MAB)*	0.000	0.000	0.000	-	0.000	0.000	0.000	20.157	21.299	Continuing	Continuing
• SA0043: *NEXT GEN DIAG 2 CHEMICAL DIAGNOSTICS (NGDS 2 CHEM DX)*	0.000	0.000	0.000	-	0.000	7.778	12.730	12.730	12.730	Continuing	Continuing
• SA0044: *NEXT GEN DIAG 2 MAN PORTABLE DIAGNOSTIC SYSTEM (NGDS 2 MPDS)*	0.000	4.624	3.126	-	3.126	4.915	5.374	3.006	0.538	Continuing	Continuing

Remarks

D. Acquisition Strategy

COUNTERING EMERGING THREATS RAPID ACQUISITION AND INVESTIGATION OF DRUGS FOR REPURPOSING (CET RAIDR)

The Countering Emerging Threats - Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR) program will leverage lessons learned from the COVID-19 response to conduct nonclinical studies and/or clinical trials to evaluate FDA-approved and late-stage development products against CBRN threats. Data generated from these efforts will be used to support a future interim capability, such as repurposing reports to inform Clinical Practice Guidelines (CPGs), pre-Emergency Use Authorizations (pre-EUAs) to stage products in preparation for emergencies, EUAs to rapidly treat warfighters once an emergency is declared, and data for potential new approved FDA indications. This program is funded under both CET RAIDR and CET RAIDR-ENBD.

BOTULINUM MONOCLONAL ANTIBODIES (BOT MAB)

The BOT MAB program was initiated by the Medical Countermeasure Platform Technologies (MCMPT). The regulatory approach of the program is to pursue development of products for FDA approval. The program will conduct clinical and non-clinical studies to confirm duration of protection and on-set of protection. The performer will complete small model development and procure long lead items during the Technology Maturation and Risk Reduction (TMRR) phase in order to mitigate risk and accelerate the schedule activities for BLA submission during the Product &Development (P&D) phase. The performer will continue large scale manufacturing during the Engineering and Manufacturing Development (EMD) phase in order to accelerate the schedule activities for the prophylactic indication.

CHEM BIO INCIDENT PREPAREDNESS AND RESPONSE - (CBIPR-ADM)

A contract was awarded to Ology Bioservices (then Nanotherapeutics, Inc.) on 20 March 2013 to establish a Department of Defense (DoD) Advanced Development and Manufacturing (ADM) capability that can rapidly develop and manufacture Medical Countermeasures (MCMs) from early stage development up through Food

and Drug Administration (FDA) licensure. The establishment of this capability consisted of designing, commissioning, and validating a biopharmaceutical facility (both its infrastructure and equipment) that is equipped with two (2) advanced development and manufacturing suites, which utilize flexible, agile, single-use (disposable), modular, and multi-product technologies that comply with Good Manufacturing Practices (GMPs) and can operate at Biological Safety Level-3 (BSL-3). The capability was established on 31 March 2017.

Since its establishment, the DoD ADM has been sustained in a state of operational readiness so that it can continue to be an enduring domestic MCM manufacturing capability that provides the DoD with priority access. The original sustainment strategy consisted of directly funding all costs/activities (i.e. calibration, maintenance, etc.) via sustainment options on the original contract. The CBIPR funds requested support this critical DoD infrastructure. The CBIPR-ADM funding line supports the infrastructure by funding new capability-building efforts (such as manufacturing platforms using FDA known technologies) that will enable new additional MCM product development. This strategy will result in the self-sustainability of the DoD ADM by spreading the sustainment costs equally across all projects (including commercial clients), which mimics the standard practice across the Contract Development and Manufacturing Organization (CDMO) industry.

NEXT GEN DIAG 2 CHEMICAL DIAGNOSTICS (NGDS 2 CHEMDX)

NGDS Increment 2 ChemDx is using an Other Transactions Authority (OTA) agreement to take advantage of nontraditional Defense contractor offerings. NGDS 2 ChemDx will use the agreement holder to conduct system development, clinical trials and pre-developmental testing (pre-DT) testing. ChemDx will use Department of Defense (DoD) test agencies to conduct Development Testing and operational user evaluations. Clinical trials will inform approval of the ChemDx system by the U.S. Food and Drug Administration for "Prescription Home Use."

NEXT GEN DIAG 2 MAN PORTABLE DIAGNOSTIC SYSTEM (NGDS 2 MPDS)

NGDS 2 MPDS is currently in engineering and manufacturing development (EMD). MPDS is using Other Transactions Authority (OTA) agreements to take advantage of nontraditional Defense contractor offerings. MPDS will use the agreement holder to conduct the clinical trials and pre-developmental testing (pre-DT) instrument testing. MPDS will be using DoD clinical trial sites to support the agreement holder. MPDS will be using Department of Defense (DoD) agencies to conduct DT, operational assessment (OA), and Initial Operational Test & Evaluation (IOT&E). For the Production/Deployment Phase, the NGDS 2 MPDS will be using a COVID established Indefinite Delivery/Indefinite Quantity (IDIQ) contract with the EMD performer to procure prime mission product, support, and assays.

DEFENSE BIOLOGICAL PRODUCTS ASSURANCE PROGRAM (DBPAP)

The Defense Biological Products Assurance Program's (DBPAP) strategy establishes a core research and development capability to develop biological threat agent reference materials (antigens, nucleic acids, and antibodies) as well as detection and diagnostic assays for bio-threat agent detection that shall be used across multiple detection and diagnostic platforms. In addition, this strategy includes a formal, validated advanced development process for transitioning new assays into production and subsequent integration with the appropriate detection/diagnostic platform. DBPAP provides a centralized management function for the establishment of a common repository of standardized biological materials to effectively support the Department of Defense (DoD)'s and the Department of Homeland Security's (DHS) mission of providing consistent capabilities and a capacity for customers to mitigate biological events.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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ANTI-VIRAL THERAPEUTICS (AV TX)

The Anti-viral Therapeutics (AVTX) program acquisition strategy supports the development of therapeutics through the Engineering, Manufacturing and Development (EMD) phase against the Ebola (Zaire), Marburg and Sudan bio warfare threats. The initial therapeutic candidate is now for a treatment against the Marburg virus in lieu of Ebola Zaire based on the current gap in defense to the warfighter. The overall regulatory approach of the program remains to pursue development of products to Food and Drug Administration (FDA) approval under the Animal Rule that was approved as the path, by the FDA in 1QFY19. The program completed a dose ranging study for the Ebola Zaire indication and initiated a Natural History Study for Marburg that is part of the holistic FDA regulatory approach for a final indication of a broad spectrum antiviral pan filo drug product. A natural history study for Marburg and Sudan and 3 pivotal animal studies per indication are required as part of the animal rule requirements for the FDA) approved plan. The acquisition strategy for Marburg and Sudan indications will have the performer submitting amended New Drug applications for the therapeutics during the EMD phase.

CONGRESSIONAL INTEREST ITEMS

CONGRESSIONAL INTEREST ITEM #230
Smallpox Antiviral Prophylaxis Studies - Assay development and validation performed in FY19 to inform approval from the FDA for post-exposure prophylaxis (PEP) indication for smallpox. Contract awarded to performer to complete Phase II and Phase III clinical trials and complete regulatory submission for label expansion. Full and open competition
Botulinum and Plague Vaccine Storage and Stability Testing (VSST) - This is to utilize the funding to its maximum potential and obtain best result and value for the warfighter. Contract award winners are required to maintain consistent and regular testing time points of the vaccine drug product to ensure safety and usability for the warfighter.

SPECIAL IMMUNIZATION PROGRAM (VAC SIP)

The SIP effort continually manages, updates, and executes the Investigational New Drugs (INDs) of selected prophylaxis, treatments and diagnostics development products which provide additional protection to individuals that are at high risk of exposure to CBRN agents. Efforts span Good Manufacturing Practices (GMP), Good Laboratory Practices guidelines necessary to conduct storage and periodic potency testing, as well as clinical administration of products in accordance with the FDA regulated Investigational New Drug requirements. This Department of Defense program supports the Federal interagency with this effort, as well as academic and industry partners.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CBIPR-ADM - ADM Capability	C/CPFF	Ology Bioservices : Inc., Alachua, FL	0.000	9.805	Dec 2020	0.000		0.000		0.000		0.000	0.000	9.805	0.000
CBIPR-ADM - Infrastructure	C/CPFF	Ology Bioservices : Inc., Alachua, FL	0.000	0.000		9.553	Mar 2022	0.000		0.000		0.000	0.000	9.553	0.000
NGDS 2 CHEMDX - HW C - Chemical Diagnostic System (CHEMDX) Product Development	C/CPFF	MRIGlobal : Kansas City, MO	0.000	1.849	Dec 2021	2.693	Dec 2021	0.000		0.000		0.000	0.000	4.542	0.000
NGDS 2 CHEMDX - HW C - ChemDx Product Management	Various	Various : Various	0.000	0.000		1.329	Dec 2021	0.000		0.000		0.000	0.000	1.329	0.000
NGDS 2 MPDS - HW C - Man Portable Diagnostic System (MPDS)	C/CPFF	Cepheid : Sunnyvale, CA	0.000	21.112	Dec 2020	5.303	Dec 2021	0.000		0.000		0.000	0.000	26.415	0.000
NGDS 2 MPDS - HW C - MPDS Product Management	Various	Various : Various	0.000	2.505	Dec 2020	2.234	Dec 2021	0.000		0.000		0.000	0.000	4.739	0.000
NGDS 2 MPDS - HW C - Assay Development	Various	US Army Medical Research and Development Command (USAMRDC) : Fort Detrick, MD	0.000	0.000		1.400	Dec 2021	0.000		0.000		0.000	0.000	1.400	0.000
DBPAP - HW C - Development of Select Biological Threat Agent Reference Materials and Assays	MIPR	Various : Various	4.888	1.873	Mar 2021	1.698	Mar 2022	0.000		0.000		0.000	0.000	8.459	0.000
AV TX - AV TX Product Development	Various	Various : Various	0.000	1.201	Jan 2021	0.000		0.000		0.000		0.000	0.000	1.201	0.000
AV TX - Joint Mobile Emerging Disease Intervention OCONUS	C/FP	Battelle Memorial Institute : Columbus, OH	1.448	1.476	Jul 2021	0.000		0.000		0.000		0.000	0.000	2.924	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Clinical Capability (JMEDICC) - OTA															
AV TX - Nonclinical Trials - OTA	C/FP	Gilead Sciences : San Francisco, CA	12.379	6.524	Apr 2021	8.000	Nov 2021	0.000		0.000		0.000	0.000	26.903	0.000
CONG - Antiviral Prophylaxis Studies-Clinical Trials - OTA	C/CPFF	SIGA Technologies : Inc., New York, NY	23.792	4.500	Feb 2021	0.000		0.000		0.000		0.000	0.000	28.292	0.000
CONG - CONG VSST - Stability Testing	C/FFP	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	0.000	2.383	Sep 2021	0.000		0.000		0.000		0.000	0.000	2.383	0.000
CONG - HW C - Recombianant Botulinum and Plague Vaccines - Storage	C/FFP	Various : Various	0.000	1.000	Sep 2021	0.000		0.000		0.000		0.000	0.000	1.000	0.000
CONG - HW C - Adacptive Clinical Trial	C/FFP	Various : Various	0.000	23.613	Sep 2021	0.000		0.000		0.000		0.000	0.000	23.613	0.000
		Subtotal	42.507	77.841		32.210		0.000		0.000		0.000	0.000	152.558	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NGDS 2 MPDS - ES C - Studies and Support	Various	Various : Various	0.000	0.129	Dec 2020	0.129	Dec 2021	0.000		0.000		0.000	0.000	0.258	0.000
DBPAP - ES C - Select Biological Threat Agent Reference Material Support	MIPR	Various : Various	4.896	1.911	Mar 2021	1.732	Mar 2022	0.000		0.000		0.000	0.000	8.539	0.000
DBPAP - ES C - Select Biological Threat Agent Reference Material Regulatory/Quality Assurance (QA) Support	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	4.423	1.927	Mar 2021	1.747	Mar 2022	0.000		0.000		0.000	0.000	8.097	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
VAC SIP - Storage and Distribution of Vaccines	SS/FP	Fisher BioServices : Rockville, MD	2.715	0.439	Jan 2021	0.593	Jan 2022	0.000		0.000		0.000	0.000	3.747	0.000
		Subtotal	12.034	4.406		4.201		0.000		0.000		0.000	0.000	20.641	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CET RAIDR - DTE C - Non-Clinical and Clinical Studies	Various	Various : Various	0.000	0.000		15.920	Dec 2021	0.000		0.000		0.000	0.000	15.920	0.000
BOT MAB - DTE C - BOT MONO	C/CPFF	Ology Bioservices : Inc., Alachua, FL	0.000	14.437	Dec 2020	45.723	Dec 2021	0.000		0.000		0.000	52.034	112.194	0.000
NGDS 2 MPDS - OTHT S - BSL4 Testing	MIPR	US Army Medical Research and Development Command (USAMRDC) : Fort Detrick, MD	0.000	0.364	Apr 2021	0.000	Dec 2021	0.000		0.000		0.000	0.000	0.364	0.000
NGDS 2 MPDS - DTE S - MPDS SystemTest & Evaluation	MIPR	Various : Various	0.000	1.454	Dec 2020	0.803	Dec 2021	0.000		0.000		0.000	0.000	2.257	0.000
VAC SIP - OTHT C - Potency Testing of Vaccines	MIPR	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	15.755	1.746	Jan 2021	1.828	Jan 2022	0.000		0.000		0.000	0.000	19.329	0.000
VAC SIP - OTHT C - Potency Testing of Vaccines #2	C/CPFF	Battelle Memorial Institute : Columbus, OH	0.520	0.592	Dec 2020	4.210	Jan 2022	0.000		0.000		0.000	0.000	5.322	0.000
		Subtotal	16.275	18.593		68.484		0.000		0.000		0.000	52.034	155.386	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CET RAIDR - PM/MS SB - Program Management	Various	Various : Various	0.000	0.000		2.180	Dec 2021	0.000		0.000		0.000	0.000	2.180	0.000
CET RAIDR - PM/MS SB - Management Support	Various	JPM CBRN Medical : JPEO-CBRND, Fort Detrick, MD	0.000	0.000		1.400	Dec 2021	0.000		0.000		0.000	0.000	1.400	0.000
CET RAIDR - PM/MS S - Program Management (SETA)	C/FFP	Various : Various	0.000	0.000		0.500	Dec 2021	0.000		0.000		0.000	0.000	0.500	0.000
BOT MAB - PM/MS C - BOT MONO	Various	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	1.700	Dec 2020	2.500	Dec 2021	0.000		0.000		0.000	5.577	9.777	0.000
BOT MAB - PM/MS C - JPdM Support	Various	JPM CBRN Medical : Ft. Detrick, MD	0.000	4.338		12.500	Dec 2021	0.000		0.000		0.000	4.765	21.603	0.000
CBIPR-ADM - Program Management Support JPL EB	Various	JPL CBRN EB : Frederick, MD	0.000	0.000		0.810	Feb 2022	0.000		0.000		0.000	0.000	0.810	0.000
NGDS 2 CHEMDX - PM/MS S - JPM/JPEO Management Services	Various	Various : Various	0.000	0.167	Dec 2020	0.907	Dec 2021	0.000		0.000		0.000	0.000	1.074	0.000
NGDS 2 MPDS - PM/MS S - JPM/JPEO Management Services	Various	Various : Various	0.000	5.040	Dec 2020	2.314	Dec 2021	0.000		0.000		0.000	0.000	7.354	0.000
DBPAP - PM/MS C - Product Management Contractor Support	SS/FFP	Various : Various	2.832	1.075	Feb 2021	0.975	Feb 2022	0.000		0.000		0.000	0.000	4.882	0.000
DBPAP - PM/MS C - Product Management Support	Various	Various : Various	5.998	1.778	Jan 2021	1.891	Jan 2022	0.000		0.000		0.000	0.000	9.667	0.000
AV TX - PM/MS S - Program Management (SETA)	C/FFP	Various : Various	0.000	1.248	Jan 2021	2.476	Dec 2021	0.000		0.000		0.000	0.000	3.724	0.000
AV TX - PM/MS - SB - Program Management	Various	JPM CBRN Sensors : JPEO-	9.497	0.948	Jan 2021	1.500	Dec 2021	0.000		0.000		0.000	0.000	11.945	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		CBRND, Aberdeen Proving Ground, MD													
AV TX - PM/MS - SB - Management Support (Biological Therapeutics)	Various	JPM CBRN Medical : Ft. Detrick, MD	3.286	0.001	Dec 2020	0.000		0.000		0.000		0.000	0.000	3.287	0.000
AV TX - PM/MS - SB - Management Support	Various	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	4.605	0.022	Jan 2021	2.500		0.000	Dec 2022	0.000		0.000	0.000	7.127	0.000
		Subtotal	26.218	16.317		32.453		0.000		0.000		0.000	10.342	85.330	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	97.034	117.157		137.348		0.000		0.000		0.000	62.376	413.915	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

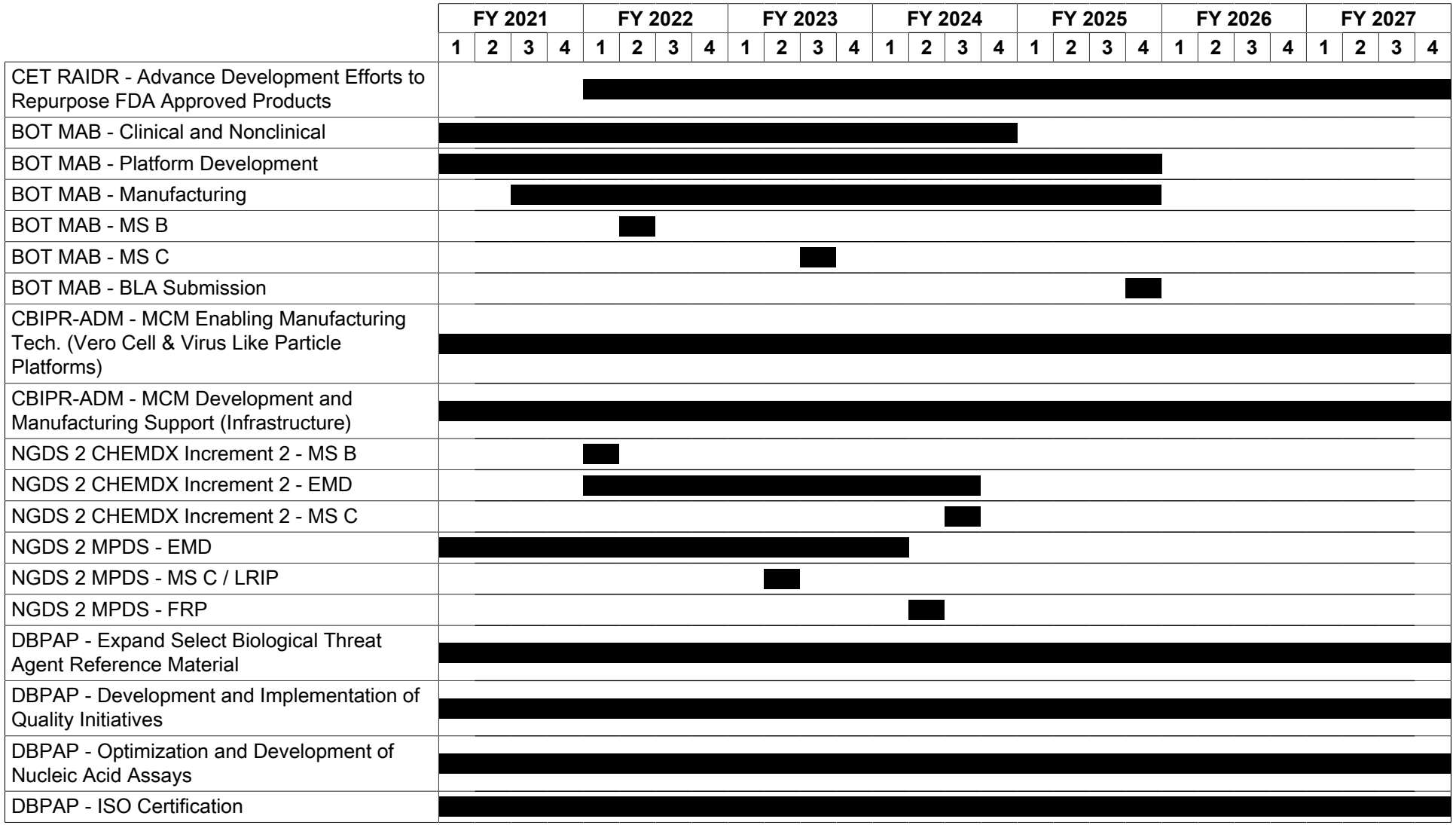

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

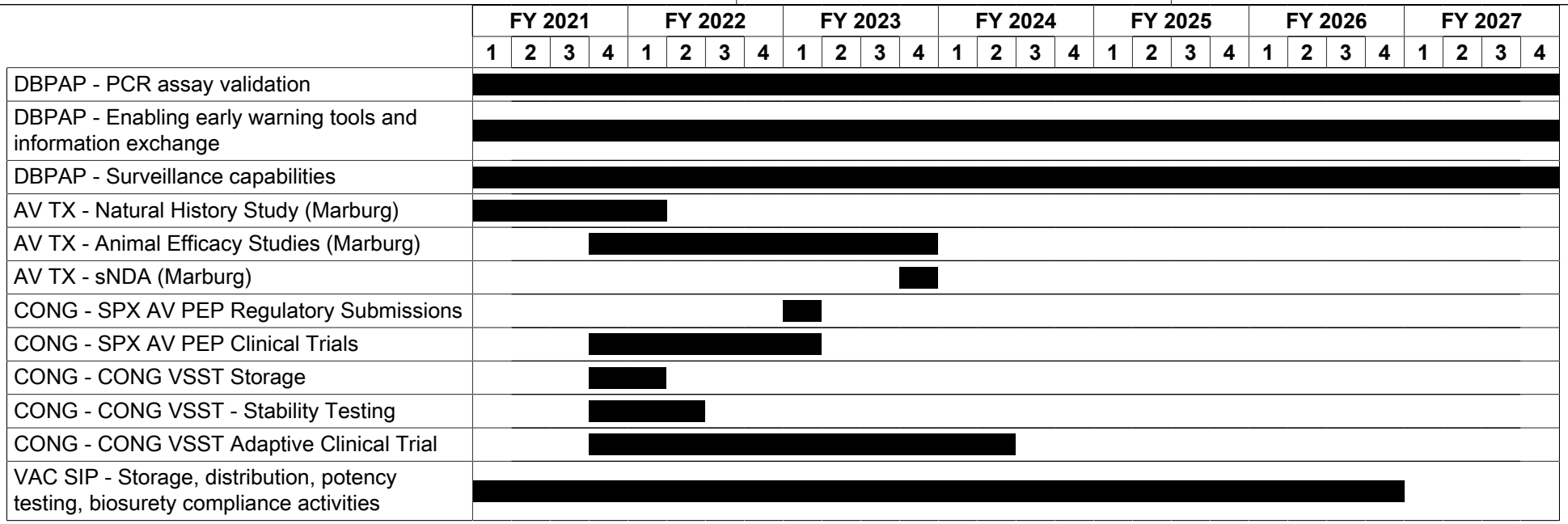

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CET RAIDR - Advance Development Efforts to Repurpose FDA Approved Products	1	2022	4	2027
BOT MAB - Clinical and Nonclinical	1	2021	4	2024
BOT MAB - Platform Development	1	2021	4	2025
BOT MAB - Manufacturing	3	2021	4	2025
BOT MAB - MS B	2	2022	2	2022
BOT MAB - MS C	3	2023	3	2023
BOT MAB - BLA Submission	4	2025	4	2025
CBIPR-ADM - MCM Enabling Manufacturing Tech. (Vero Cell & Virus Like Particle Platforms)	1	2021	4	2027
CBIPR-ADM - MCM Development and Manufacturing Support (Infrastructure)	1	2021	4	2027
NGDS 2 CHEMDX Increment 2 - MS B	1	2022	1	2022
NGDS 2 CHEMDX Increment 2 - EMD	1	2022	3	2024
NGDS 2 CHEMDX Increment 2 - MS C	3	2024	3	2024
NGDS 2 MPDS - EMD	1	2021	1	2024
NGDS 2 MPDS - MS C / LRIP	2	2023	2	2023
NGDS 2 MPDS - FRP	2	2024	2	2024
DBPAP - Expand Select Biological Threat Agent Reference Material	1	2021	4	2027
DBPAP - Development and Implementation of Quality Initiatives	1	2021	4	2027
DBPAP - Optimization and Development of Nucleic Acid Assays	1	2021	4	2027
DBPAP - ISO Certification	1	2021	4	2027
DBPAP - PCR assay validation	1	2021	4	2027
DBPAP - Enabling early warning tools and information exchange	1	2021	4	2027

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DBPAP - Surveillance capabilities	1	2021	4	2027
AV TX - Natural History Study (Marburg)	1	2021	1	2022
AV TX - Animal Efficacy Studies (Marburg)	4	2021	4	2023
AV TX - sNDA (Marburg)	4	2023	4	2023
CONG - SPX AV PEP Regulatory Submissions	1	2023	1	2023
CONG - SPX AV PEP Clinical Trials	4	2021	1	2023
CONG - CONG VSST Storage	4	2021	1	2022
CONG - CONG VSST - Stability Testing	4	2021	2	2022
CONG - CONG VSST Adaptive Clinical Trial	4	2021	2	2024
VAC SIP - Storage, distribution, potency testing, biosurety compliance activities	1	2021	4	2026

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program											Date: April 2022	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*				Project (Number/Name) MC5 / *Medical Chemical Defense (SDD)*			
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
MC5: *Medical Chemical Defense (SDD)*	-	52.505	50.362	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	102.867
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports efforts in the Engineering and Manufacturing Development (EMD) phase of the acquisition strategy for prophylactic, pre-treatment, and therapeutic drugs and diagnostic medical devices for the protection, treatment, detection, and medical management of chemical warfare agent exposures. This project provides for the research and development of safety studies, manufacturing scale-up, process validation, drug interaction, performance test, and submission of the Food and Drug Administration (FDA) drug licensure application(s). In FY2023, the CBDP RDT&E Projects have been restructured to align to the CBDP portfolio. MC5 efforts in FY2022 progress to the Mitigate (MT5) portfolio. This restructuring is intended to provide standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

(1) Advanced Anticonvulsant System (AAS),
(2) Alternative Autoinjector Manufacturer Capability (AUTOINJ) **Progresses to MT5 in FY2023**,
(3) Improved Nerve Agent Treatment System Centrally Acting (INATS CA) **Progresses to MT5 in FY2023**, and
(4) Rapid Opioid Countermeasure System (ROCS)

The AAS program provides for midazolam in an autoinjector for treatment of nerve agent induced seizures. Midazolam, injected intramuscularly, will treat traditional nerve agent and non-traditional agent-induced seizures and prevent subsequent neurological damage. Midazolam is more water-soluble than diazepam (the currently fielded medication to control nerve agent-induced seizures) and terminates nerve agent-induced seizures more quickly than diazepam. AAS will not eliminate the need for other protective and therapeutic systems. In FY23 AAS completes a Phase 1 clinical study from a new manufacturer and submits a New Drug Application (NDA).

The AUTOINJ program provides for FDA approved alternative source(s) for autoinjectors that deliver DoD nerve agent antidote and treatment capabilities to the warfighter; thereby mitigating capability fielding and operational readiness risks. This program augments legacy autoinjectors, ATNAA, 2-PAM, and Convulsant Antidote for Nerve Agents (CANA) by providing alternative commercial sources which includes Dual Drug Delivery Device (D4), the Atropine Auto-Injector, and an anti-convulsant autoinjector.

The INATS CA program provides a centrally-acting anticholinergic agent to increase survivability and decrease morbidity after exposure to toxic nerve agent threats. Scopolamine was selected for development after an extensive analysis of alternatives and review of data by the Science and Technology community. Added to the currently fielded system, the INATS CA program will improve overall medical outcomes and will be utilized as both a vial for use at definitive care and a stand-alone

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

auto-injector for use in the field. In FY22 INATS CA continues autoinjector development and manufacturing activities of the drug product and autoinjector device, as well as continues non-clinical animal studies.

The ROCS program supports the discovery, characterization, development, and fielding of FDA-approved therapeutic Medical Countermeasures (MCMs) to protect the Joint Service warfighter against operational exposures to the opioid class of pharmaceutical-based agents (PBAs), a high priority. The first increment of the ROCS program will develop a naloxone autoinjector as a rescue treatment that will counteract the adverse effects from exposure to opioids. The ROCS will be developed using a Middle Tier Acquisition (MTA) approach. In FY22 ROCS completes manufacturing activities, including manufacturing of the drug product and autoinjector device, and completes regulatory activities such as preparation and submission of the New Drug Application (NDA) for approval.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Advanced Anticonvulsant System (AAS) ***Description:*** New Drug Application (NDA) Submission Activities ***FY 2022 Plans:*** Complete NDA submission activities. Complete Phase 1 clinical study and Submit NDA. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase. Procurement contract in FY23 is follow-on to RDTE effort.	4.308	3.229	-
Title: 2) Alternative Autoinjector (AUTOINJ) ***Description:*** Development ***FY 2022 Plans:*** Complete prototype tooling for D4 and Alt-Diazepam, i.e., develop necessary equipment and tools to use in the process for manufacturing devices. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase. Sustainment by DLA after FDA approval.	2.825	2.000	-
Title: 3) Alternative Autoinjector (AUTOINJ) ***Description:*** Manufacturing ***FY 2022 Plans:*** Complete manufacturing & validation for dual drug chamber autoinjector. Continue engineering lots for D4. Continue manufacturing lots for Diazepam. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	1.033	3.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Minor change due to routine program adjustments. Manufacturing activities now complete.			
Title: 4) AUTOINJ ***Description:*** Prototyping and Testing ***FY 2022 Plans:*** Complete stability studies for atropine. Complete functional testing for dual chamber auto injector. Complete prototype development of single autoinjector. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease due to change in program/project schedule. Completed design of autoinjector.	9.393	4.000	-
Title: 5) AUTOINJ ***Description:*** FDA Coordination ***FY 2022 Plans:*** Complete FDA preparation, filing and meetings for single and dual drug autoinjectors. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($0.633 Million) transferred to MT5.	1.256	1.000	-
Title: 6) AUTOINJ ***Description:*** Government Testing ***FY 2022 Plans:*** Complete human factors and environmental testing for single and dual drug autoinjectors. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project is entering completion and all activities will be closed. Submitting FDA application in FY23.	0.931	0.188	-
Title: 7) Improved Nerve Agent Treatment System Centrally Acting (INATS CA) ***Description:*** Clinical	3.509	-	-
Title: 8) Improved Nerve Agent Treatment System Centrally Acting (INATS CA) ***Description:*** Manufacturing/Auto-Injector ***FY 2022 Plans:***	5.400	5.423	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Continue Auto-Injector Development and manufacturing activities of the drug product and autoinjector device. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($14.815 Million) transferred to MT5.			
Title: 9) Improved Nerve Agent Treatment System Centrally Acting (INATS CA) ***Description:*** Non-Clinical ***FY 2022 Plans:*** Continue Non-Clinical Animal Studies. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($3.063 Million) transferred to MT5.	15.361	20.142	-
Title: 10) Rapid Opioid Countermeasure System (ROCS) ***Description:*** Manufacturing ***FY 2022 Plans:*** Complete manufacturing activities, including manufacturing of the drug product and autoinjector device. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase.	4.841	4.800	-
Title: 11) Rapid Opioid Countermeasure System (ROCS) ***Description:*** Clinical Studies	3.648	-	-
Title: 12) Rapid Opioid Countermeasure System (ROCS) ***Description:*** FDA & Regulatory activities ***FY 2022 Plans:*** Initiate and complete regulatory activities such as writing and submitting the New Drug Application (NDA)for submission and approval. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase.	-	6.580	-
Accomplishments/Planned Programs Subtotals	52.505	50.362	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• MT5: *Mitigate (SDD)*	0.000	0.000	74.225	-	74.225	61.861	68.280	39.819	22.062	Continuing	Continuing
• MC7: *Medical Chemical Defense (Op Sys Dev)*	1.754	1.336	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	3.090
• MT7: *Mitigate (Op Sys Dev)*	0.000	0.000	5.098	-	5.098	3.879	6.747	4.360	3.419	Continuing	Continuing
• JM6677: *ADVANCED ANTICONVULSANT SYSTEM (AAS)*	0.000	4.243	18.147	-	18.147	24.101	15.301	0.000	0.000	0.000	61.792
• PHM015: *RAPID OPIOID COUNTERMEASURE SYSTEM (ROCS)*	0.000	1.549	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.549
• PHM040: *IMPROVED NERVE AGENT TREATMENT CENTRALLY ACTING (INATS CA)*	0.000	0.000	0.000	-	0.000	0.000	0.000	31.888	33.051	Continuing	Continuing

Remarks

D. Acquisition Strategy

ADVANCED ANTICONVULSANT SYSTEM (AAS)

The Advanced Anticonvulsant System (AAS), consists of Midazolam in an autoinjector for treatment of seizures, to include those caused by nerve agent. A contractor shall be responsible for conducting activities associated with drug development in a manner consistent with eventual approval by the Food and Drug Administration (FDA). The contractor shall sponsor the drug to the FDA and hold all approvals and/or licenses. The Contractor will need to initiate and complete studies that comply with new FDA requirements for manufacturing and quality for autoinjector products, ultimately leading to FDA approval. Upon FDA approval, sufficient quantities of product to meet Initial Operational Capability (IOC) and Full Operational Capability (FOC) will be purchased through a follow-on sole source procurement contract. Subsequent purchases for product sustainment will be made by the Defense Logistics Agency. Post marketing commitments and requirements are anticipated as a result of the FDA approval and will be the responsibility of the contractor and the government.

ALTERNATE AUTOINJECTOR MANUFACTURER CAPABILITY (AUTOINJ)

The Alternative Autoinjector Manufacturer Capability (AUTOINJ) will identify an alternative source(s) to develop and provide required FDA-approved autoinjector-delivered nerve agent antidote and treatment capabilities to the DoD. The AUTOINJ effort leverages novel technologies and industrial base expansion in order to develop the autoinjector products. AUTOINJ uses contracts and Other Transactional Agreements (OTAs) in which the performer shall be responsible for conducting

development and testing activities consistent with current Food and Drug Administration (FDA) regulations. The contractor shall sponsor the combination product to the FDA and hold all approvals and/or licenses. Upon FDA approval, purchases for product sustainment will be made by the Defense Logistics Agency.

IMPROVED NERVE AGENT TREATMENT CENTRALLY ACTING (INATS CA)

In the Technology Maturation and Risk Reduction (TM&RR) phase, close collaborations will occur with the science and technology (S&T) and user communities to assess technical viability, capability delivery options, and to refine operational concepts; the Government will be the systems integrator overseeing the conduct of centrally acting formulation development efforts, nonclinical toxicology and efficacy studies and clinical safety studies. In the Engineering and Manufacturing Development (EMD) phase, the Government will engage with commercial partner(s) to ensure that development and manufacture is in accordance with Food and Drug Administration (FDA) regulations.

For scopolamine autoinjector development INATS CA uses contracts and Other Transactional Agreements (OTAs) in which the performer shall be responsible for conducting development and testing activities consistent with current FDA regulations. The contractor shall sponsor the combination product to the FDA and hold all approvals and/or licenses. Upon FDA approval, a follow-on procurement agreement will be used to procure initial operational capability (IOC) / full operational capability (FOC).

The Soman Nerve Agent Pre-Treatment Pyridostigmine (SNAPP) effort under INATS CA is a modernization effort for pyridostigmine bromide (PB) tablet requirements from the joint service users for the FDA approved SNAPP product. The effort uses OTAs for conducting development and testing activities consistent with current FDA regulations.

RAPID OPIOID COUNTERMEASURE SYSTEM (ROCS)

Rapid Opioid Countermeasure System (ROCS) is a Joint ACAT III Medical Countermeasure (MCM) Middle Tier Acquisition Program of Record (POR) in the Prototype Phase of development. The ROCS program is using existing naloxone autoinjector capabilities identified from focused Market Research. ROCS is a Middle Tier Acquisition program. The development of the autoinjector is being conducted under Other Transaction Authority (OTA) agreement. The program will have a follow-on sole source procurement OTA agreement for the residual capability. Once FDA approval achieved, the program will provide a residual capability of 4,121 autoinjector prototypes to select DoD user groups. The program will then transition directly into sustainment.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AAS - AAS Product Development	Various	Various : Various	0.000	0.389	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.389	0.000
AAS - SW S - NDA Submission Activities	C/CPFF	RAFA Laboratories : TBD	0.000	3.345	Oct 2020	2.782	Dec 2021	0.000		0.000		0.000	0.000	6.127	0.000
AUTOINJ - AUTOINJ Product Development	Various	Various : Various	0.000	1.095	Dec 2020	0.000		0.000		0.000		0.000	0.000	1.095	0.000
AUTOINJ - HW S - Dual Drug Delivery Device (D4) Prototype Development	C/CPFF	Emergent Biosolutions : Gaithersburg/ Rockville, MD	23.905	4.533	Nov 2020	0.000		0.000		0.000		0.000	0.000	28.438	0.000
AUTOINJ - HW S - Diazepam Autoinjector	C/CPFF	Emergent Biosolutions : Gaithersburg/ Rockville, MD	10.811	7.234	Nov 2020	3.451	Nov 2021	0.000		0.000		0.000	0.000	21.496	0.000
AUTOINJ - HW S - Dual Drug Delivery Device (D4) Prototype	C/CPFF	Emergent Biosolutions : Gaithersburg/ Rockville, MD	1.785	0.000		3.450	Dec 2021	0.000		0.000		0.000	0.000	5.235	0.000
AUTOINJ - HW C - Regulatory Support	C/CPFF	Ology : Alachua, FL	0.697	0.000		0.150		0.000		0.000		0.000	0.000	0.847	0.000
INATS CA - INATS CA Product Development	Various	Various : Various	0.000	2.602	Dec 2020	1.751	Mar 2022	0.000		0.000		0.000	0.000	4.353	0.000
INATS CA - HW C - Clinical	C/CPFF	Battelle Memorial Institute : Columbus, OH	0.000	3.198	Nov 2020	0.000		0.000		0.000		0.000	0.000	3.198	0.000
INATS CA - HW C - Manufacturing	C/FFP	Aktivax : Boulder, CO	0.000	4.716	Dec 2020	2.977	Dec 2021	0.000		0.000		0.000	0.000	7.693	0.000
INATS CA - HW C - Non-Clinical	C/CPFF	Battelle Memorial Institute : Columbus, OH	0.000	9.397	Nov 2020	14.922	Nov 2021	0.000		0.000		0.000	0.000	24.319	0.000
ROCS - ROCS Product Development	Various	Various : Various	0.000	0.711	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.711	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ROCS - Manufacturing	C/CPFF	kaleo : Richmond, VA	4.979	3.047	Dec 2020	3.500	Nov 2021	0.000		0.000		0.000	0.000	11.526	0.000
ROCS - Clinical Studies	C/CPFF	kaleo : Richmond, VA	4.150	3.003	Dec 2020	0.000		0.000		0.000		0.000	0.000	7.153	0.000
ROCS - Regulatory	C/CPFF	kaleo : Richmond, VA	0.000	0.000		4.988	Oct 2021	0.000		0.000		0.000	0.000	4.988	0.000
		Subtotal	46.327	43.270		37.971		0.000		0.000		0.000	0.000	127.568	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AUTOINJ -	MIPR	US Army Medical Research Material Command (USAMRMC) : Fort Detrick, MD	0.068	0.035	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.103	0.000
INATS CA -	MIPR	US Army Medical Research and Development Command (USAMRDC) : Fort Detrick, MD	0.000	0.035	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.035	0.000
ROCS -	MIPR	US Army Medical Research and Development Command (USAMRDC) : Fort Detrick, MD	0.000	0.100	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.100	0.000
		Subtotal	0.068	0.170		0.000		0.000		0.000		0.000	0.000	0.238	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AUTOINJ - MIL STD Testing	MIPR	US Army Medical Research Material Command (USAMRMC) : Fort Detrick, MD	0.196	0.070	Nov 2020	0.200	Nov 2021	0.000		0.000		0.000	0.000	0.466	0.000
		Subtotal	0.196	0.070		0.200		0.000		0.000		0.000	0.000	0.466	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AAS - JPM/JPEO Management Services	Various	Various : Various	0.370	0.574	Nov 2020	0.234	Nov 2021	0.000		0.000		0.000	0.000	1.178	0.000
AAS - Program Management (SETA)	C/FFP	Various : Various	0.548	0.000	Nov 2020	0.213	Nov 2021	0.000		0.000		0.000	0.000	0.761	0.000
AUTOINJ - JPM/JPEO Management Services	Various	Various : Various	4.295	2.471	Dec 2020	0.600	Dec 2021	0.000		0.000		0.000	0.000	7.366	0.000
AUTOINJ - Program Management (MCS) Support	Various	JPM CBRN Medical : Ft. Detrick, MD	2.168	0.000	Nov 2020	0.975	Nov 2021	0.000		0.000		0.000	0.000	3.143	0.000
AUTOINJ - Program Management (CDP)	Various	JPM CBRN Medical : Ft. Detrick, MD	0.629	0.000		0.272	Nov 2021	0.000		0.000		0.000	0.000	0.901	0.000
AUTOINJ - Program Management (SETA)	C/FFP	Various : Various	3.060	0.000	Nov 2020	1.090	Nov 2021	0.000		0.000		0.000	0.000	4.150	0.000
INATS CA - JPM/JPEO Management Services	Various	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	4.322	Dec 2020	2.466	Dec 2021	0.000		0.000		0.000	0.000	6.788	0.000
INATS CA - Program Management (MCS) Support	Various	JPM CBRN Medical : JPEO-CBRND, Fort Detrick, MD	0.000	0.000		1.520	Dec 2021	0.000		0.000		0.000	0.000	1.520	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
INATS CA - Program Management (CDP)	Various	JPM CBRN Medical : JPEO-CBRND, Fort Detrick, MD	0.000	0.000		0.520	Dec 2021	0.000		0.000		0.000	0.000	0.520	0.000
INATS CA - Program Management (SETA)	C/FFP	Various : Various	0.000	0.000		1.409	Dec 2021	0.000		0.000		0.000	0.000	1.409	0.000
ROCS - JPM/JPEO Management Services	Various	Various : Various	0.999	1.628	Dec 2020	0.825	Dec 2021	0.000		0.000		0.000	0.000	3.452	0.000
ROCS - Program Management (MCS) Support	Various	JPM CBRN Medical : JPEO-CBRND, Fort Detrick, MD	0.847	0.000		1.253	Dec 2021	0.000		0.000		0.000	0.000	2.100	0.000
ROCS - Program Management (CDP)	Various	JPM CBRN Medical : JPEO-CBRND, Fort Detrick, MD	0.200	0.000		0.418	Dec 2021	0.000		0.000		0.000	0.000	0.618	0.000
ROCS - Program Management (SETA)	C/FFP	Various : Various	0.417	0.000		0.396	Dec 2021	0.000		0.000		0.000	0.000	0.813	0.000
		Subtotal	13.533	8.995		12.191		0.000		0.000		0.000	0.000	34.719	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	60.124	52.505		50.362		0.000		0.000		0.000	0.000	162.991	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

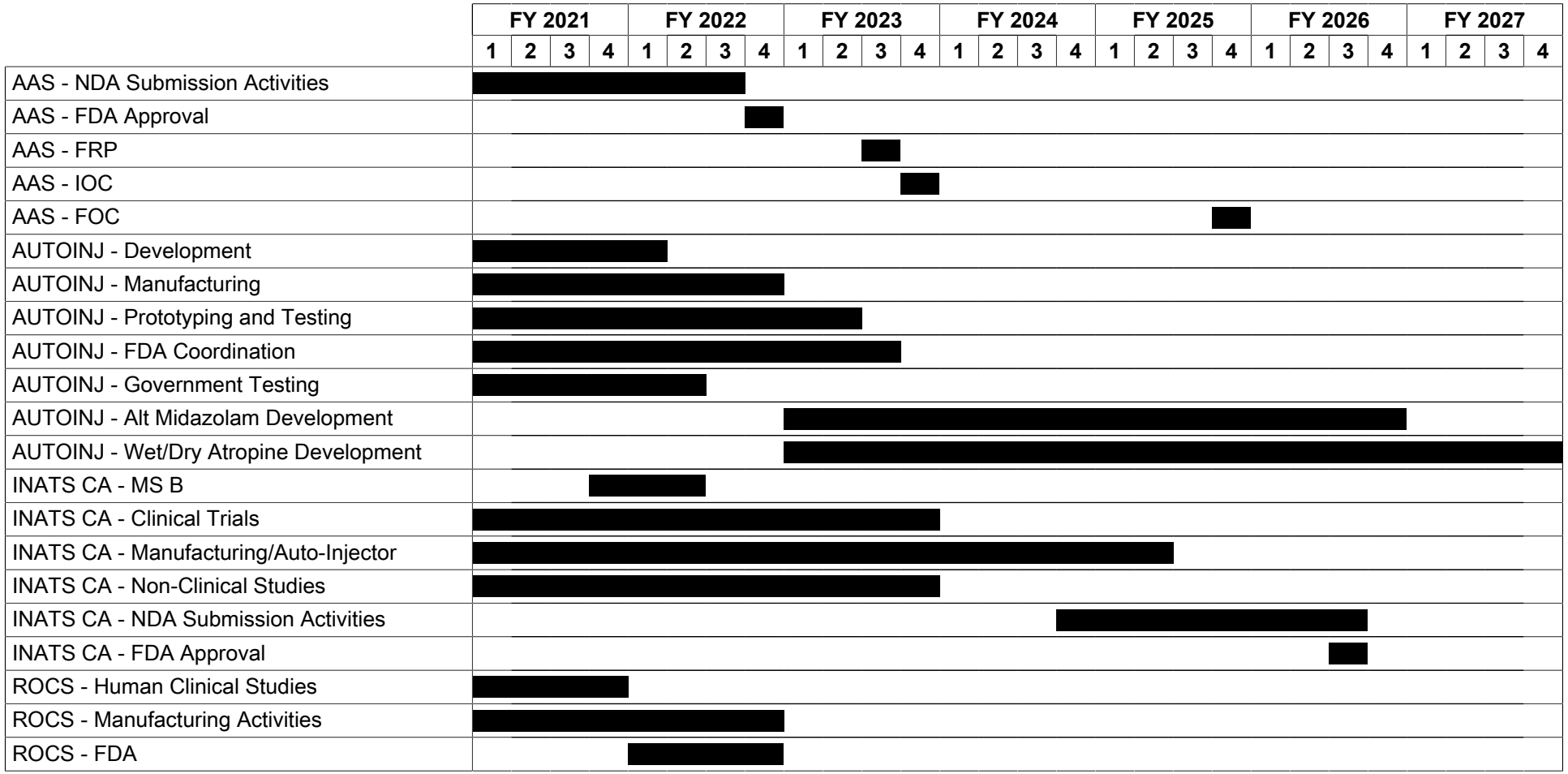

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AAS - NDA Submission Activities	1	2021	3	2022
AAS - FDA Approval	4	2022	4	2022
AAS - FRP	3	2023	3	2023
AAS - IOC	4	2023	4	2023
AAS - FOC	4	2025	4	2025
AUTOINJ - Development	1	2021	1	2022
AUTOINJ - Manufacturing	1	2021	4	2022
AUTOINJ - Prototyping and Testing	1	2021	2	2023
AUTOINJ - FDA Coordination	1	2021	3	2023
AUTOINJ - Government Testing	1	2021	2	2022
AUTOINJ - Alt Midazolam Development	1	2023	4	2026
AUTOINJ - Wet/Dry Atropine Development	1	2023	4	2027
INATS CA - MS B	4	2021	2	2022
INATS CA - Clinical Trials	1	2021	4	2023
INATS CA - Manufacturing/Auto-Injector	1	2021	2	2025
INATS CA - Non-Clinical Studies	1	2021	4	2023
INATS CA - NDA Submission Activities	4	2024	3	2026
INATS CA - FDA Approval	3	2026	3	2026
ROCS - Human Clinical Studies	1	2021	4	2021
ROCS - Manufacturing Activities	1	2021	4	2022
ROCS - FDA	1	2022	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) TE5 / *Test & Evaluation (SDD)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
TE5: *Test & Evaluation (SDD)*	-	5.995	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.995
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project supports the Chemical Biological Material Assessment Infrastructure (CBMAI). CBMAI addresses test infrastructure needs with improvements, modifications, and/or new critical test capabilities for chemical, biological, and emerging threat products across the CBDP. The CBMAI provides test fixtures and methodology to support system development test and evaluation intended to meet a changing threat regardless of the test site/location.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) CBMAI ***Description:*** CBMAI provides test infrastructure modification build and integration to address detection, protection, and decontamination requirements and milestone schedules. Provide analysis and testing of innovative technologies and rapid prototyping of equipment to expedite the infrastructure development process. Execution of infrastructure modifications and modernization efforts allow test facilities to expand productivity and reduce costs while providing critical test data.	4.941	-	-
Title: 2) CBMAI ***Description:*** Government Integrated Product Team program management and IPT Support to all CBDP programs and external partners.	1.054	-	-
Accomplishments/Planned Programs Subtotals	5.995	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• TE4: *Test & Evaluation (ACD&P)*	4.107	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.107

Remarks

D. Acquisition Strategy

CHEMICAL BIOLOGICAL MATERIEL ASSESSMENT INFRASTRUCTURE (CBMAI)

CBMAI efforts are supported through competitive contract actions, academia, and other Government agencies. Infrastructure solutions will leverage commercially available systems to provide state-of-the-art capabilities that address current and future Chemical Biological Defense Program (CBDP) test and evaluation needs. The

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** TE5 / *Test & Evaluation (SDD)*

CBMAI program will be ending in FY21 as development efforts come to completion. Future test infrastructure needs, improvements, or modifications will be managed and funded by the supported programs of record beginning in FY22.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** TE5 / *Test & Evaluation (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CBMAI - HW C - OADMS	MIPR	Army Materiel Systems Analysis Activity : Aberdeen Proving Ground, MD	0.000	0.066	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.066	0.000
CBMAI - HW C - OADMS-SCA-V	MIPR	CCDC AVIATION AND MISSILE CENTER : Huntsville, AL	0.000	0.045	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.045	0.000
CBMAI - HW S - Open Architecture Data Management System (OADMS) Software Modifications	C/CPFF	Various : Various	3.971	3.936	Mar 2021	0.000		0.000		0.000		0.000	0.000	7.907	0.000
CBMAI - HW S - Government SE & Technical Management Team	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	2.799	0.894	Dec 2020	0.000		0.000		0.000		0.000	0.000	3.693	0.000
		Subtotal	6.770	4.941		0.000		0.000		0.000		0.000	0.000	11.711	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CBMAI - PM/MS C - Core Support	MIPR	JPEO Chem/Bio Defense (JPEO-CBD) : Aberdeen Proving Ground, MD	0.150	0.159	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.309	0.000
CBMAI - PM/MS S - IPT Support/Program Management	MIPR	JPM CBRN Sensors : JPEO-	2.775	0.895	Dec 2020	0.000		0.000		0.000		0.000	0.000	3.670	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** TE5 / *Test & Evaluation (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		CBRND, Aberdeen Proving Ground, MD													
		Subtotal	2.925	1.054		0.000		0.000		0.000		0.000	0.000	3.979	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9.695	5.995		0.000		0.000		0.000		0.000	0.000	15.690	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** TE5 / *Test & Evaluation (SDD)*

	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
CBMAI - Open Architecture Data Management System (OADMS) Integration	[redacted]																											

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** TE5 / *Test & Evaluation (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CBMAI - Open Architecture Data Management System (OADMS) Integration	1	2021	4	2021